# NAPSR Perspective

Hazardous Liquids: Leak Detection
Rockville, MD
March 27, 2012

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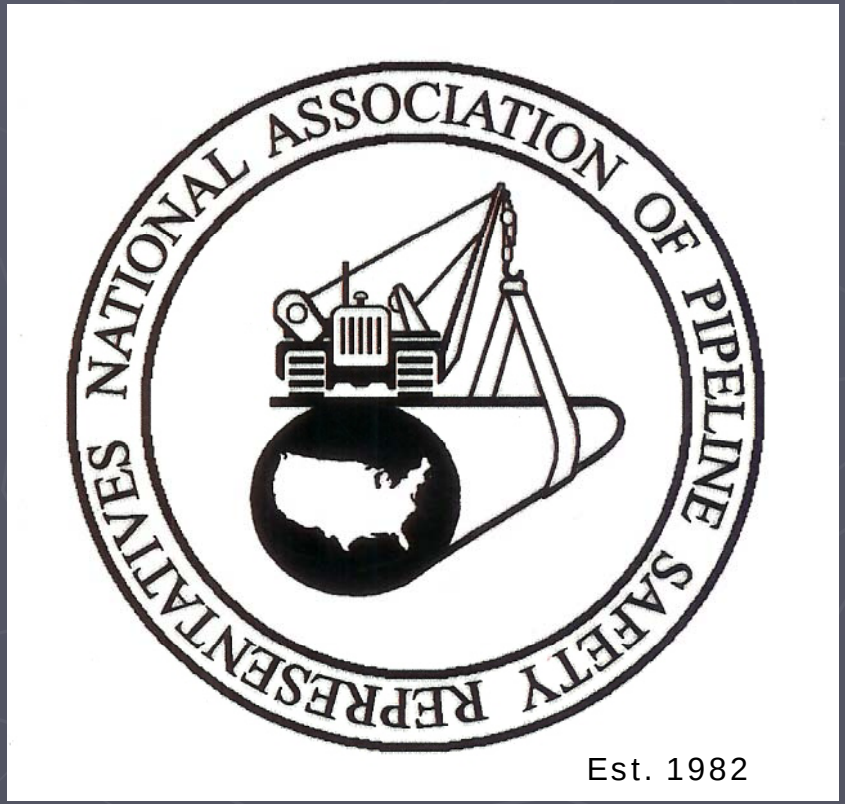
Gas Pipeline Safety
RIDPUC

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Know what's below.
Call before you dig.

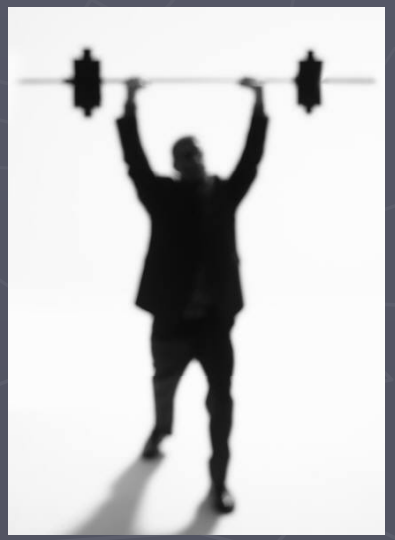
NAPSR

National Association of Pipeline Safety Representatives

- An association of 52 State pipeline safety agencies (2 agencies cover liquids only)
- Covers all states + DC & PR, except AK and HI
- States have over 325 qualified inspectors
- Inspecting 78% 0f 2.3 million miles of pipelines
- On average 5,500 miles / inspector
- ~9,000 operators

# Our Mission Statement:

1. Strengthen state pipeline safety programs

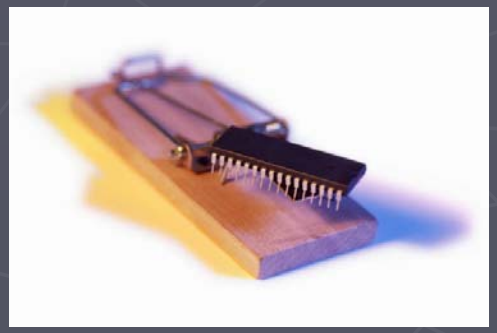


# Our Mission Statement:

2. Promote improved pipeline safety standards

# Our Mission Statement:

3. Promote education, training, and technology

# As PHMSA Partners:

NAPSR has an interest in developing regulations that are fair, clear, unambiguous, and consistent.

# NAPSR States w/Liquids Jurisdiction:

Alabama

Arizona

California

Indiana

Louisiana

Maryland

Minnesota

Mississippi

New Mexico

New York

Oklahoma

Texas

Virginia

Washington State

West Virginia

# NAPSR States w/Liquids Jurisdiction:

34% of 187,000 miles

# NAPSR States w/Liquids Jurisdiction:

Alabama

Arizona

California

Indiana

Louisiana

Maryland

Minnesota

Mississippi

New Mexico

New York

Oklahoma

Texas

Virginia

Washington State

West Virginia

# NAPSR States w/Liquids Jurisdiction:

Alabama

Arizona

California

Indiana

Louisiana

Where's Rhode Island?

