Pipeline and Hazardous Safety Administration

Office of Pipeline Safety

Operators Meeting

February 25, 2020
Sugar Land, TX

Operators Meeting

Sugar Land, Texas

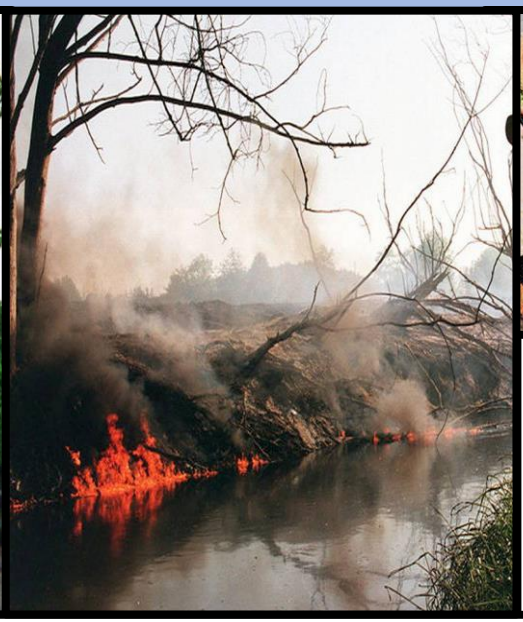
February 25, 2020

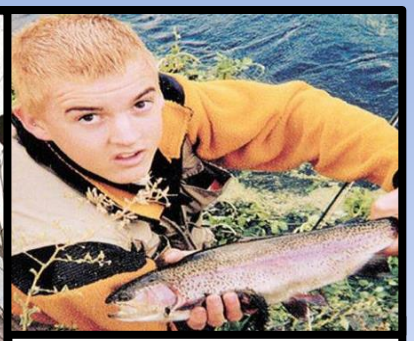
Alan K. Mayberry, P.E.
Associate Administrator for Pipeline Safety

“Safety Must Always Be #1.”

- Secretary Chao

Bellingham, Washington





Guys
I'm fishing. will
be back before dark
Homework is done.

♡Liam

Federal grand jury indicts Olympic Pipeline in deadly 1999 Bellingham explosion

By Peggy Anderson
The Associated Press

SEATTLE — A federal grand jury today returned a seven-count indictment in the June 1999 pipeline explosion that killed three people in a Bellingham park.

June, 1999 – 3 Killed

Carlsbad

Pipeline Explosion Kills 10 Campers in N.M.

By **ABC News**
January 7, 2006, 9:43 AM • 5 min read

Aug. 20, 2000 -- Federal, state and local authorities are investigating the cause of Saturday's natural gas pipeline explosion that killed five adults and five children and left two other people in critical condition in southeast New Mexico.

The victims, members of two extended families, were camping early Saturday morning near the Pecos River, about 200 to 300 yards from the below-ground explosion.

August, 2000 – 12 Killed

Marshall

NATIONAL BRIEFING | MIDWEST

Michigan: 800,000 Gallons of Oil Spill After Pipe Breaks

By The Associated Press

July 28, 2010

Crews were working Tuesday to contain and clean up more than 800,000 gallons of oil that poured into a creek and flowed into the Kalamazoo River in southern Michigan, coating wildlife. Battle Creek and Emmett Township authorities warned residents about the strong odor from the oil, which leaked Monday from a pipeline that carries about eight million gallons of oil a day from Griffith,

320 people reported symptoms consistent with crude oil exposure & costs exceeding $767 million

San Bruno

September, 2010 – 8 Killed, 8 injured

2019/2020: Significant Progress

Where will PSMS Take Us?

Reactive → Proactive → Predictive

Thank You

Meeting Overview and Intent

Linda Daugherty

Deputy Associate Administrator, Field Operations

Office of Pipeline Safety

Pipeline Inspection Planning Using RRIM Risk Ranking Index Model)

Rob Burrough
Region Director
Eastern Region
February 25th, 2020

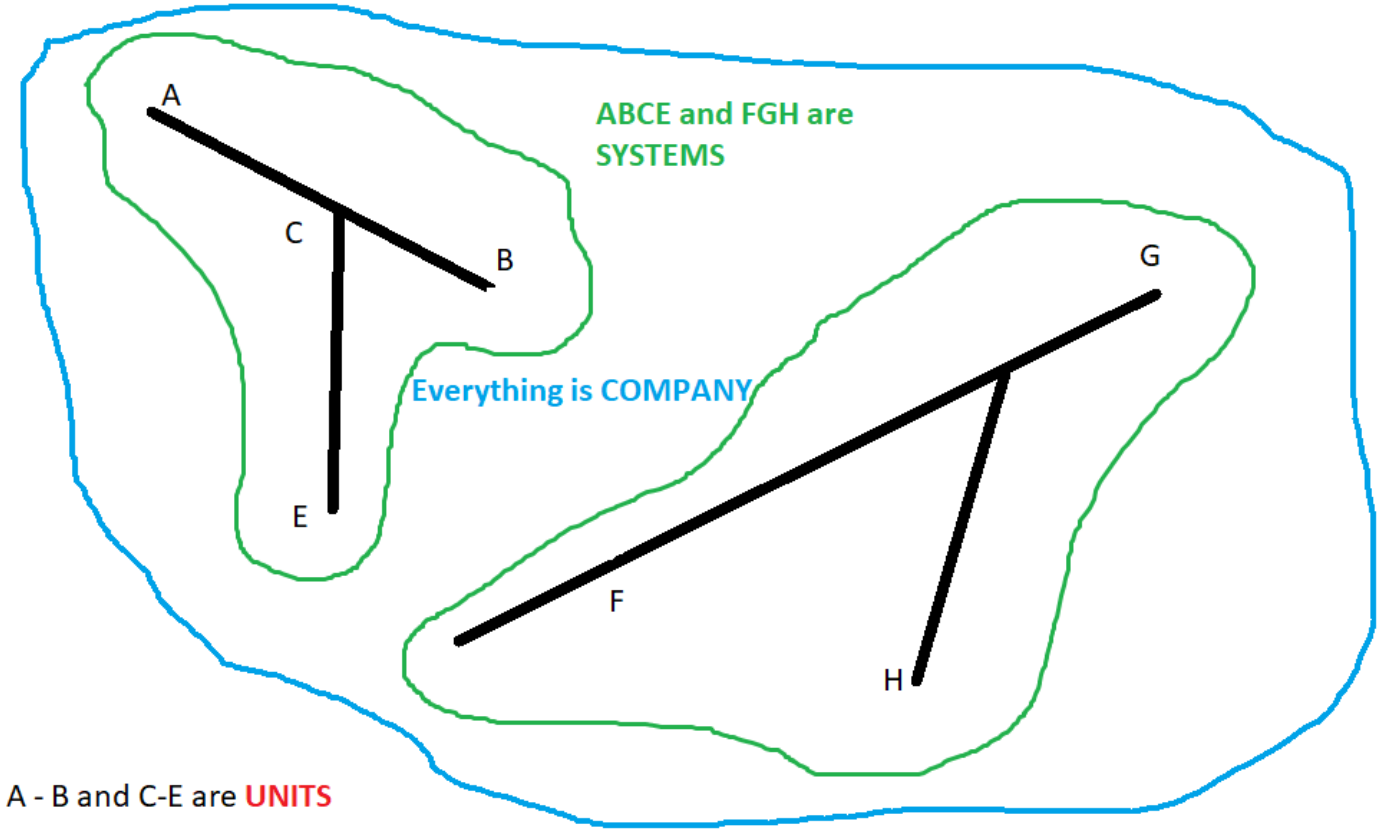
Know what's **below.**
Call before you dig.

