

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

2025

EMERGENCY CONTACT LIST

COMPANY	EMERGENCY NUMBER
Atmos Energy	1-866-322-8667
Atmos Pipeline and Storage, LLC	1-866-322-8667
BP Pipelines (North America), Inc	1-800-548-6482
CenterPoint Energy	1-800-666-3895
City of Elizabethtown Natural Gas Department	1-270-765-6121
CNX Resources Corporation - Virginia Operations	1-800-498-8225
Columbia Gas of Kentucky Inc	1-800-432-9515
CountryMark Pipeline	1-812-838-8500
or (Ext 8500)	1-800-832-5490
Dara KY LLC	1-888-551-6402
Delta Natural Gas Company, Inc.	1-800-432-0771
Diversified Gas & Oil Corporation	1-877-711-1138
Energy Transfer Crude Oil	1-800-753-5531
Enterprise Products Operating LLC	1-888-883-6308
GLE Management Services LLC	
Greylock Production, LLC	
Mid-Valley Pipeline	1-800-753-5531
Monument Chemical Kentucky LLC (Ext 0)	1-270-422-2101
MPLX	1-866-342-6914
Texas Eastern Transmission (Enbridge)	1-800-231-7794
Texas Gas Transmission, LLC	1-800-626-1948
Trunkline Gas	1-800-225-3913
Valero Terminaling and Distribution Company	1-866-423-0898

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
Kentucky 811	1-800-752-6007
National One-Call Referral Number	1-888-258-0808
National One-Call Dialing Number	811

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Overview

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

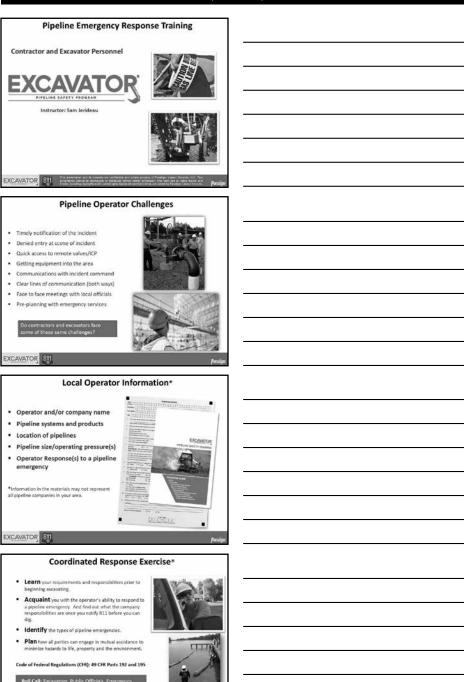
High Consequence Area (HCA) Regulation

- 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

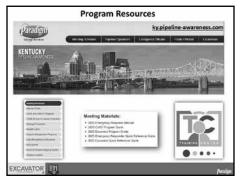
One-Call

- · 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

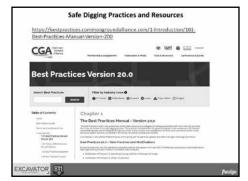


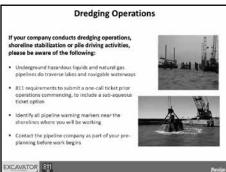


EXCAVATOR 811









Logging Operator Responsibilities

- · Notify pipeline company before
- No skidding of logs on right of
- 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 exte nal 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
- EXCAVATOR EII
 - May also be utilized on transm



Product Characteristics

Hazardous Liquids

- ER Guide 128 (Pages 186-187)

 Crude oil, jet fuel, gasoline and other refined
- Uquid In and liquid out of the pipeline



Petroleum Products Batching



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 hase holders/monitor nazzles
- . Do not direct water at safety devices or icing
- Let product burn, even after air supply line/system is closed
- Beware of the potential for Boiling Liquid Expanding Vapor Explosion (BLEVE)

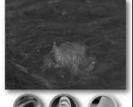






Leak Recognition

- · Pools of liquid on the ground near a nineline
- . Discolored vegetation surrounding a pipeline
- Unusual dry spot in an otherwise
- . Dirt blowing up from the ground
- · Bubbling in marshland, rivers or
- Oily sheen appearing on water surfaces
- Frozen ground near a pipeline
- Unusual noise coming from a pipeline







Unusual smell or gaseous odor





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.





