



AUDIOVISUAL SERVICES PROVIDED BY





Midwest

DAMAGE PREVENTION TRAINING CONFERENCE 2023 • FRENCH LICK, IN



Historical Pipeline Events and Lessons Learned

Presented by: Steve Roberts – M.Ed. VP of Training

David Wilkerson – SR. Public Awareness Consultant

Paradigm Liaison Services





THIS SESSION IS SPONSORED BY



ON THE SPOT
UTILITY RESOURCES LLC



Session Roadmap

- Product characteristics
- Review historical events that have affected change in the way we approach pipeline and excavating activities in the U.S.
- Other incidents and the lessons learned from them
- Importance of calling 811
- Common Ground Alliance (CGA) best practices



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

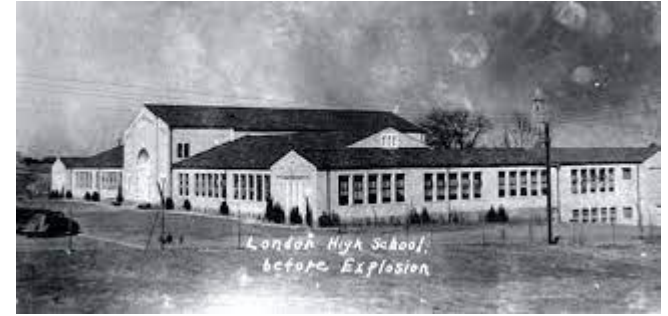
ER Guide 115 (Pages 166-167)

- Gas in and gas out of the pipeline
- **Odorant Mercaptan added where required**



New London, Texas School Explosion

- Date: March 18, 1937
- Time: 3:05 – 3:20 p.m. CST
- Location: New London, TX
- Cause: Natural Gas Explosion
- Deaths: 295+
- Non-Fatal Injuries: 300+



Cause and Outcome

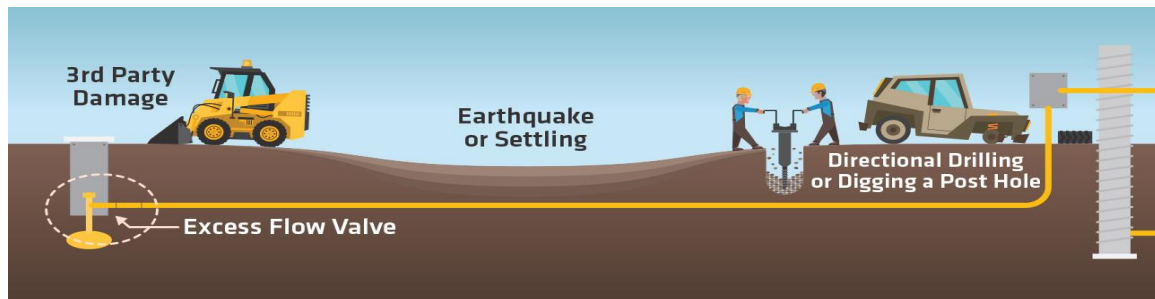
- U.S. Bureau of Mines determined a faulty natural gas connection to the school was faulty
- Because natural gas in its natural state is colorless, tasteless and odorless, the leak went unnoticed
- The natural gas migrated into the school reaching an ignitable gas-air mixture
- It is believed a spark from a sander was the ignition source for the explosion
- Incident resulted in Texas legislation allowing the Texas Railroad Commission to require odorant mercaptan be added to natural gas



Excess Flow Valve (EFV) – May 2022

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**





Olympic Pipeline, June 1999



Cause and Outcome

Olympic Pipeline Incident - 1999

- A faulty relief valve caused the release of approximately 237,000 gallons (5,642 barrels) of gasoline from a 16-inch pipe into a creek in Whatcom Falls Park in Bellingham, WA
- The product and vapors flowed downstream for approximately 1.5 hours and covered an area of approximately 1.5 miles
- The gasoline ignited, two 10-year-old boys and an 18-year-old young man died because of this incident
- One of the big outcomes from this incident is the creation of API RP1162 that serves as the regulation for all federally regulated pipelines
- The first edition of API RP1162 was implemented in December 2003



Dixie Pipeline Incident – 2007

- November 1, 2007, a 12 inch-diameter pipeline carrying liquid propane ruptured near Carmichael Mississippi, resulting in the release of about 430,626 gallons of propane
- The expanding gas cloud ignited creating a large fireball that was heard and seen for miles
- Two people were killed and seven people sustained minor injuries.
- Four houses were destroyed, and several others were damaged
- Property damage resulting from the incident, including the loss of product, was \$3,377,247



NTSB Recommendations

- Require and document that the Clarke County Central Dispatch emergency 9-1-1 personnel receive regular training and...
- “Participate in regional exercises and drills pertaining to pipeline safety”





Ashley Schoenhals
Fire Chief
Darrouzett Fire Department



Video: Lipscomb County, Tx incident - 2010





00:00:07:05



Video: Maple Heights, OH 2002



Cause and Outcome

Maple heights, OH – 2002

- City crews were dispatched to the report of a water main break
- Other utilities (20 in natural gas pipeline) were located under the water pipe
- Releasing water eroded the soil around the natural gas pipeline causing the pipe to fail
- Releasing gas vapors found an ignition source causing fire damage to several vehicles in the area
- Be mindful of all potential utilities within a Right-of-Way (ROW)
- Check the work area for warning markers for all utilities



Directional Drilling / Cross Bore



Paradigm



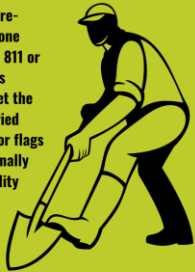
Video: Horizontal Directional Drilling - Cross Bore



811 – Call Before You Dig

WHAT IS 811 USED FOR?

811 is the national call-before-you-dig phone number. Anyone who plans to dig should call 811 or go to their state 811 center's website before digging to get the approximate location of buried utilities marked with paint or flags so that you don't unintentionally dig into an underground utility line.



Visit Call811.com



I'm planning to dig. How does 811 work?



1. Call 811 or go to Call811.com a few days before digging to request that buried utilities in your yard be marked.
2. Wait a few days for all utilities to respond to your request.
3. Confirm that all utilities have responded.
4. Respect the utility marks or flags.
5. Dig carefully around buried utilities.



<https://call811.com>



Know what's below.
Call before you dig.





- CGA established in 2001
- A resource where all stakeholders can share information and work together on all aspects of damage prevention issues
- Provides a wide range of resources and publications
- CGA Best Practices guides are agreed on by consensus of all 16 CGA stakeholder groups
 - Designed to improve worker safety,
 - Protect vital underground infrastructure and
 - Ensure public safety during excavation activities conducted in the vicinity of existing underground facilities
- New edition of Best Practices is released every spring



<https://commongroundalliance.com/>





Lee County, Illinois - 2017



Thank you!

Questions?



Paradigm