Facility Types for RRIM

System Type	Pipeline Type	Commodity Desc	Jurisdiction
GT GG	OFFSHORE GAS GATHER INTER	Natural Gas	FEDERAL
GT GG	INTRASTATE GAS TRANSMISSION	Natural Gas	FEDERAL
HL	INTERSTATE LIQUID	Other HVL	FEDERAL
HL	INTERSTATE LIQUID	Other HVL	FEDERAL
HL	INTRASTATE LIQUID	Refined and/or Petro	FEDERAL
GT GG	INTERSTATE GAS TRANSMISSION	Natural Gas	FEDERAL
GT GG	INTERSTATE GAS TRANSMISSION	Natural Gas	FEDERAL
GT GG	JURISDICTIONAL GAS GATHERING	Natural Gas	FEDERAL
GT GG	INTERSTATE GAS TRANSMISSION	Natural Gas	FEDERAL
HL	INTRASTATE LIQUID	Fuel Grade Ethanol (	FEDERAL
HL	INTERSTATE LIQUID	Refined and/or Petro	FEDERAL

Units vs Systems

Pipeline data is tracked at the UNIT, SYSTEM and COMPANY level.



8 Risk Score Threat Factors

Mileage Weight	Adjusted Mileage	NPMS Miles	Unit Miles	Breakout Tanks	Storage Fields	Pump Stations	Compressor Stations	ERW Mileage Weight	ERW Pipe Mileage	Enforcement Weight	Notification Weight	Commodity Threat Weight	Bare Pipe Weight	Ineffective Coating Weight	Significant Incidents Weight	# of Significant Incidents
0.0	7.0	0.0	7.00	0	0	0	0	0.0	0.0	0.0	0.0	3	0.00	0.0	0.0	0
0.0	0.5	0.0	0.51	0	0	0	0	0.0	0.0	0.0	0.3	3	0.00	0.0	0.0	0
0.0	48.0	0.0	48.00	0	0	0	0	0.0	0.0	0.0	0.0	6	0.00	0.0	0.0	0
0.0	110.2	0.0	110.20	0	0	0	0	0.0	0.0	0.0	0.0	6	0.00	0.0	0.0	0
0.0	8.0	0.0	8.00	0	0	0	0	0.0	0.0	0.0	0.0	6	0.00	0.0	0.0	0
0.0	2.1	0.0	2.09	0	0	0	0	0.0	0.0	0.0	0.0	3	0.00	0.0	0.0	0
0.0	15.0	0.0	15.00	0	0	0	0	0.0	0.0	0.0	0.0	3	0.00	0.0	0.0	0
0.0	41.8	0.0	41.75	0	0	0	0	0.0	0.0	0.0	0.0	3	0.00	0.0	0.0	0
0.5	159.7	0.0	110.70	0	0	0	1	0.0	0.0	0.0	0.0	3	0.00	0.0	0.0	0
0.0	40.9	0.0	3.85	2	0	1	0	0.0	0.0	0.0	0.0	6	0.00	0.0	0.0	0
0.5	172.0	0.0	172.00	0	0	0	0	0.0	0.0	0.0	0.0	6	0.00	0.0	0.0	0

Risk Score Consequence Factor

- Commodity and diameter drive the math for three types of "miles" in the unit:
  - High Consequence Area (HCA)
  - Outside of HCAs
  - Facilities, like pump and compressor stations
- The calculated values for each type of "miles" are then summed up to determine the Consequence Factor

Risk Score and Tiers

Time Since Last Inspection (TSLI)

Tier Level	Maximum Time Between Inspections
High Tier	3 years
Medium Tier	5 years
Low Tier	7 years

How Are Inspections Selected?

Recent Changes

Questions?

PHMSA's Integrated Inspection Process

Mary L. McDaniel, P.E.

