

# Coordinated Response & Excavator Exercise® PIPELINE SAFETY TRAINING



# **PROGRAM GUIDE**

Overview

Pipeline Safety

**Exercise Outline** 

**Emergency Response Guidebook** 

**NENA Pipeline Emergency Operations** 

Signs Of A Pipeline Release

High Consequence Areas Identification

Pipeline Industry ER Initiatives

Pipeline Damage Reporting Law

2025

# **EMERGENCY CONTACT LIST**

COMPANY	EMERGENCY NUMBER
Carolina Gas Transmission	1-800-789-7272
East Tennessee Natural Gas (Enbridge)	1-800-231-7794
Enterprise Products Operating, LLC	1-888-883-6308
Sabal Trail Transmission, LLC (Operated by Enbridge)	1-888-568-7269
Southern Natural Gas Company	1-800-252-5960
Texas Eastern Transmission L.P. (Enbridge)	

Note: The above numbers are for emergency situations.

Please see individual company sections for non-emergency contact information.

Additional pipeline operators may exist in your area.

Visit the National Pipeline Mapping System at www.npms.phmsa.dot.gov for companies not listed above.

ONE-CALL SYSTEM	PHONE NUMBER
Georgia 811	1-800-282-7411
National One-Call Referral Number	
National One-Call Dialing Number	811

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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

#### **Product Hazards and Characteristics**

### Petroleum (flow rate can be hundreds of thousands of gallons per hour)

- Flammable range may be found anywhere within the hot zone
- · H2S can be a by-product of crude oil

Type 1 Products	Flash Point	Ignition Temperature
Gasoline	- 45 °F	600 °F
Jet Fuel	100 °F	410 °F
Kerosene	120 °F	425 °F
Diesel Fuel	155 °F	varies
Crude Oil	25 °F	varies

#### Natural Gas (flow rate can be hundreds of thousands of cubic feet per hour)

- · Flammable range may be found anywhere within the hot zone
- · Rises and dissipates relatively quickly
- H2S can be a by-product of natural gas PPM = PARTS PER MILLION

° 0.02 PPM	Odor threshold
<ul> <li>10.0 PPM</li> </ul>	Eye irritation
400 DDM	llaadaaba di=-

100 PPM Headache, dizziness, coughing, vomiting

200-300 PPM
 500-300 PPM
 6 Source Source Consciousness/possible death in 30-60 min.
 700-900 PPM
 8 Consciousness/possible death in 30-60 min.
 700-900 PPM
 9 Over 1000 PPM
 100 Ove

- · Incomplete combustion of natural gas may release carbon monoxide
- Storage facilities may be present around populated areas/can be depleted production facilities or underground caverns
- · Gas travel may be outside the containment vessel along the natural cavern between the pipe and soil

# **Propane, Butane and Other Similar Products**

- Flammable range may be found anywhere within the hot zone
- Products cool rapidly to sub-zero temperatures once outside the containment vessel
- · Vapor clouds may be white or clear

Type 3 Products	<u>Flash Point</u>	Ignition Temperature
Propane	- 150 °F	920-1120 °F
Butane	- 60 °F	725-850 °F

## Line Pressure Hazards

- Transmission pipelines steel (high pressure: average 800-1200psi)
- Local gas pipeline transmission steel (high pressure: average 200-1000psi)
- Local gas mains and services steel and/or plastic (low to medium pressure)
  - Mains: up to 300psi
  - · Service lines: up to regulator
    - Average 30-45psi and below
    - Can be up to 60-100psi in some areas
- · At regulator into dwelling: ounces of pressure

#### Overview

# **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**

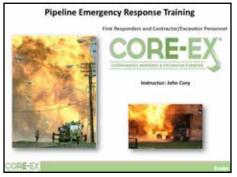
- Defined by pipeline regulations 192 and 195
- · Requires specialized communication and planning between responders and pipeline/gas personnel
- May necessitate detailed information from local response agencies to identify HCAs in area