Minnesota

Mississippi

New Mexico

New York

Oklahoma

Texas

Virginia

Washington State

West Virginia


WARNING
PETROLEUM
PIPELINE


# Hazardous Liquids Gasoline Line 3rd Party Damage


Hazardous Liquids Oil Line 3rd Party Damage


Hazardous Liquids Oil Line 2nd one damaged

Good News:

No leaks!

# Bad news, 6 years later, 3rd Party Damage again…

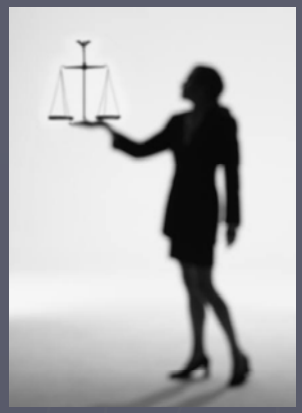
# Leak Detection for Hazardous Liquid Pipelines:

NAPSR, where do we stand....

# Leak Detection for Hazardous Liquid Pipelines:

NAPSR submitted comments in February 2011

.....our legal statement,



*NAPSR member comments are presented below. Although every effort was made to present a consensus opinion, NAPSR acknowledges that there may be members that do not necessarily Agree with all of the comments presented below. Such members are entitled to and may submit separate comments on behalf of their own state.*

# Leak Detection for Hazardous Liquid Pipelines:

C.1 Should leak detection requirements be expanded to all hazardous liquid pipeline systems under PHMSA's regulatory jurisdiction? Is there a specific subset of hazardous liquid pipeline not currently subject to leak detection requirements that should be? What are the potential quantifiable costs and benefits of expanding existing hazardous liquid pipeline leak detection requirements?

NAPSR REPLY: All hazardous liquid pipeline operators should at the very least perform tank balance calculations; this is typically done for custody transfer anyway. Leak detection technology for liquid systems is fairly mature. The operator needs the flexibility to operate the system consistent with the company culture so alarms could be managed effectively. NAPSR is unable to provide input on costs and benefits.

# Leak Detection for Hazardous Liquid Pipelines:

C.2 What additional industry practices or standards are available for leak detection that PHMSA should consider for widespread adoption Is there new or existing leak detection technology that PHMSA should be aware of and should consider for widespread adoption?

NAPSR REPLY: Our members are unaware of the new technologies or industry standards other than the API CPM standard 1130 and FLIR. The later is a leak detection technology using a thermal imaging method that detects the difference in temperature between normal frozen ground and ground with warm oil even under the snow. It can be used via aerial inspection.

# Leak Detection for Hazardous Liquid Pipelines:

C.3 How do existing industry practices or standards for leak detection address the following factors: Leak size and flow rate sensitivity, response time, leak location accuracy, rates of false alarms and misses, instrument accuracy, personnel training and qualification requirements, system size and complexity (including batch line factors), leak size or leak flow rate versus response time, release volume estimation accuracy, detection of preexisting leaks, detection of a leak in a shut-in pipeline, detection of a leak in pipelines under a stack line condition and/or during transient conditions, sensitivity to multiphase flow, retrofit feasibility, system testing and maintenance requirements?

NAPSR REPLY: Experience with leak detection systems is likely most significant among the pipeline operators.

# Leak Detection for Hazardous Liquid Pipelines:

C.4 Should current state regulations inform PHMSA's consideration of performance based leak detection standards? For example, the regulations of The Alaska Department of Environmental Conservation, (18 Alaska Administrative Code *75.055* ), set out minimum detection sensitivity based on a percentage of daily pipeline throughput. What specific performance measures should PHMSA consider?

NAPSR REPLY: For intrastate lines the states should have the discretion to decide what to do. For interstate lines, PHMSA set a standard keeping in mind that leak detection systems do not reliably instantaneously detect leaks less than 2% of volume.

# Leak Detection for Hazardous Liquid Pipelines:

C.5 If PHMSA adopts new leak detection requirements, should there be different performance standards for sensitive areas? For example, should PHMSA require operators to install more sensitive leak detection equipment, such as externally-based systems, in those areas?

NAPSR REPLY: Consideration of the performance standards should include the size of the line, amount of product involved should a failure occur, impact of failure on adjacent infrastructure such as high voltage electric transmission lines. gas transmission pipelines, railroads. etc., and the location of the line in proximity to an HCA or USA. For example, in areas where patrolling may not reveal leaks, such as under snow pack, methods such as FLIR or other aerial leak detection methods should be considered in sensitive areas.

# Leak Detection for Hazardous Liquid Pipelines:

C.6 If new leak detection standards were developed, what Key issues should they address?

NAPSR REPLY: Detection of small volume leaks in HCAs/USAs, maintenance of systems, accuracy of instrumentation, transient conditions, system capabilities, alarm management, flow vs non-flow conditions.

# Leak Detection for Hazardous Liquid Pipelines:

C.7 Are there statistics available on the extent to which the application of existing practices or standards has contributed to reduced spill volumes and consequences?

NAPSR REPLY: We have no knowledge on this.

# Leak Detection for Hazardous Liquid Pipelines:

C.12 What leak detection methods or technologies require further research and development in order to demonstrate their efficacy (*effectiveness*)?

NAPSR REPLY: Real Time Transient Models (RTTM) have the best potential for improvements. They have improved over the years but still miss events that are obvious after a spill has occurred.

# The End