

# SOUTHERN CALIFORNIA



## 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

2023

# EMERGENCY CONTACT LIST

<u>COMPANY</u>	<u>EMERGENCY NUMBER</u>
Air Products, LLC .....	1-800-572-6521
California Natural Resources Group (CalNRG) .....	1-888-664-4435
California Resources Corporation - Central Valley .....	1-661-763-6363
or .....	1-661-763-6911
California Resources Corporation - Elk Hills, LLC .....	1-661-763-6363
or .....	1-661-763-6911
Chevron Pipeline & Power.....	1-800-762-3404
Crimson Pipeline, LLC.....	1-866-351-7473
DCOR, LLC .....	1-888-225-1522
ExxonMobil Pipeline Company.....	1-800-537-5200
Freeport - McMoRan Oil & Gas .....	1-805-739-9111
Kern Energy.....	1-661-845-0761
Lodi Gas Storage, L.L.C. ....	1-800-307-1107
Marathon Pipe Line LLC.....	1-833-675-1234
Martinez Pipeline Company.....	1-877-662-4575
Midstream Energy Partners (USA), LLC .....	1-866-295-2176
Mojave Pipeline Company, L.L.C. ....	1-800-334-8047
Paramount Pipeline LLC.....	1-562-244-4508
Phillips 66 Pipeline LLC.....	1-877-267-2290
Plains Pipeline L.P. ....	1-800-708-5071
Shell Pipeline Company LP.....	1-800-922-3459
SoCalGas .....	1-800-427-2200
SoCal Holding LLC.....	1-562-624-3452
TC Energy Natural Gas .....	1-800-447-8066
THUMS.....	1-562-624-3452
Tidelands .....	1-562-624-3452
Torrance Logistics Company .....	1-877-662-4575
TransMontaigne Product Services Inc.....	1-800-732-8140
Valero Refining Company - California .....	1-707-745-7562
Valero - Ultramar .....	1-562-491-6803
Vopak Terminal Los Angeles Inc.....	1-310-549-2221
World Oil Terminals .....	1-562-432-1737
Zenith Energy West Coast Terminals LLC.....	1-866-497-2284

**Note:** The above numbers are for emergency situations.

Additional pipeline operators may exist in your area.

Visit the National Pipeline Mapping System at [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov) for companies not listed above.

<u>ONE-CALL SYSTEM</u>	<u>PHONE NUMBER</u>
Underground Service Alert of Southern California (DigAlert) .....	1-800-422-4133
USA North 811 .....	1-800-642-2444
National One-Call Referral Number.....	1-888-258-0808
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

### **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





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

### EXCAVATOR Pipeline Emergency Response Training

Contractor and Excavator Personnel

**EXCAVATOR**  
PIPELINE SAFETY PROGRAM

Instructor:



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**811** *Paradigm*

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### EXCAVATOR 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?



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### EXCAVATOR 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!



**811** *Paradigm*

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### EXCAVATOR Coordinated Response Exercise®

- **Learn** your requirements and responsibilities prior to beginning excavating.
- **Acquaint** you with the operator's ability to respond to a pipeline emergency. And find out what the company responsibilities are once you notify 811 before you can dig.
- **Identify** the types of pipeline emergencies.
- **Plan** how all parties can engage in mutual assistance to minimize hazards to life, property and the environment.

Code of Federal Regulations (CFR): 49 CFR Parts 192 and 195

Roll Call: Excavators, Public Officials, Emergency Responders, and Pipeline Operators



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### Excavator is defined in 4216 (h)

Except as provided in Section 4216.8, "excavator" means any person, firm, contractor or subcontractor, owner, operator, utility, association, corporation, partnership, business trust, public agency, or other entity that, with their own employees or equipment, performs any excavation

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### Subsurface Installation is defined in 4216 (s)

"Subsurface installation" means any underground pipeline, conduit, duct, wire, or other structure, except nonpressurized sewerlines, nonpressurized storm drains, or other nonpressurized drain lines.

- Every operator of a subsurface installation, except the Department of Transportation (Cal/Trans), shall become a member.

Excavation if working on Cal/Trans right-of-way or if there are known nonpressurized underground utility lines that are not being notified in your ticket - contact those entities directly.

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### 811 Process For EVERY Excavator

- ✓ Delineate
- ✓ Contact 811
- ✓ Wait
- ✓ Confirm
- ✓ Practice Safe Excavation



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### Delineation is defined in 4216 (d)

"Delineate" means to mark in white the location or path of the proposed excavation using the guidelines in Appendix B of the "Guidelines for Excavation Delineation" published in the most recent version of the Best Practices guide of the Common Ground Alliance.