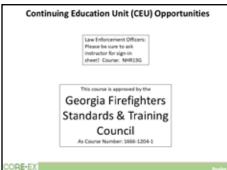
#### **Emergency Response Basics**

- · Always follow pipeline/gas company recommendations pipeline representatives may need escort to incident site
- · Advance preparation
  - Get to know your pipeline operators/tour their facilities if possible
  - Participate in their field exercises/request on-site training where available
  - · Develop response plans and practice
- · Planning partners
  - · Pipeline & local gas companies
  - · Police local/state/sheriff
  - Fire companies/HAZMAT/ambulance/hospitals/Red Cross
  - LEPC/EMA/public officials
  - · Environmental management/Department of Natural Resources
  - · Army Corps of Engineers/other military officials
  - · Other utilities
- · Risk considerations
  - Type/volume/pressure/location/geography of product
  - · Environmental factors wind, fog, temperature, humidity
  - · Other utility emergencies
- · Incident response
  - Always approach from upwind/park vehicle a safe distance away/if vehicle stalls DO NOT attempt to restart
  - $^{\circ}\,$  Gather information/establish incident command/identify command structure
  - Initiate communications with pipeline/gas company representative ASAP
  - Control/deny entry: vehicle, boat, train, aircraft, foot traffic, media refer all media questions to pipeline/gas reps
- · Extinguish fires only
  - · To aid in rescue or evacuation
  - To protect exposures
  - · When controllable amounts of vapor or liquid present
- · Incident notification pipeline control center or local gas company number on warning marker
  - · In Pipeline Emergency Response Planning Information Manual
  - · Emergency contact list in Program Guide
  - Call immediately/provide detailed incident information
- · Pipeline security assist by noting activity on pipeline/gas facilities
  - Report abnormal activities around facilities
    - Suspicious excavation/abandoned vehicles/non-company personnel/non-company vehicles
  - Freshly disturbed soil/perimeter abnormalities

#### 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













#### Who is a member?

- Facility owner / operator who owns, operates, or controls the operation of an underground facility
- Membership is required
- · Exception: Homeowners





When are you required to notify

No person shall commence, perform, or engage in blasting or in wita witing eith mechanited antiavating equipment on any tract or parcel of land in any county in this state unless and until the person planning the blasting or exzavating has submitted a locate request to Georgia 811 this property of the property of the force of the property of the Georgia Bit state.

provides appropriate notice.





# Notify 811, It's Free

- Contact 611 at least three business days before planned excavation
- Call 811
  - Enter locate requests over the web at www.Georga&11.com
  - o MyGeorgiali 11 com

Locating is provided by the utilities so the service is free tool





## **Effective Date for Normal Tickets**

#### Definition

#### Effective Date

- If is the calendar day on which blasting or excavating is anticipated to begin as indicated by the excavator in the request.
- Escavators may choose an Effective Date for any day of the week, to include weekends and Holidays.
- Locate requests expires 30 calendar days after the Effective Date

OCGA41591



# **Emergency Notification**

- An emergency 'means a sudden or unforessen occurrence involving a clear and imminent danger to life, health, or property the interruption of utility services, or repairs to transportation facilities that require immediate action."
- Notice expires at 7:00 A.M. three business days after notification is made to Georgia 811.
  - Example: if the request is made during normal business hours on Monday, an Emergency request will expire on Friday at 7:00 A.M.





# **Emergency Notification**

- Georgia Underground Facility Profection Act (GUFPA) does not address response times for emergencies.
- False emergencies are a violation of Georgia Underground Feolity Protection Act (QUEFA)





PRIS: Positive Response Information System

Positive Response Information System or (PRIS) is an automated system serving two functions.

- It allows Georgia E11 members to respond to each individual locate request providing information on whether underground facilities are present or not present.
- It also allows the Excavator to check the status of their locate requests.