Region Director

Southwest Region

Overview: Integrated Inspections

- Concepts, Principles and Asset Targeting
- Elements of an II
- II Process

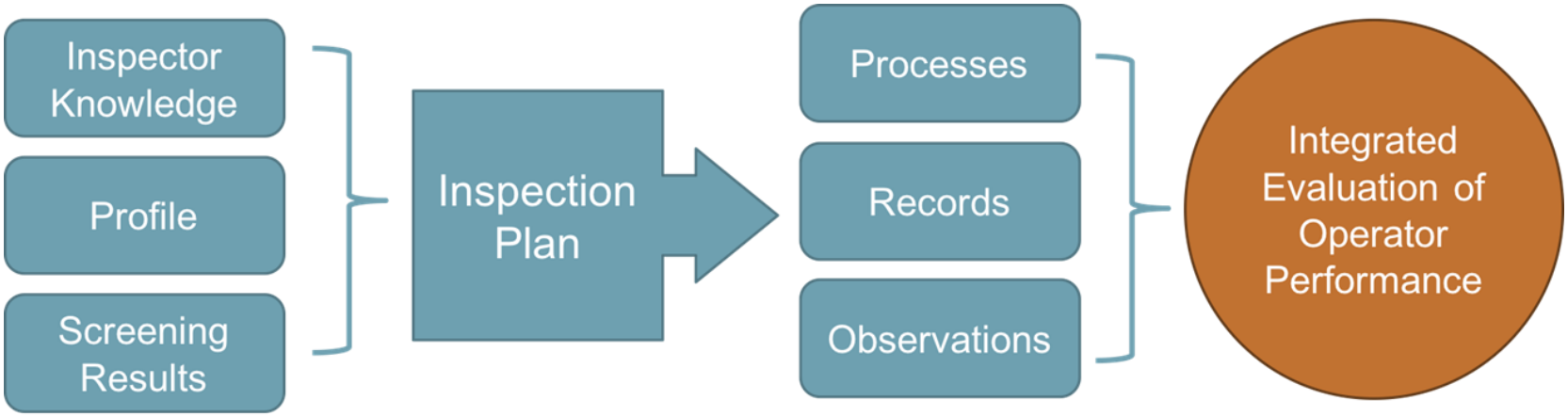
What is an Integrated Inspection (II)?

"An II is a strategy for conducting risk informed regulatory inspections of pipeline systems."

The Integrated Inspection Concept

- Selection of Systems for inspection
- Development of Inspection Protocols
- Identification of focus areas

Integrated Inspection Concepts, Principles, and Asset Targeting

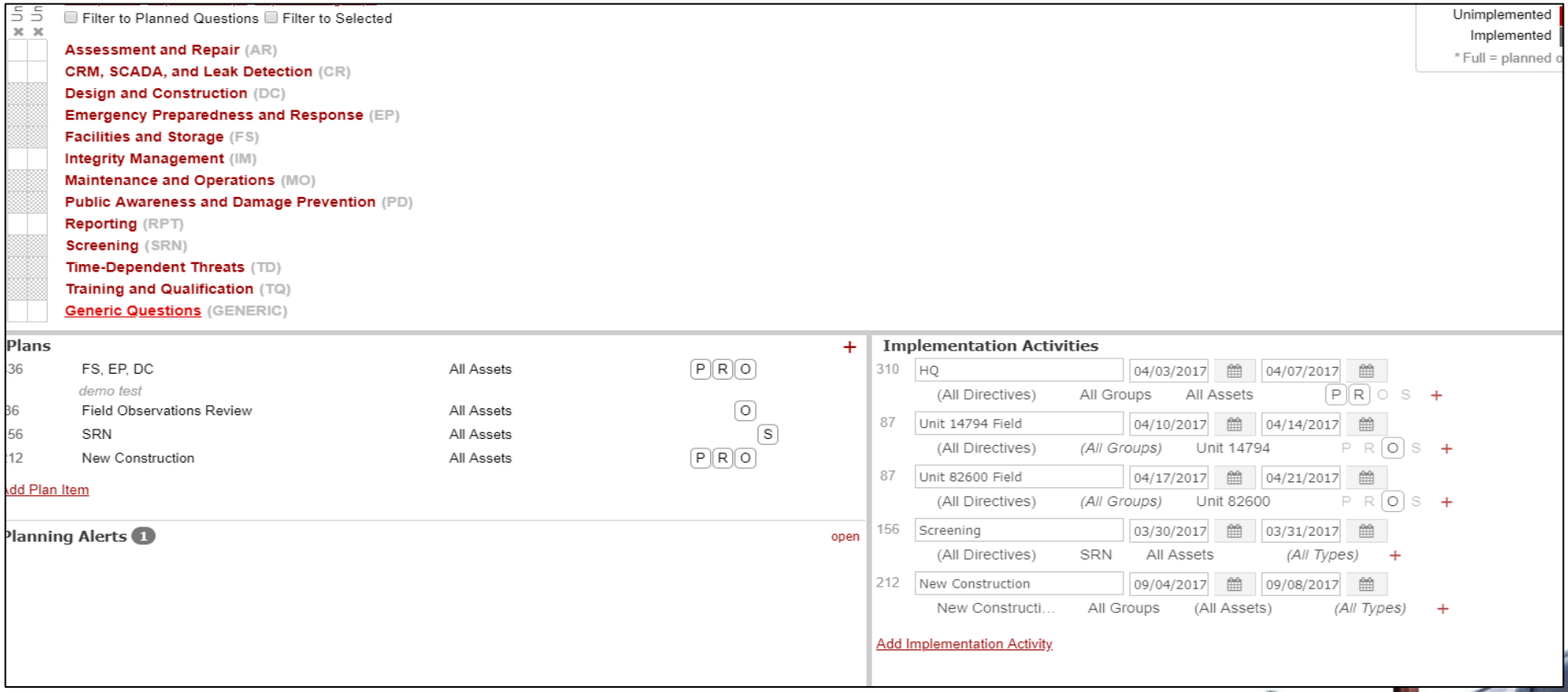


Key Elements of an II

- Single, unified inspection;
- System Level;
- System Profile of operational history;
- Inspector driven inspection focus; and
- Inspection Assistant Software

PHMSA's Tool for Inspection: Inspection Assistant

- Planning; Conducting; and Documenting



Information Recorded in IA

- RESULT values: NA, NC, SAT, UNSAT, and SAT+
- Inspector Notes
- Evidence/data collected

II Process

- Integrated Inspection Phases:
  - Pre-Inspection
  - Inspection
  - Post-Inspection

Pre-Inspection

- Data step to develop inspection plan
- Consideration of Planning Alerts
- Determination of Inspection Directives

Inspection

- Completion of planned procedure, records, and observation questions;
- Performed at both Headquarter and Field and locations; and
- Wrap up/Exit

Post-Inspection

- Ensure completeness of all planned questions;
- Close Out in IA; and
- Written exit brief.