- Display the excavator's company identifier (name, abbreviations, or initials)
- Only delineate "actual work area"
- Use a continuous line, 4-in marking the radius of the arc, dashes marking the line corners of the project or dashes outlining the excavation project.
- Limit the size of each dash to approx 4 to 12 inches long and 1 inch wide.
- Use arrows 4 feet to 50 feet apart to show direction of excavation.

Utilities **DO NOT** have to locate and field mark if the site is not delineated.

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## Contact 811



4216.2 (b) Except in an emergency, an Excavator planning to conduct an excavation shall notify the appropriate regional notification center of the excavator's intent to excavate....



- ✓ Direct.digalert.org
- ✓ DigAlert App
- ✓ Text 344258 (DIGALT)
- ✓ Call 811

DigAlert Customer Service Representatives are available Monday - Friday, excluding state and federal holidays, from 8:00AM to 5:00PM

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**DIRECT**  
Southern California's free and easy solution for safe excavation

✓ Guest ✓ Standard ✓ Professional

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## Information Needed to Complete a New Ticket

- ✓ Company Doing the Work.
- ✓ Site Contact Name/Number/ Email
- ✓ DigAlert requires all excavators to provide VALID telephone numbers and email addresses.
- ✓ How the Site is Delineated.
- ✓ Type of Work.
- ✓ Job Location.
- ✓ DigAlert requires all excavators to provide permit tags for what is excavated from site.
- ✓ Will Work Area include Street/Sidewalk.
- ✓ Will Work use Boring Equipment.
- ✓ Will Vacuum Equipment be used to Expose Lines in Conflict
- ✓ Company Doing the Work list.
- ✓ Permit Number (if applicable).
- ✓ Date & Time Work is Starting.




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## Wait Until Your Legal Start Date and Time

Working days: Monday - Friday from 7:00AM to 5:00PM, excluding federal and state holidays.

- ✓ Maximum notification is up to 14 calendar days.
- ✓ Minimum legal notification is 3 working days, not including the date of notification.
- ✓ Utilities have up to your start date/time to respond.
- ✓ If providing "short notice", utilities have the legal minimum notification to respond.
- ✓ Excavators cannot begin until all utilities have provided EPR response.
- ✓ For design information you will need a Standard DigAlert Direct account, please visit [direct.digalert.org](http://direct.digalert.org) and sign up for an account now.




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## Emergency is defined in 4216 (f) (1)



**"Emergency"** means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services.

Emergency tickets cannot have a start date/time of more than 24 hours from the date/time it is submitted.

Utilities may charge the excavator for responding to an emergency ticket, if deemed that the excavation is not an emergency.

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## Confirm Utilities Have Responded

Electronic Positive Response (EPR) Information

Utility Members are required to supply an Electronic Positive Response (EPR) through the regional notification center before the legal excavation start date and time.

4216.2 (g).

You can check (-)Response before the legal start date and time by:

- Texting EPRSE & the ticket number to 544235 (DIGALIT)
- Visit [www.digalert.com](#)
- Download our free app and select "Check Electronic Positive Response"




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## You CANNOT Dig Until All Utilities Have Responded

Unless an emergency exists, an excavator shall not begin excavation until the excavator receives a response from all owners/operators of subsurface installations within the delineated boundaries of the proposed area of excavation. 4216.2 (g).

### Submit a No Response Ticket



DigAlert will send out your request to the members that have not responded, documenting their failure to respond.

- Ensure excavation site is delineated. Contact DigAlert.
- Identify facilities that have not responded.
- Wait a reasonable amount of time – allow enough time for utilities to respond.
- Contact the member(s) directly.

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## Follow Safe Excavation Practices

Twenty four inches from each side of a single marking, assumed to be the centerline of the subsurface installation

Twenty four inches plus one half the specified size on each side of a single marking with the size of installation specified

Twenty four inches from each outside marking that graphically shows the width of the surface of the subsurface installation on a horizontal plane



If an excavation is within the tolerance zone of a subsurface installation, the excavator shall determine the horizontal location of the subsurface installation to avoid the excavation using hand tools before using any power-driven excavation or boring equipment within the tolerance zone of the subsurface installation, 4216.4 (a) (1).

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### Use of Equipment Other Than Hand Tools To Determine Exact Location of a Subsurface Installation

This type of equipment CANNOT be used if installation type is marked as (DANGEROUS), communication, alarm or signal lines, cables or conductors - or marked as street lighting or traffic signal.