# GEORGIA811

PRIS: Positive Response Information System

- All facility owners/operators are required to respond to PRIS by midright of the calender day prior to the effective date
- All excevelors are required to be aware of what has been timely entered into PRIS prior to excevation





#### PRIS Access

- mmcGeorgiafitt.com
- Georgia 811 Mobile App





# Late Notice from Georgia 811

- If a facility owner/operator has not responded prior to midnight of the calender day prior to the effective
  - Georgia 811 will automatically send a late notice to the facility owner. (the facility owner will have until noon of that business day to rescond.



# Additional Notices

An Additional Notice is a request sent to re-notify the utility members the need for a locate to be performed again on an active locate request.

An Additional Notice can also be sent to dispute a PRSS response.

Additional locate instructions cannot be added to the existing request when requesting an additional notice. The snear of excavation cannot be expanded or reduced.



Excavator Damage Reporting Requirements

- · Econosters Most
  - Call 911 for gas and hazardous material
  - Report damage to affected utility and Georgia 811
  - + Excevetors Can
    - Report a utility to the Georgia Public Service Commission

Until the damage has been repaired, no person shall engage in excavating or blasting activities that may cause further damage to the utility facility.



# Utility Reporting Requirements

Utilities Must.

- Report all damages to their facilities due to a probable violation of GUPPA (Georgia Public Service Commission Rule)
- Submit the report (investigation) to the Public Service Commission within 30 days of discovery of the damage
- Submit report at psc.ga.gov











# **Dredging Operations**

If your company conducts dredging operations, shoreline stabilization or pile driving activities, please be aware of the following:

- please be aware of the following:

  Underground herardous liquids and natural gas pipelines do traverse lakes and navigable sistensess:
- A11 requirements to submit a one-call ticket prior operations commencing, to include a sub-agreeout
- Mentify all pipeline warning morkers near the phorelines where you will be working
- Contact the populae company as part of your preglanning before work begins





CORE-EX

No.

# **Logging Operator Responsibilities**

- Notify pipeline company before work begins
- No skidding of logs on right of way
- approved
- Drop out trees away from pipeline
- Do not remove existing cover
- Restors right of way



CORF-E)



# Coordinated Response Exercise\* Learn your rules and responsibilities at amongoning responsions should a pipeline recogning longers in purpose and appeline strengthing longers in purpose and appeline strengthing longers in purpose and appeline remergation. Acquainty you shall be requested, ability to respond to a popular emergation. Identify the types of pipeline emergances. Plan hour all parties can engage in multiple accidance to minimals that the property and the environment. Cade of Indentify the types of pipeline emergances. By stranding this assembloking you are property effort or the pipeline tompressed, to stoke a coordinate of that in temperating to previous hourse, you are property effort the property of the pipeline tompressed, to stoke a coordinate of that in temperating to previous hourse, you are property efforts and the pipeline tompressed, to stoke a coordinate of that in temperating to previous hourse, you are property.

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# Nour dispatch has but received a NOTICE OF POTENTIAL RAPTURE. The caller represents a plestine compare following that in shower emergency response plans. Now, discuss with those arised you here your dispatch with handle the information. What existing solders and procedures are applicable to this call? Describe, at least approach to the call Position, at least approach to the call Position, at least approach to the call with the pipeline operation present to discuss, evaluate and proper for a response to a potential repture on their facilities. CORE-EX

# Virtual Scenario Manager (VSM™) Map ORE-EXT

### New PHMSA Rule - Impact on PSAPs

#### For both natural gas and hazardous liquids pipelines

- August molipcon valves must be installed on all newly constructed and replaced graphisms 6" in disenser or greater for enshare gas transmission, Tope A gas gathering and hazerdous found epictures
   This does not include natural gas distribution populares.
- Pipeline operators must contact 9-8-3 or Emergency Management with a 'notice of potential regione'

# How does this rule potentially affect PSAPs

- Now once This rule potentially affect PSAPs

  Willyou sepond princips for any other number of a "potential" remains?

  Willyou sepond if and gig pass it on the year response agencies?

  Willyou sepond if and gig pass it on the year response agencies?

  Will this response your PSAP pand energings you will not indicate the princips?