Key Take Aways

- II allows PHMSA to perform inspections using a risk based, data informed approach (i.e., no one size fits all inspection); and
- II promotes communication between PHMSA and the operator during the course of an inspection.

Questions

How PHMSA OPS Inspections Are Conducted

Michael Springer

Operations Supervisor

PHMSA OPS, Eastern Region

February 25th, 2020

Scope

- Inspection Types
- Planning and Scheduling
- Performing Inspections
- Inspection Closeout
- Q&A

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

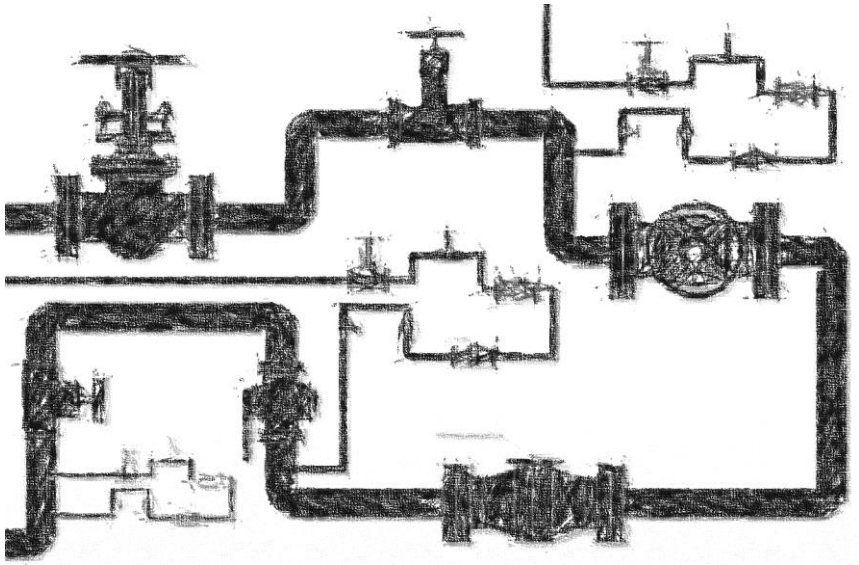
What Types of Inspections Does PHMSA Perform?

- Integrated
- Construction
- Programmatic (CRM, OQ, IM, etc.)

What Types of Inspections Does PHMSA Perform?

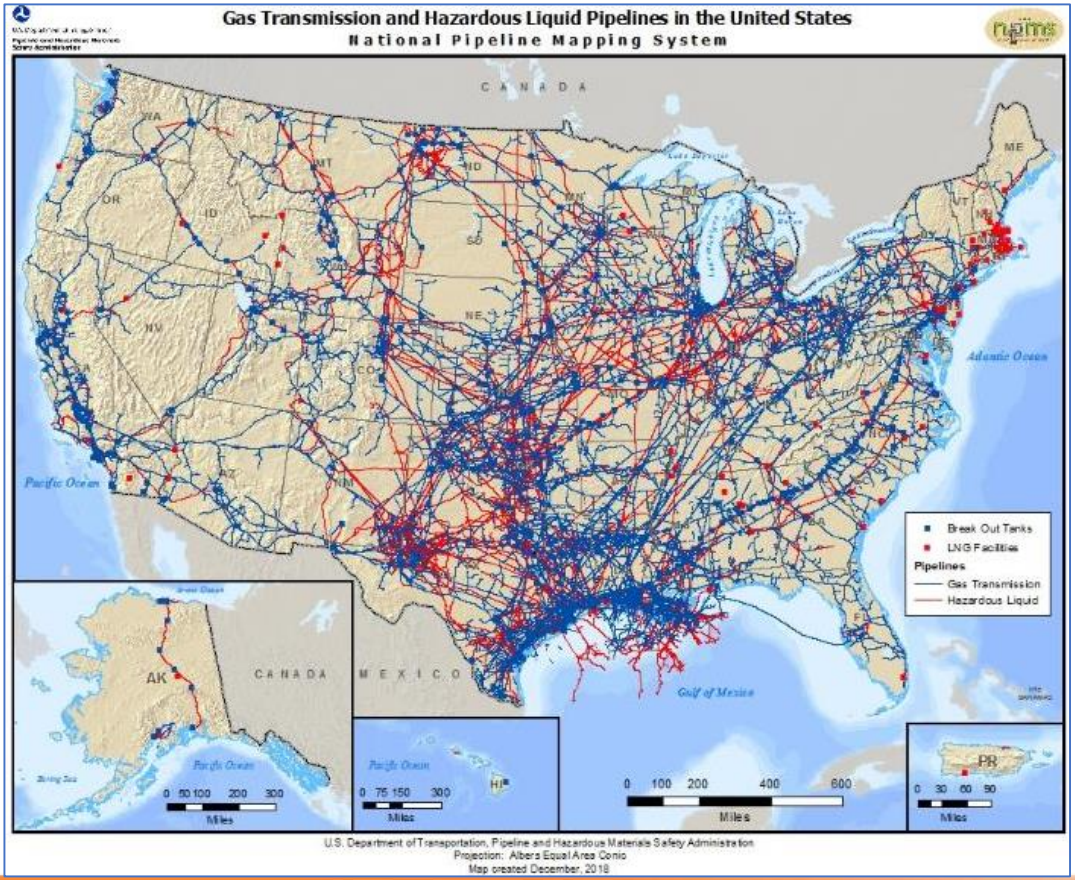
- Standard (LNG, UNGS, GD)
- Other (OPA, Drug & Alcohol, Special Permit, etc.)
- **See PHMSA's website for Glossary of Inspection Types**

How Does PHMSA Plan and Schedule Inspections?