- ✓ Equipment is a handfield percussive pneumatic, electric or hydraulic hammer weighing less than 40lbs.
- ✓ Bit width no less than 4 inches wide with rounded edges.
- ✓ Classification of soil within tolerance zone classified by CalOsha as type A or type B.
- ✓ Owner/Operator has responded.
- ✓ The bit edge shall be placed parallel, not perpendicular, to the orientation of the subsurface installation as indicated by the field mark.

### Vacuum Excavation

4216-4(2) (A) An excavator may use a vacuum excavation device to expose subsurface installations within the tolerance zone



- ✓ An excavator informs the regional notification center of their intent to use vacuum for hand exposing.
- ✓ The operator has marked the subsurface installation.
- ✓ The excavator has contacted any operator whose subsurface installations may be in contact with the excavation.
- ✓ The operator has agreed to the use of a vacuum excavation device.

Find Vacuum Contact Information at [www.digalert.org](http://www.digalert.org)

or text Vacuum & ticket number to 342-2211 (DIGALT) or DigAlertApp

### Damage(s) to Underground Substructure



An excavator discovering or causing damage to a subsurface installation, including all

- ✓ Breaks
- ✓ Leaks
- ✓ Nicks
- ✓ Dents
- ✓ Gouges
- ✓ Grooves

or other damage to subsurface installation lines, conduits, coatings, or cathodic protection, shall immediately notify the subsurface installation operator.

An excavator discovering or causing damage shall notify the regional notification center within 48 hours of discovering or causing the damage. 4216.4 (c) (3)

### Report a Damage to the CA Underground Facilities Safe Excavation Board

Section 4100 of Title 19 of the California Code of Regulations requires that an excavator causing or discovering a damage must file a **report immediately, and in no case longer than two hours** after learning of the damage of any of the following types:

- ✓ Damage to **hazardous** or **high pressure** subsurface installation whether or not the damage results in the escape of any flammable, toxic, or corrosive gas or liquid.
- ✓ Damage to high pressure subsurface installation of any kind.
  - ✓ High pressure natural gas pipelines with normal operating pressures greater than 81.3/PSI gauge (60psig).
  - ✓ Pressure pipelines.
  - ✓ Demarcation pipe systems.
  - ✓ High voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to 60kV.
  - ✓ Hazardous materials pipelines that are potentially hazardous to workers or the public if damaged.
- ✓ Damage causing injury that requires treatment at a facility that provides medical services, such as a clinic or hospital.
- ✓ Damage causing fatality.



### How to Report a Damage or Complaint to the Underground Safety Board.



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### Manage Your Tickets

- ✓ Tickets are valid for 28 calendar days. Renew ticket on or before the 28<sup>th</sup> calendar day, if the excavation will continue beyond 28 calendar days.
- ✓ Request re-marks when the marks are no longer reasonably visible.
  - Re-delimitate the area to be re-marked.
  - Stop the excavation in the area to be re-marked.
  - Wait - 2 full working days, not including the date of the request for utilities to respond.
- ✓ Amend your ticket when contact information changes.
  - direct.digalert.org
  - DigAlert app
  - Text 34258 (DTRIAL7) to receive a link.



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### Other Ticket Types



- ✓ **Expired tickets**  
If an excavator discovers an unmarked exposed line and requests the owner(s) to respond to identify the line. However, once tickets go **Expired**.
- ✓ **Retreat or Trip Ticket**  
If an excavator needs to have a specialist respond to the site for any reason other than a damage report, the excavator or its contractor will request a Retreat Trip ticket. An example EPR response states we cannot visit the excavator provides the access code on the Retreat Trip Ticket. For information, look 2. excavating sites are excluding the date of notification to respond.

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### Utility Owner/Operator

- ✓ Respond to the ticket.
- ✓ Mark in the A/P/W/A color codes.
- ✓ Have an onsite meeting digging near high priority line(s).
- ✓ Provide current contact information.



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
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- ✓ Provide information of active or inactive subsurface installations, if available.
- ✓ Utilities must mark *within* the area delineated for excavation.
- ✓ Mark an "A" inside a circle the presence of any abandoned subsurface installations, if known, *within* the delineated area.
- ✓ Mark where multiple subsurface installations of the same type are known to exist.
- ✓ Mark the number of subsurface installations.
- ✓ Mark newly installed subsurface installations in active digging areas.

	Gas, Oil or Steam Lines
	Electrical Lines
	Communications Lines
	Potable Water Lines
	Sewer and Drain Lines
	Reclaimed Water, Irrigation
	Temporary Survey Marking
	Proposed Excavation (white)

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## Electronic Positive Response (EPR) is defined in 4216 (e)

Electronic Positive Response (EPR) means an electronic response from an operator to the regional notification center providing the status of an operator's statutorily required response to a ticket.