  Will this response your PSAP pand energings you will not be already on it then policies?

  Where, perfecting, quantities and the energing beautiful pand on the princips of the perfect of
- Planies operators sens required in update their (mergency Response Plans (EMI) with this requirement in Cristies 2022.



# What is the intent of this new final rule?

To experie divergen enter equipment destruents and superiord operational practices for goods and etfluent smolth-colors of tophers, that in bean cell superiors i update midigation and shorter stratum minimary hores for cell size got the stratum in the transmission of hasteritans liquid apprisers, the stratum in the hasteritans liquid apprisers, hazar films liquid pipelines. Regiture suttidion films, as it is discussed in this fixer rule, in the time of takes an operation to indertify a largeture after millituation of a potential ruptoure, implement response procedures, and fully climate the appropriate value to Fixer and consider the fixer of consoled fixer fixer of consoled flow fixer or fixer of consoled flow the luptured pipeline; segment.



# Potential "Best Practice" for Pipelines

# National Emergency Number Association (NENA) Pipeline Emergency Operations Standard NEXA's pipeline emergency operations workgroup recommendations recommendations Assertment of pipelines affecting the 011 service area Repeline leak recognition and indial response actions Additional notices to pipeline operators hottal intale rhecklist Guick reference guide in program materials Pipeline emergency operations standard/model commendations Access the full report through penaling ORE-EX Pipeline Outreach to Stakeholders Mailings (More than 20 Million preces annually) Over 1,000 Liabon Meetings with Emergency Officials, Future Officials, and Escarators Face to Face Meetings with Emergency Officials at their agencies. Imargency Response Planning Fortist (CRP). **Pipeline Operators Emergency Response Plans**

# Natural gas and hazardous liquids

- Notify appropriate fire, police, and other public officials of gas or Biquid populae immegancies, coordinate planned responses, and actual responses during an emergency.
- Frompt and effective response measures.
- Availability of personnel and equipment Make safe any actual or potential hazard to life, property, and the environe
- Incident investigation and review

## Natural gas (49 CFR 192.615)

- Establish and maintain summunication with fire, police, and other public officials Direct assists to protect people, then property Emergency shubboun to minimum hazard to Mr., property, and the environment

# Hazardous liquid (49 CFR 195.402)

- Take nationary actions, such as emergency shutdown and pressure reduction. Control of released has ardous liquid as saftern denide at some its minimize hazards.
- Minimize public exposure to triury by taking appropriate actions such as evacuations or traffic
- Use instrumentation to access vapor cloud coverage and systemine hazardous areas

# **Emergency Response and 811** Derailments, car accidents, excavating/farming mishaps, natural disasters, and wildlines PHANSA Advisory Bulletin (2012-08) Saved on National Transportation Search recommendation Inform amergincy responders about the benefits of BII · Identify underground utilities in the area . Notify underground utilities in the area

# Integrity Management Pipeline companies are required to have Integrity Management programs to insure safe and efficient operations: Internal and external cleaning and impection, of the pipeline and affected areas. Rights of May and refree ory Control and Data Assperation (SCACM) Identification of High Consequence Aveau (HCA) Arrivi fights of Way Nation Public Assurement Outreach to state holders Participation as a member of \$11. Operator Qualification (OQ) flavoring Local Distribution Company (LDC) · Maker Tenting · lask benego . May also be utilized on true ORE-EX Other challenges impacting pipelines... Natural Disasters Tornadoes Wildfires/Forest Fires Flooding/Mudslides/Slips Earthquakes Human Error Whicle accidents involving above ground valve sites. · Third party strikes by contractors and · Agricultural activities, field tiling National Security Threats Cyberterrorism involving pipeline systems. · IED's on pipeline assets. ORE-EX Pipeline Operator / Responder 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 emergeocy services



ORE-EX

# Pipeline Company - Internal Responsibilities

- Regular pressure lesting of the pipeline
- Smart progring in a timerly manner of the pipeline
- Personnel ligibles Drive time and other factors