- Inspection plans developed on calendar year basis
- Inspection scheduling throughout year

How Does PHMSA Plan and Schedule Inspections?



- Dividing up inspection assets into:
  - Inspection Units (IUs)
  - Inspection Systems (ISs)

How Does PHMSA Plan and Schedule Inspections?

- Integrated Inspections
  - Screening
  - Headquarters
  - Field Weeks

- Construction
  - Pre-construction
  - Construction
  - Post-construction

How Does PHMSA Perform Inspections?

- Utilize Software - Inspection Assistant (IA)

- Inspection Teams Composition
  - Lead, Support, OJT
  - State Program Participation

How Does PHMSA Perform Inspections?

- Sharing of Inspection Topics

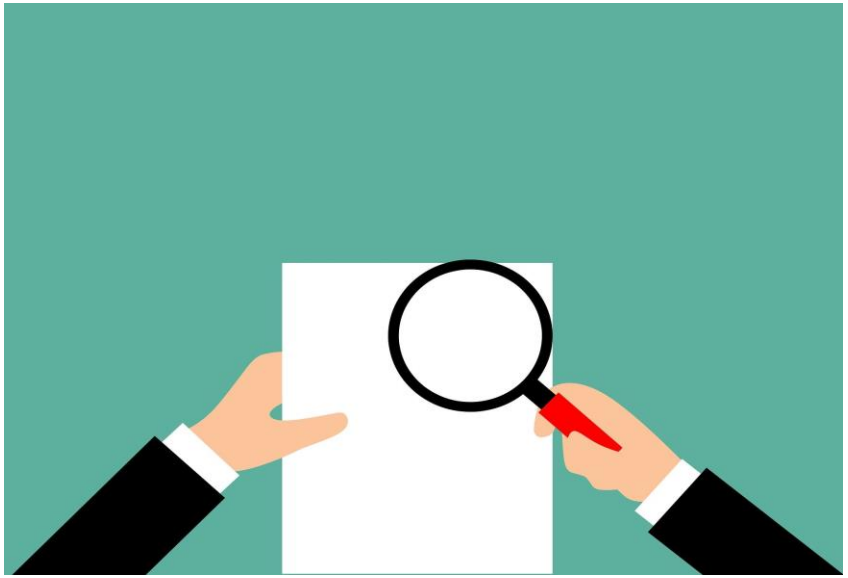
- Materials Reviewed
  - Procedures
  - Records
  - Observations

How Does PHMSA Perform Inspections?

- State Programs Participation
- PPE, Safety Briefs/Safety Training

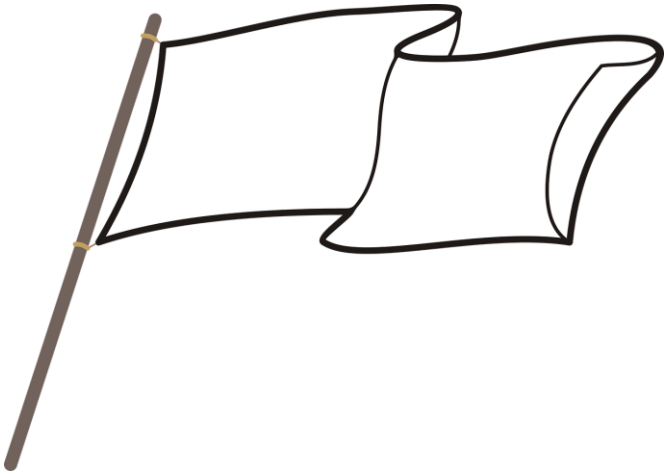
How Does PHMSA Perform Inspections?

- Procedures
- Records
- Observations



How Does PHMSA Closeout Inspections?

- Exit Briefings

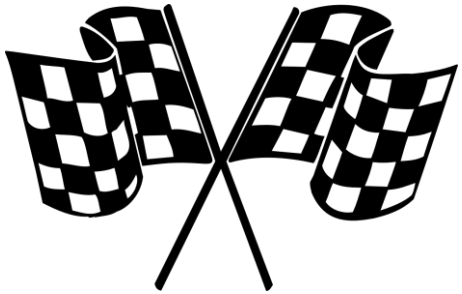


- Request Items

- Written Preliminary Findings

How Does PHMSA Closeout Inspections?

- Enforcement Letters
  - Notice of Probable Violation (NOPV)
  - Warning Letter (WL)
  - Notice of Amendment (NOA)
  - Letter of Concern (LOC)
  - Others (Safety Orders, Corrective Action Order)



Takeaways

- PHMSA conducts a variety of types of inspections that share many common traits
- Jurisdictional facilities are organized into inspection units and inspection systems for inspection planning purposes
- Most inspections utilize the IA software to facilitate questions relative to the procedures, records, and/or observations (field conditions/practices) of an Operator
- Inspection topics are identified in advance of the inspection and the pool of specific questions are available on PHMSA's website to assist Operators in preparation
- The inspection closeout process includes exit briefings, preliminary findings reports and potentially concludes with the issuance of enforcement letters


Any
Questions

Break

15 Minutes

OPS Operator's Meeting
The Enforcement Process

Allan C. Beshore
Director, Central Region, OPS
February 25, 2020

Scope

- Inspection Findings
- Enforcement Case Development
- Types of Enforcement
- Penalty Assessment Considerations
- Response Options
- Q&A

Inspection Findings

- Inspection team findings are presented during a verbal exit meeting at the end of the inspection.

- Findings are vetted by supervision into a written exit summary within 90 days.

- Additional vetting throughout the region as the enforcement case(s) are developed.