Excess Flow Valve (EFV)

Local Distribution Lines

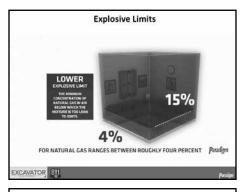
- Automatic reduction of gas flow should a service line break
- May not completely stop the flow of natural gas
- May not hear a distinct hissing sound







EXCAVATOR 811



Farm Taps

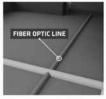
- Mainly in rural areas, some natural gas pipeline companies may have facilities commonly referred to as "farm tap"
- These natural gas settings are made up of valves, pipes, regulators, relief valves and a meter. It may be located near the home or within the general vicinity
- To report the smell of gas near a farm tap, call 911 and the local gas company from a
- The lines after a farm tap or residential meter may or may not be PRIVATE LINES, be aware of these



EXCAVATOR BIT

Horizontal Directional Drilling (Cross Bore)





THROUGH A SEWAGE LINE, LOCAL DISTRIBUTION, TRANSMISSION Paradigm

EXCAVATOR BIT

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 inform
- Certificate of completion provided upon completion of course trainingcenter.pdigm.com



Use Code: 2025EX

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

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

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

XCAVATOR BIT

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



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

What To Do If A Leak Occurs

- · Evacuate immediately upwind
- Eliminate ignition sources
- · Advise others to stav 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

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
- 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.



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

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





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

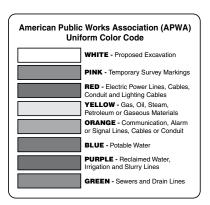
Statistics indicate that damage from excavation related activities is a leading cause of pipeline accidents. If you are a homeowner, farmer, excavator, or developer, we need your help in preventing pipeline emergencies.

- 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
HIGHLY VO	LATILE LIQUIDS		
[SUCH AS: I			Initially heavier than air, spread along ground and may travel to
PROPANE,	,	Gas	source of ignition and flash back. Product is colorless, taste-
	E, AND NATURAL		less and odorless.
GAS LIQUID	OS (NGL)]		
HEALTH			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	/APORS						
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 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.						

		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	Inhalation or contact corrosive and/or to or dilution water ma	ic gases. Va <mark>r</mark>	al may irritate or burn skin and eyes. Fire may produce irritating, pors may cause dizziness or suffocation. Runoff from fire control tion.

Pipeline Damage Reporting Law / Websites

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

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/



Register for access to Training Center Code: EX



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)

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





Notes



Kentucky811 was formed in 1987 under the name of Kentucky Underground Protection, Inc. by the owners and operators of underground facilities in the state of Kentucky as a means of reducing damage to those facilities and to promote public safety by reducing the number of incidents statewide.

Kentuckv811 is a free statewide computer operated communication system. designed to save time, money, costly lawsuits, and dramatically reduce accidental dig-ins. Kentucky 811 is a non-profit corporation made up of operators of underground facilities within the State of Kentucky.

Digging can be an expensive, dangerous venture. Underground facilities are extremely vulnerable to damage during any type of excavating.

Each year millions of dollars in property damage, personal injuries, even loss of life occur because of careless digging, boring and blasting when underground facilities were not located prior to excavating. With each passing year, more and more lines are being installed and the problems increase for everyone involved.

It is now possible to go online to www.kentucky811.org and request a locate from every member company in the proximity of the proposed dig site.

Each notified member will dispatch a line locator to the proposed site of excavation, to specifically mark their underground lines with color-coded marks, stakes or flags.

The operator will inform the caller what member companies are being notified. Nonmember companies, however, will have to be notified by the caller.

The information is promptly transmitted over our private network system to all involved member companies.

Going online to www.kentucky811.org or using the easy 3 digit dialing of "811" can prevent costly damages, and even loss of life.

Kentucky811 Mission

Lead Kentucky in promoting safety and preventing damage to underground facilities by providing excellent coordination and notification services at a reasonable cost.

In Kentucky

- 1. Call 811 (2 working days prior to excavation)
- 2. Wait the required amount of time
- 3. Respect the marks
- 4. Dig with care

Kentucky811

P.O. Box 1209 Prospect, KY 40059

502-266-5677

KENTUCKY

Kentucky 811: 800-752-6007 Website: www.kentucky811.org Hours: 24 hours, 7 days

Advance Notice: 2 working days excluding the day the request is made

Marks Valid: 21 days

Law Link:

http://primis.phmsa.dot.gov/comm/DamagePreventionSummary.htm

	Т	ICKET	rs	STATE LAWS & PROVISIONS									NOTIFICATION EXEMPTIONS					NOTIFICATIONS ACCEPTED					
				Coverage	Se	Clause	/lembership	Excavator Permits Issued	remarks	Response	anse	Reporting										ts	
	FAX	Online	Mobile	Statewide Co	Civil Penalties	Emergency (Mandatory Membership	Excavator Po	Mandatory Premarks	Positive Res	Hand Dig Clause	Damage Rel	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	
le	N	Υ	Υ	Υ	Y	Υ	N	N	N	Υ	Y	Z	Y	N	Υ	Υ	N	Υ	Y	Y	N	Y	2