- Tool placement / positioning
- worting under stress



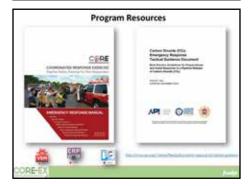
Working with local Public officials and First Responders

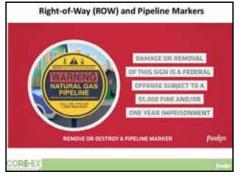


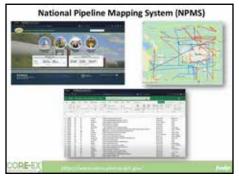
DRE-EX

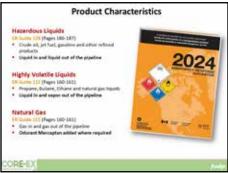




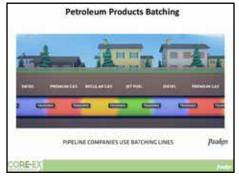












# **Temporary Containment Strategies** · Seeming Culvert blocking . Drain blocking Fallett Containment ORE-EX

# **Above Ground Storage Tanks**

#### Considerations when responding to tank farms/ terminals

- Develop an effective response plan.
- identify products and hazards

#### Response recommendations

- \* Cool tank(s) or nearby containers by flooding
- Do not direct water at safety devices or icing.
- int product burn, even after air supply line/system is closed
   Brease of the potential for builting Liquid Expanding Vapor Explosion (RLEVE)





# ORE-EX

# **Leak Recognition**

- Pools of liquid on the ground near a
- Dense white cloud or log over a
- Dissolved segriation surrounding a
- Unusual dry spot in an atherwise moint field
- . Out blooking up from the ground
- Bubbling in marshard, men or
- Dily sheen appearing on water
- Frozen ground near a pipelinal
- Unusual noise coming from a pipeline
- Unusual small or girosous odor



# ORE-EX

# **Local Distribution Systems**

#### . Be aware, not all natural gas leaks are from excavation; unintended leaks from slower, scator, heaters, furnacies, etc. can occur

- When called out on hatural gas leak events, use combustible gas indicators
- Mercaptan can be stripped as it travels
- through soli frest houses, breaking pipes.

# Gas mater breaks due to snow buildup from melting yours falling from roofs

# Excess flow valve meter tags

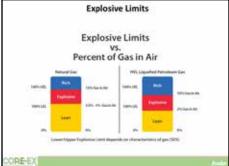
DRE-EX

Mentification tags [252,M3(c)] The presence of an eases flow value on the service lines may ar may not be marked until an identification tag. The identification tag if present) will typically be located at the top of the service riser below the meter stop value.



Program content and slides subject to change



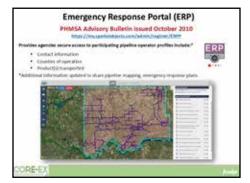














# Product INFORMATION



The Emergency Response Guidebook is available at: <a href="https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2024-04/ERG2024-Eng-Web-a.pdf">https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2024-04/ERG2024-Eng-Web-a.pdf</a>







# Emergency Response

# EMERGENCY RESPONSE PLANS FOR GAS AND HAZARDOUS LIQUID PIPELINE OPERATORS

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

#### **Natural Gas**

Each operator shall establish written procedures to minimize the hazard resulting from a gas 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 operator.
- 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:
  - 1. Gas detected inside or near a building.
  - 2. Fire located near or directly involving a pipeline facility.
  - 3. 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 operator'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 gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.
- · Safely restoring any service outage.
- Each operator 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 gas pipeline emergency;
  - 2. Acquaint the officials with the operator's ability in responding to a gas pipeline emergency;
  - 3. Identify the types of gas pipeline emergencies of which the operator notifies the officials; and
  - 4. Plan how the operator and officials can engage in mutual assistance to minimize hazards to life or property.