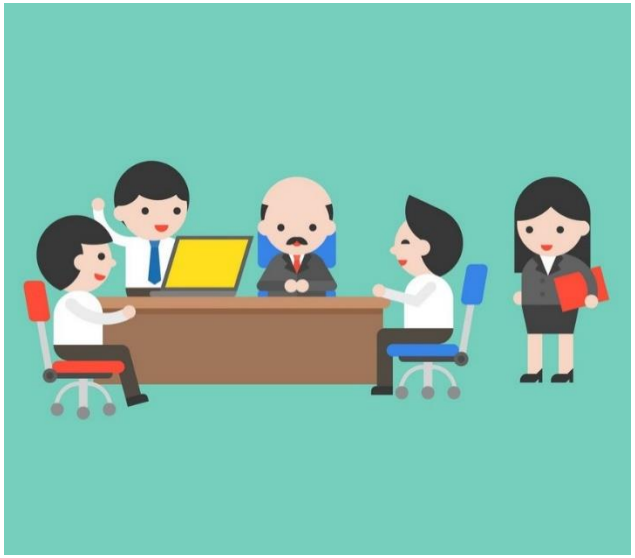
Enforcement Case Development

The Regional Director, in consultation with the inspection team and Operations Supervisors, reviews the initial inspection team findings and decides which items need to be developed into enforcement cases prior to the team going through the effort to do so.

- All cases are reviewed by an attorney assigned to assist the regions with the inspection process.
- If civil penalties are proposed, the Enforcement Division is assigned the task of proposing the civil penalty amount based on the various factors that must be considered as outlined in the Violation Report.

Enforcement Case Development

- Ultimately, per Part 190, warning letters and notices are initiated by the Region Director.



- For example “49 CFR § 190.207 - Notice of probable violation. … a Regional Director begins an enforcement proceeding by serving a notice of probable violation on a person charging that person with a probable violation of 49 U.S.C. 60101.”

Types of Enforcement

As a result of inspections, the following enforcement actions are generally considered:

- Warning Letter
- Notice of Amendment
- Notice of Probable Violation
  - Proposed Civil Penalty
  - Proposed Compliance Order

Penalty Assessment Considerations

Considerations are outlined in Violation Report

See Civil Penalty Summary handout for additional details

Will Consider:

- Nature
- Circumstances
- Gravity
- Culpability
- History of Prior Offenses
- Good Faith
- Ability to Continue in Business

May Consider:

- Economic Benefit Gained from Violation
- Such Other Matters as Justice may Require

Response Options

For a Warning Letter, no response is required.

For responding to a Notice of Amendment or Notice of Probable Violation:

- Don't contest – amend procedures, pay proposed penalty and/or agree to conditions of proposed compliance order.
- Contest allegations with an explanation.
- Contest allegations without a hearing.
- Contest allegations and ask for a hearing.

See Response Options handout for additional details

Questions?

Closing Comments

PHMSA's Inspector Training Program

James Urisko, P.E.
Region Director
OPS Southern Region
February 25th, 2020

PHMSA's Inspector Training Program
Overview

- Scope of PHMSA's Training Oversight
- Training Mechanisms
- Continual Training Needs & Opportunities

PHMSA's Inspector Training Program

Scope of PHMSA's Training Oversight

- PHMSA Inspectors
  - Current Count: 160
  - Allocated Positions: 173
- State Partners (Interstate Agents) – 2018 "Full Time Inspector Equivalent" Count
  - Gas: 352.26
  - Liquid: 40.82

PHMSA's Inspector Training Program
Scope of PHMSA's Training Oversight

- Subject Matter Coverage:
  - PHMSA Inspectors
    - Command of liquid, gas, and LNG operations/regulations, as well as construction
    - Typically "generalists," with PHMSA-wide Subject Matter Experts (SMEs) in various fields
  - State Inspectors
    - Predominantly Gas, with Interstate Agents covering Liquid
    - Construction and some LNG

PHMSA's Inspector Training Program
Training Mechanisms

- PHMSA's Training & Qualification (TQ) Facility
- On-The-Job (OJT) Training
- External Training & Standards' Groups/Committees
- Industry Personnel Knowledge & Inspection Interaction
- State Partner Collaboration

PHMSA's Inspector Training Program
Training Mechanisms

PHMSA Training & Qualifications (TQ)

30+ Instructor-lead Courses, each with relevant distance learning prerequisites (i.e. web-based training)

- Basic Gas Inspector Training Program (258.5 Hours)
- Basic Liquid Inspector Training Program (200.5 Hours)
- Gas Integrity Management Inspector Training Program (400.5 Hours)
- Liquid Integrity Management Inspector Training Program (370.5 Hours)
- Distribution Integrity Management Training Program (257 Hours)
- Liquefied Natural Gas Inspector Training Program (201 Hours)

PHMSA's Inspector Training Program
Training Mechanisms

PHMSA Training & Qualifications (TQ) - continued

- Course material established by State & Federal SME Teams
- Course structure designed by TQ's Educational Professionals
- Course Material Revisited/Refreshed on a 3-year cycle, or with significant driver (i.e. rule change…)

PHMSA's Inspector Training Program
Training Mechanisms

PHMSA Training & Qualifications (TQ) – continued

PHMSA's Inspector Training Program
Training Mechanisms

PHMSA Training & Qualifications (TQ) – continued

PHMSA's Inspector Training Program

Training Mechanisms

PHMSA Training & Qualifications (TQ) – continued

PHMSA's Inspector Training Program
Training Mechanisms

PHMSA Training & Qualifications (TQ) – continued

PHMSA's Inspector Training Program
Training Mechanisms

- OJT
  - Exposure to seasoned, veteran inspectors
  - Best practice & development of personal inspection style
- External Training
- Standards' Groups/Committees
- Operator Interaction
  - Regulatory realm vs. Operational Reality

PHMSA's Inspector Training Program

Training Mechanisms

- OJT & Operator Interaction (continued)

PHMSA's Inspector Training Program
Training Mechanisms

- OJT & Operator Interaction (continued)

