

# GROUND DISTURBANCE EXCAVATION AND TRENCHING NEAR UPSTREAM O&G UNDERGROUND UTILITIES



## Proposed Points for National STEPS Network Safety Alert

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### Concerns

- Unmarked or mismarked lines
- Lines of all types not in 811 system (rulemaking in 2017)
- Training for construction companies
- Training for line locators
- Lack of or inadequate operator management of change
- Lack of understanding of upstream operations
- Notification of damage to line owners
  - Damage to lines: Notify 811 and do not cover damaged lines
- Lack of or untimely response to 811 calls by operators and/or locators
- Misconception of 811 inclusion of upstream ops
- Report lines spotted by excavators not in system or unknown owner
  - Variance for excavators to proceed with the excavation and are exempt from damage, if no owner responds
- Operators not aware of lines from acquired facilities/properties
- Abandoned facilities not in the 811 system
- Lack of tracing for non-ferrous lines
- Planning/communication meetings between operator & const. prior to excavation (CGA Best Practice)

### Statistics & Sources - NIOSH FOG, PHMSA/DOT, 811, Common Ground Alliance, OSHA, BLS

- Examples:
  - Pipeline utility damage every nine minutes in the US
  - Four US Onshore Upstream fatalities related to pipeline/flowline incidents
  - Damages to pipelines

### Follow federal, state and local rules and regulations/811 rules

- Definitions (Standardized 811 definitions)
- Title 9 Article 1.5?
- RP 1162
- Dirt Report from CGA
- Other?

## Line Owner (Operator) responsibilities

- Accurate/ Updated P&ID's/ Technology ( Drone Video, digital drawings, file transfers)
  - Forward to 811 in timely manner (Standard industry practice? Accepted Formats?)
    - New lines and abandoned lines
  - Rick, Chad, Nick, Benji, Elizabeth Action: Add back-up information
- Accurate and maintained pipeline markers and signage
  - 49 CFR for regulated line markers
  - Industry Best Practices for non-regulated lines (flow lines) (Rick ask API?)
    - In Colorado proposed rule
  - Jimbob will provide CGA best practices link
- Register pipelines and flow lines in 811 system (Regulated and non-regulated)
  - Jimbob Action: State 811 team can walk owners through the process (811.com)
- Best Practice Management of Change when decommissioning or changing facilities
- Registration of abandoned Facilities. Effective isolation and/or removal of unused or decommissioned underground utilities point forward, and list in 811 as abandoned and isolated ( in 811 law)
- Due diligence in locating underground utilities prior to excavation (call 811) (State)
  - Timely response to 811 calls
  - Tracing or locating for ferrous and non-ferrous lines
- Tracer or marker plates for poly lines or fiberglass
  - Best Practices for line locating (as built within brief time period)
- Company Damage Prevention Program & OQ for regulated lines -
  - Best Practices for non- regulated: Company Damage Prevention Program/ Operator Qualification Program
  - Integrity Management Programs –
    - ND Inspections
    - Pigging
    - Chemicals
- Regulated lines - Classification/ Locations: Populations/culture/consequences
- Bill Lowery to provide FAQ's (will forward link to pipeline informed planning doc.)
- RoW considerations for developers and local gvt.
  - Ground Disturbance Permit - best practice.

## Construction/Homebuilders/Excavation/Directional Drilling Companies

- Focus on Excavations in Onshore Oil and Gas industry (educational tools)
- Excavation and trenching training for equipment operators and supervisors
- Accurate Plot Plan
- Call 811 and meet on site
- Spotter as appropriate while excavating
- Notify owners of possible or real damage or other issues
- On-Site Assistance
- CG Alliance Best Practices

# Qualified Line Locator Specialist Training

- Excavation and trenching course certification
  - Importance/potential consequences
  - Focus on upstream issues
  - Train on equipment to be used
  - Due Diligence
    - Markers
    - Plastic and non-ferrous lines/sizes/Contents
  - CG Best Practices section
- Sweeping techniques, inductive (Staking U)
  - 2-man sweeping for unknown and unmarked lines
    - Old or non-registered lines
  - Apprenticeship/certifications for line locators

**PHMSA Pipeline Incidents: (1997-2016)**  
**Incident Type: Serious System Type: ALL State: ALL**

Calendar Year	Number	Fatalities	Injuries
1997	49	10	77
1998	70	21	81
1999	66	22	108
2000	62	38	81
2001	40	7	61
2002	36	12	49
2003	61	12	71
2004	44	23	56
2005	38	16	46
2006	32	19	34
2007	42	15	46
2008	36	8	54
2009	46	13	62
2010	34	19	103
2011	32	12	51
2012	28	10	54
2013	24	8	42
2014	27	19	94
2015	28	10	49
2016	38	16	86
<b>Grand Total</b>	<b>833</b>	<b>310</b>	<b>1,305</b>

**Resources:**

811, Damage Prevention Council, Staking U, Excavation/Trenching/Shoring training/ Common Ground Alliance

**Add-on's**

Enertech  
 Video  
 PHMSA Stats  
 Call 811.com