\*Reference 49 CFR 192.615

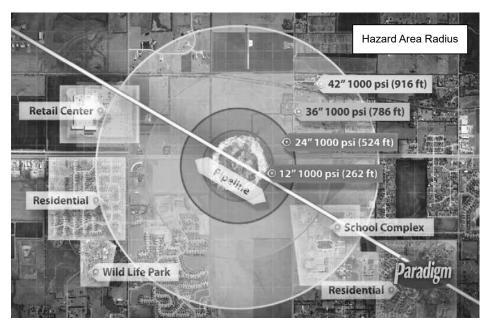
# **HAZARDOUS LIQUIDS**

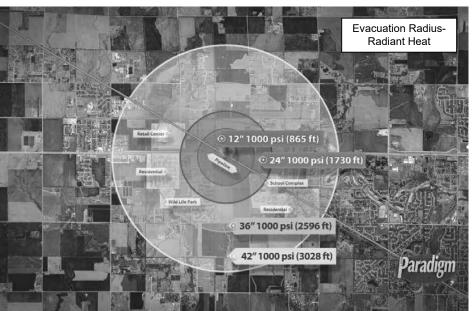
(a) General: Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

**Emergencies.** The manual required by paragraph (a) of this section must include procedures for the following to provide safety when an emergency condition occurs:

- Receiving, identifying, and classifying notices of events which need immediate response by the operator or notice
  to fire, police, or other appropriate public officials and communicating this information to appropriate operator
  personnel for corrective action.
- Prompt and effective response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline facility, accidental release of hazardous liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition, and natural disaster affecting pipeline facilities.
- · Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.
- Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline system in the event of a failure.
- Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including
  possible intentional ignition in the cases of flammable highly volatile liquid.
- Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroads in the affected area, or taking other appropriate action.
- Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline
  emergencies and coordinating with them preplanned and actual responses during an emergency, including
  additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.
- In the case of failure of a pipeline system transporting a highly volatile liquid, use of appropriate instruments to
  assess the extent and coverage of the vapor cloud and determine the hazardous areas.
- Providing for a post accident review of employee activities to determine whether the procedures were effective in
  each emergency and taking corrective action where deficiencies are found.

# Emergency Response





# NENA Pipeline Emergency Operations - Initial Intake Checklist

In accordance with NENA Pipeline Emergency Operations Standard/Model Recommendation NENA 56-007 (https://www.nena.org/?page=PipelineEmergStnd)

#### **GOALS FOR INITIAL INTAKE:**

- 1. Obtain and Verify Incident Location, Callback and Contact Information
- 2. Maintain Control of the Call
- 3. Communicate the Ability to HELP the Caller
- Methodically and Strategically Obtain Information through Systematic Inquiry to be Captured in the Agency's Intake Format
- Recognize the potential urgency of situations involving the release of dangerous gases or liquids related to pipelines or similar events of this nature and immediately begin the proper notifications consistent with agency policy
- 6. Perform all Information Entries and Disseminations, Both Initial and Update

# FIRST RESPONSE CALL INTAKE CHECK LIST

The focus of this Standard is on the first minute of the call intake process. Actions taken during this time frame significantly impact the effectiveness of the response and are critical to public safety.

The following protocol is intended as 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 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 which will be 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.

#### **Determine Exactly What Has Happened:**

Common signs of a pipeline leak are contained in Table 1 below. If any of these conditions are reported, THIS IS A PIPELINE EMERGENCY.

TABLE 1
Common Indications of a Pipeline Leak

Condition	Natural Gas (lighter than air)	LPG & HVL (heavier than air)	Liquids
An odor like rotten eggs or a burnt match	X	Х	
A loud roaring sound like a jet engine	X	Х	
A white vapor cloud that may look like smoke		Х	
A hissing or whistling noise	X	Х	
The pooling of liquid on the ground			Х
An odor like petroleum liquids or gasoline		Х	Х
Fire coming out of or on top of the ground	X	Х	
Dirt blowing from a hole in the ground	Х	Х	
Bubbling in pools of water on the ground	Х	Х	
A sheen on the surface of water		Х	Х
An area of frozen ground in the summer	Х	Х	
An unusual area of melted snow in the winter	Х	Х	
An area of dead vegetation	Х	Х	Х