PHMSA's Inspector Training Program
Training Mechanisms

- OJT & Operator Interaction (continued)

Source: Pipeline and Hazardous Materials Safety Administration. | GAO-18-461

PHMSA's Inspector Training Program
Training Mechanisms

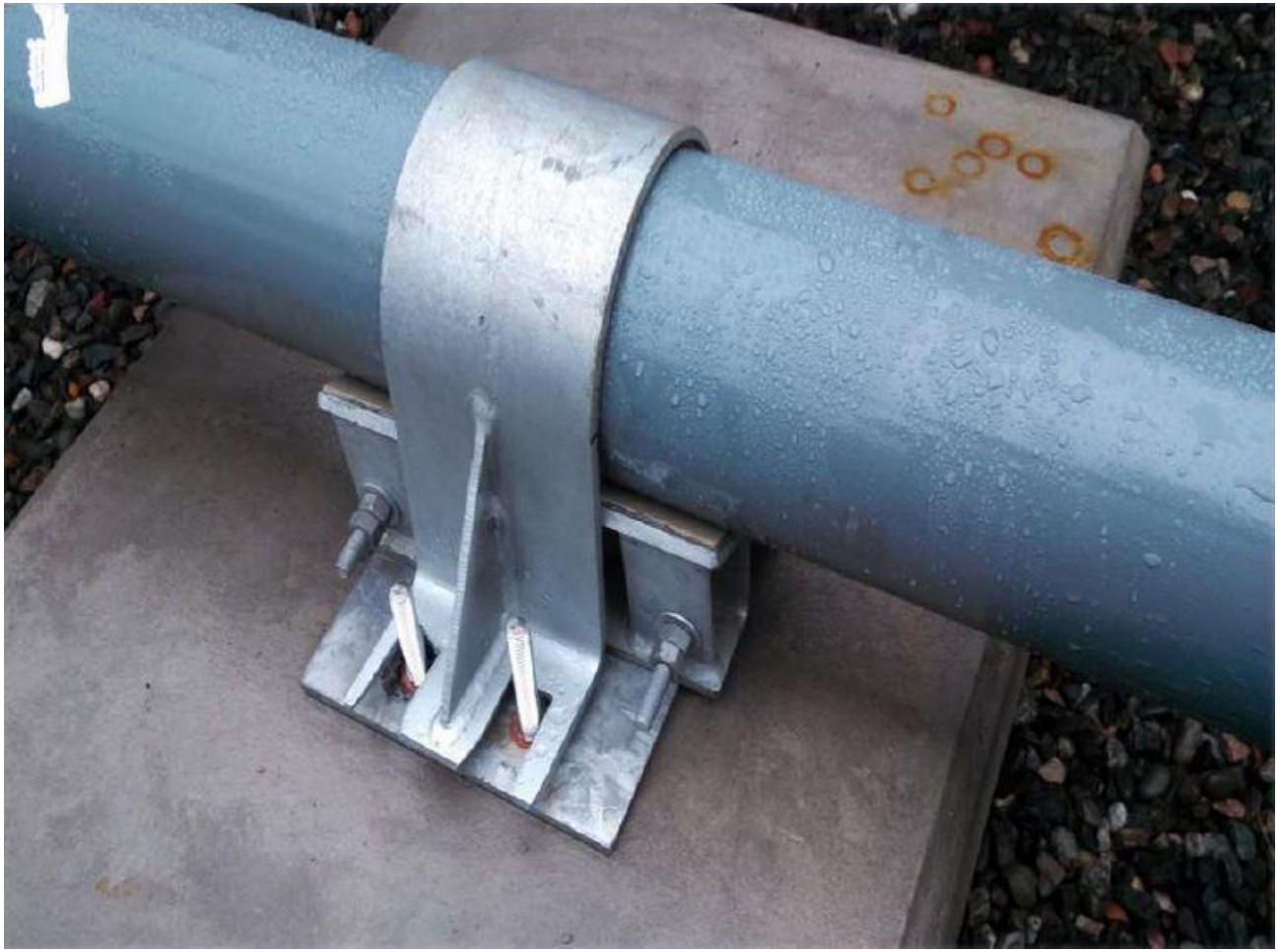
- State Partner Interaction
  - Interstate Agents
  - significant transferrable knowledge base from distribution to intra/inter-state transmission

PHMSA's Inspector Training Program

- Stuff We Can't See Anywhere Else

PHMSA's Inspector Training Program

- Stuff We Can't See Anywhere Else



PHMSA's Inspector Training Program

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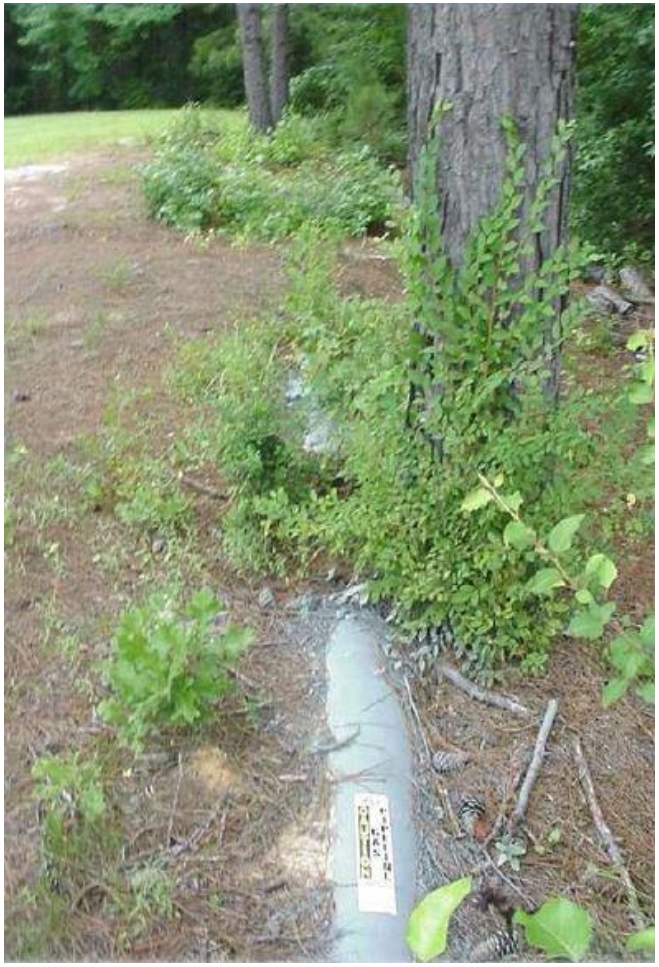