Every operator shall supply an electronic positive response (EPR) through the regional notification center before the legal excavation start date and time.

Response Codes      EPR Best Practices

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## Utility Response Required Field Meet when Excavating near "High Priority" Facilities

Excavation proposed **within 10 feet** of a high priority line, the owner/operator must notify the excavator and schedule an *onsite meeting* before the legal excavation start/date time.




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## "Operators of subsurface installations who are members of, participate in, and share in, the costs of a regional notification center..."

- In 2022, there were over 2 million "No Conflict" EPR responses.
- If your company is receiving too many ticket notifications that are response is no conflict, check your Member Polygon.
- Member Polygon allows viewing the polygon notification area for some member code(s) on a map.

Shape files can be polygon, lines or point. Polygon shape files are imported without buffering; they are considered pre-buffered and must be a maximum of a 50ft buffered file. Line and point shape files will be buffered by a specific number of feet, which you must specify (minimum of 50ft).

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## California Code of Regulations Title 19 Division 4 Reg §4003

### Valid/Current Contact Information

- ✓ Update online at digalert.org under the Member tab and Member Login
- ✓ Need help? Contact Member Services at [memberservices@digalert.org](mailto:memberservices@digalert.org)




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## California Government Code 4216

- ✓ Any operator or excavator who negligently and willfully violates any of the provisions of this article is subject to a civil penalty in an amount not to exceed fifty thousand dollars - (§50,000).
- ✓ Any operator or excavator who knowingly and willfully violates any of the provisions of this article in a way that results in death to a child or adolescent, major personal physical injury, and that results in the escape of any flammable, toxic, or corrosive gas or liquid is subject to a civil penalty in an amount not to exceed one hundred thousand dollars - (§100,000).

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## The Enforcement Agency for the California Government Code 4216 The California Underground Facilities Safe Excavation Board

Underground Safety Board

- ✓ Develop excavation safety standards.
- ✓ Coordinate education and outreach programs.
- ✓ Investigate incidents.



Office of Energy Infrastructure Safety  
Website: [www.gridwatch.ca.gov](http://www.gridwatch.ca.gov)

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## Enforcement

- ✓ Contractors State License Board (CSLB)
- ✓ Permitting Agencies
- ✓ Cal/Osha
- ✓ Public Utilities Commission (PUC)
- ✓ State Fire Marshal
- ✓ Attorney General or District Attorney



© Flary - iStockphoto.com/kenan

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## Underground Safety Board



Communication to all stakeholders and posting public announcements via the \_\_\_\_\_

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"CARCGA's mission is to eliminate safety risks to life, health, and property while also preventing damage to underground infrastructure and vital public services."

Join CARCGA's efforts in damage prevention.

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Each excavator, operator, or locator shall communicate with each other and respect the appropriate safety requirements and ongoing activities of the other parties, 4216.4 (d).

**DIG SAFE!**

Follow DigAlert



Get the App




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### EXCAVATOR 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



### EXCAVATOR 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



811 Pipeline

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### EXCAVATOR 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



811 Pipeline

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### EXCAVATOR 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



811 Pipeline

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### EXCAVATOR Product Characteristics Resources

Mobile Applications: Android and iPhone

- ERG 2020** (Emergency Response Guidebook) - 2020
- Chemical Hazards Pocket Guide** (CHPG) - 2020
- WSEER Response** (Western States Emergency Response) - 2020
- CHEMICAL SAFETY DATA SHEETS** (CSDS) - 2020
- ICAMCO Chemicals** (International Chemical Manufacturers Council) - 2020
- NIOSH Mobile Pocket Guide** (MPG) - 2020

811 Pipeline

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**EXCAVATOR 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 lines/system is closed
- Beware of the potential for **Boiling Liquid Expanding Vapor Explosion (BLEVE)**



**811** Pineagle

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**EXCAVATOR Local Distribution Systems**

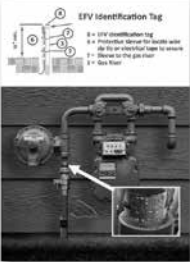
**Caution**

- 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(j)]**

- 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**

**811** Pineagle

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**EXCAVATOR Explosive Limits**

**Explosive Limits  
vs.  
Percent of Gas in Air**

Natural Gas			HVL Liquefied Petroleum Gas		
100% LEL	Rich	15% Gas in Air	100% LEL	Rich	10% Gas in Air
100% LEL	Explosive	3-5% Gas in Air	100% LEL	Explosive	2% Gas in Air
0%	Lean	0%	0%	Lean	0%

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

**811** Pineagle

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**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



## 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

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](http://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).