# Signs Of A Pipeline Release

#### SIGHT\*

- · Liquid on the ground
- · Rainbow sheen on water
- · Dead vegetation in an otherwise areen 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

- Nausea

- · Burning eyes, nose or throat

# 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:

SOUND

· A hissing or roaring sound

- 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

# High Consequence Areas Identification\*

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

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

# What criteria define HCAs for pipelines?

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

# **HCAs for hazardous liquid pipelines:**

- Populated areas include both high population areas (called "urbanized areas" by the U.S. Census Bureau) and other populated areas (areas referred to by the Census Bureau as a "designated place").
- Drinking water sources include those supplied by surface water or wells and where a secondary source of water supply is not available. The land

- area in which spilled hazardous liquid could affect the water supply is also treated as an HCA.
- Unusually sensitive ecological areas include locations where critically imperiled species can be found, areas where multiple examples of federally listed threatened and endangered species are found, and areas where migratory water birds concentrate.

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

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

# Identified Sites\*

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

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

### **Identified Site Registry**

Pipeline operators need your help keeping people and property safe.

Identified Sites - locations where many people occupy an area near a pipeline asset or facility. These are places where people may gather from time to time for a variety of reasons.



Some of these sites are very difficult for companies to obtain without help from those with local knowledge of the area.

Please use the following website to gain secure access, so you can assist in identifying sites where people congregate in your community:

my.spatialobjects.com/admin/register/ISR

Pipeline operators are required by law to work with public officials who have safety or emergency response, or planning responsibilities that can provide quality information regarding identified sites.

# 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



# 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.





# 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
- Submit Agency Capabilities Survey
- Receive Certificate of Completion

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



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# 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

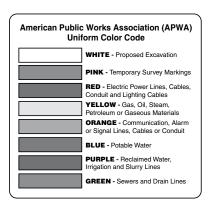
Statistics indicate that damage from excavation related activities is a leading cause of pipeline accidents. If you are a homeowner, farmer, excavator, or developer, we need your help in preventing pipeline emergencies.

- 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:



For More Details Visit: www.call811.com



# 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 Characteristics**

PRODUCT		LEAK TYPE	VAPORS
[SUCH AS: BU PROPANE, ET	THANE, , AND NATURAL	Gas	Initially heavier than air, spread along ground and may travel to source of ignition and flash back. Product is colorless, tasteless and odorless.
			rks or flames and will form explosive mixtures with air. Vapors

**HEALTH** may cause dizziness or asphyxiation without warning and may be toxic if inhaled at high concen- **HAZARDS** trations. 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 G		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 may cause dizzines trations. Contact wit	l by heat, spa s or asphyxia h gas or lique	orks or flames and will form explosive mixtures with air. Vapors tion without warning and may be toxic if inhaled at high concen- rified gas may cause burns, severe injury and/or frostbite.

PRODUCT		LEAK TYPE	VAPORS
AS: CRUDE		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	H 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.		

# Excavation Best Practices Jobsite Checklist

#### **EXCAVATOR RESPONSIBILITIES:** ■ White Lining (Pre-marking) Call Before You Dig - It's the Law! □ One Call Facility Request Wait the required time for the markings! □ One Call Access (state specific time - check your local One Call Locate Reference Number Law) □ Tolerance Zones – May vary by state and/or company! □ Separate Locate Request □ Respect the marks! Pre-excavation Meeting Dig with care! ☐ Facility Relocations One Call Reference Number at Site RISK CONSIDERATIONS Contact Names and Numbers □ Type/volume/pressure/location/geography of ¬ Positive Response product Facility Owner/Operator Failure to Respond ■ Environmental factors – wind, fog, temperature, humidity □ Locate Verification ☐ Sight, sound, smell – indicators vary depending on ☐ Work Site Review with Company Personnel product Documentation of Marks □ Black, dark brown or clear liquids/dirt blowing into ☐ Facility Avoidance air/peculiar odors/dead insects around gas line/ Marking Preservation dead vegetation Excavation Observer □ Rainbow sheen on the water/mud or water bubbling up/frozen area on ground/frozen area around gas □ Excavation Tolerance Zone □ Excavation within the Tolerance Zone Other utility emergencies ¬ Vacuum Excavation PIPELINE MARKERS Exposed Facility Protection The U.S. Department of Transportation (DOT) requires the use of signs to indicate the location of underground Locate Request Updates pipelines. Markers like these are located on road, ☐ Facility Damage Notification railroad, and navigable waterway crossings. Markers ■ Notification of Emergency Personnel are also posted along the pipeline right-of-way. Markers may not be located directly over the pipeline it marks. Emergency Coordination with Adjacent Facilities ■ Emergency Excavation The markers display: □ Backfilling ☐ The product transported As-built Documentation □ The name of the pipeline operator ☐ The operator's emergency number □ Trenchless Excavation No Charge for Providing Underground Facility Locations Federal and State Regulations



# 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

Association of Public-Safety Communications Officials - International (APCO) www.apcointl.org/

Common Ground Alliance
www.commongroundalliance.com

Federal Emergency Management Agency www.fema.gov

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

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

Government Emergency Telecommunications www.dhs.gov/government-emergency-telecommunications-service-qets

Infrastructure Protection – NIPC www.dhs.gov/national-infrastructure-protection-plan

National Emergency Number Association https://www.nena.org/?

National Fire Protection Association (NFPA) www.nfpa.org

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

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/

FOR MORE INFORMATION ON THE NASFM PIPELINE EMERGENCIES PROGRAM

www.pipelineemergencies.com

FOR EMERGENCY RESPONSE INFORMATION, REFER TO DOT GUIDEBOOK.

FOR COPIES: (202) 366-4900

www.phmsa.dot.gov/hazmat/erg/emergency-responseguidebook-erg



Register for access to Training Center Code: CORE or EX





Register for access to the Emergency Response Portal



# **About Paradigm**

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











# 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)

Notes



# Who we are. Who we serve. What we do.

Georgia 811 is a nonprofit corporation dedicated to preventing damage to Georgia's underground utilities and promoting public safety. We function as a communication system, connecting our member utility companies with professional excavators and homeowners who are planning mechanized digging activity such as excavation, tunneling, grading, boring and demolition.

Although it is not required by Georgia law to notify the Georgia 811 if a smaller, non-mechanized digging project is planned, we encourage residents to do so to ensure their personal safety and the safety of those around them. These projects can include installing a fence, deck, swing set or mail box; planting trees or landscaping.

This notification system provides Georgia 811 members an opportunity to locate and identify any underground facilities they may have in an area where digging is planned.

# Contact 811 before you dig. The law protects us all.

Georgia law mandates that before beginning any mechanized digging or excavation work, you must contact Georgia 811 by entering a locate ticket online (link available at Georgia811.com) or by calling 811 or 1-800-282-7411 at least 48 hours in advance to have utility lines marked. Additional information can be found by visiting our website at www.georgia811.com.

	Т	ICKE	TS	STATE LAWS & PROVISIONS									NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED						
GEORGIA				Coverage		Clause	Membership	ermits Issued	Premarks	esbouse	Clause	Reporting											96
Georgia 811 811 or 800-282-7411 Website: www.georgia811.com Hours: 7:00 AM - 6:00 PM, M-F (24/7 emergency) Advance Notice: 48 Business hours excluding the day of the call	FAX	Online	Mobile	Statewide Cov		Emergency Cl	`	₽.	2	e R	Ġ	Damage Repo	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone
Marks Valid: 30 calendar days Law Link: https://www.georgia811.com/index.php/laws-policies/ *Farming activities	N	Υ	N	Y	Υ	Y	Y	N	Y	Y	Y	Υ	N	N	Y	Y	N	Y	Y	Υ	Y	Y	18"