**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



## 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:



Know what's below.  
Call before you dig.

For More Details Visit: [www.call811.com](http://www.call811.com)

### American Public Works Association (APWA) Uniform Color Code

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

<b>PRODUCT</b>	<b>LEAK TYPE</b>	<b>VAPORS</b>
<b>HIGHLY VOLATILE LIQUIDS [SUCH AS: BUTANE, PROPANE, ETHANE, PROPYLENE, AND NATURAL GAS LIQUIDS (NGL)]</b>	Gas	Initially heavier than air, spread along ground and may travel to source of ignition and flash back. Product is colorless, tasteless and odorless.
<b>HEALTH HAZARDS</b>	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.	

<b>PRODUCT</b>	<b>LEAK TYPE</b>	<b>VAPORS</b>
<b>NATURAL GAS</b>	Gas	Lighter than air and will generally rise and dissipate. May gather in a confined space and travel to a source of ignition.
<b>HEALTH HAZARDS</b>	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.	

<b>PRODUCT</b>	<b>LEAK TYPE</b>	<b>VAPORS</b>
<b>HAZARDOUS LIQUIDS [SUCH AS: CRUDE OIL, DIESEL FUEL, JET FUEL, GASOLINE, AND OTHER REFINED PRODUCTS]</b>	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.
<b>HEALTH HAZARDS</b>	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.

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**Websites:**

**Call Before You Clear**

[www.callbeforeyouclear.com](http://www.callbeforeyouclear.com)

**Common Ground Alliance**

[www.commongroundalliance.com](http://www.commongroundalliance.com)

**Federal Office of Pipeline Safety**

[www.phmsa.dot.gov](http://www.phmsa.dot.gov)

**National One-Call Dialing Number: 811**

[www.call811.com](http://www.call811.com)

**National Pipeline Mapping System**

[www.npms.phmsa.dot.gov](http://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](http://www.osha.gov)

**Paradigm Liaison Services, LLC**

[www.pdigm.com](http://www.pdigm.com)

**United States Environmental Protection Agency (EPA)**

[www.epa.gov/comeo](http://www.epa.gov/comeo)

**Wireless Information System for Emergency Responders (WISER)**

<https://wiser.nlm.nih.gov/>



Register for access to  
Training Center  
Code: 2023EX







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](http://www.pdigm.com)



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# UNDERGROUND SERVICE ALERT

— NORTHERN CALIFORNIA & NEVADA —

## UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA AND NEVADA

USA North 811 provides a free and effective Damage Prevention service that protects the communities and underground facilities in Central and Northern California, as well as the entire state of Nevada.

USA North 811 began operation in May of 1975 and incorporated as a Non-Profit Mutual Benefit Corporation in 1986. Our objective is to receive planned excavation reports from public or private excavators and to transmit those planned excavation reports to all participating members of USA North who may have facilities at that excavation site. Our members will:

1. Mark or stake the horizontal path of their facility, or
2. Provide information about the location of their facility, or
3. Advise the excavator of clearance for facilities that they own.

For more information visit our website at [www.usanorth811.org](http://www.usanorth811.org).



## UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

Underground Service Alert of Southern California, aka DigAlert, is the Free Notification Center for anyone digging in the following nine Southern California counties – Inyo, Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura.

For more information visit our website at [www.digalert.org](http://www.digalert.org).

### CALIFORNIA

Underground Service Alert of Northern California and Nevada:  
811 or 800-642-2444

Website: [www.usanorth811.org](http://www.usanorth811.org)

Hours: Open 24 hours a day, seven days a week

Advance Notice: 2 working days, not counting the date of notification, up to 14 calendar days

Marks Valid: 28 days (1 year for ACE tickets)

Law Link: <https://usanorth811.org/services/law-update>

\*DOT exempt

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	N	Y	Y	Y*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	N	24"

Underground Service Alert of Southern California: 811 or 800-422-4133

Website: [www.digalert.org](http://www.digalert.org)

Hours: 6:00 AM - 7:00 PM, M-F

Advance Notice: 2 working days, not counting the date of notification, up to 14 calendar days

Marks Valid: 28 days (1 year for ACE tickets)

Law Link: <https://www.digalert.org/calav>

\*DOT exempt

N	Y	Y	N	Y	Y	Y*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	N	24"
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Chart Reference: <https://pipelineawareness.org/media/1507/2019-excavation-safety-guide-pipeline-edition.pdf>



1.877.477.1162 • [ca.pipeline-awareness.com](http://ca.pipeline-awareness.com)