PHMSA's Inspector Training Program

- Stuff We Can't See Anywhere Else

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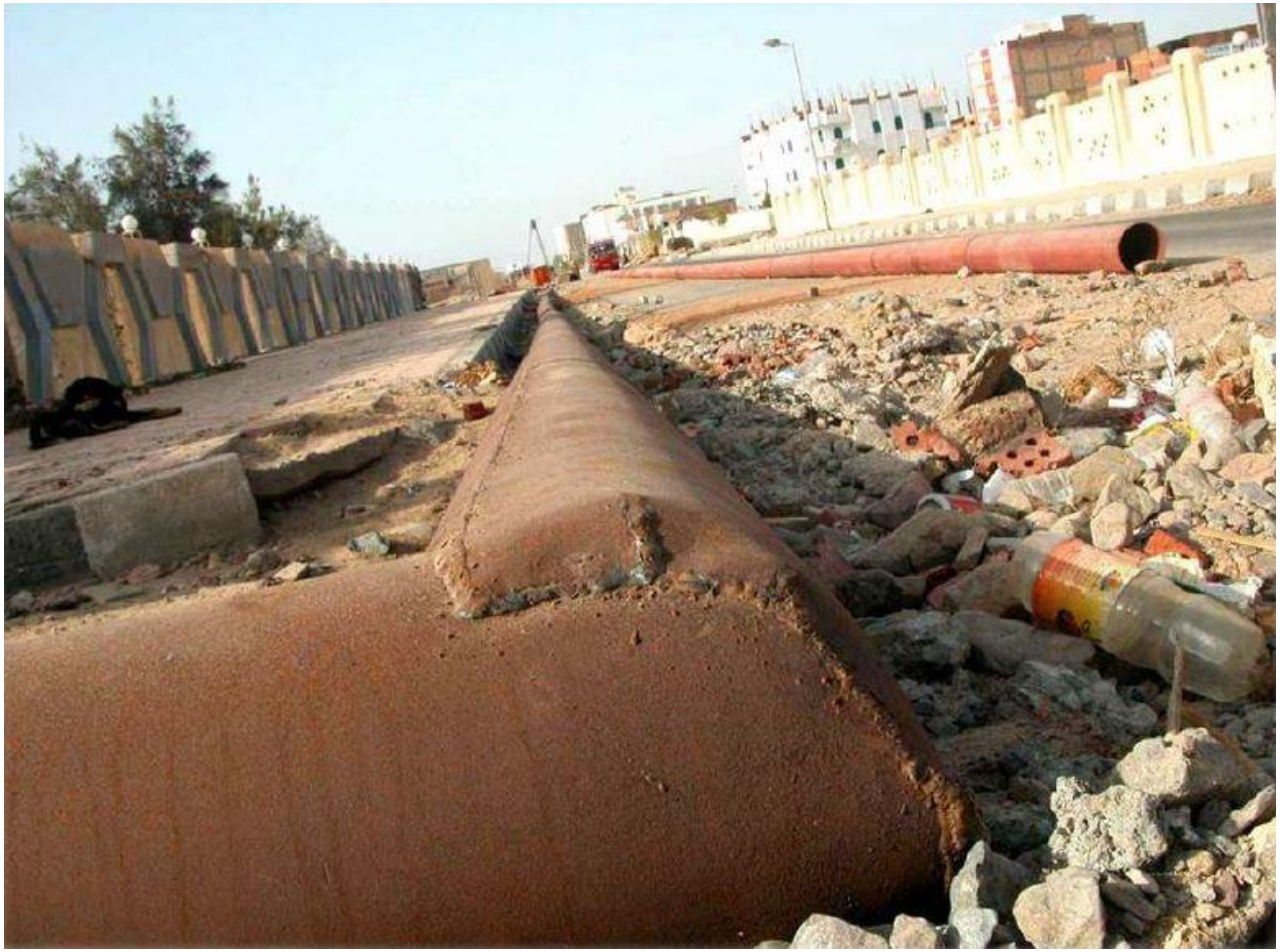


PHMSA's Inspector Training Program
Continual Training Needs & Opportunities

- Ongoing Professional & SME Development
  - Identifying & Fostering Professionals Committed to Pipeline Safety
  - Mentorship & development of "bench strength"
- Innovative Hiring & Outreach
  - Transportation Specialists
  - Interns & Pathways Program

Questions?

State Programs

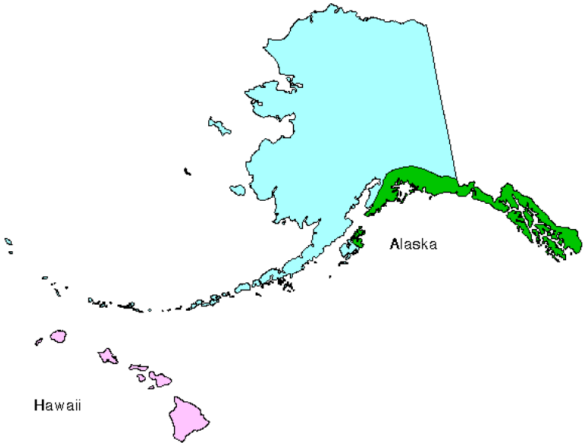
Zach Barrett

PHMSA State Programs Division

State Programs

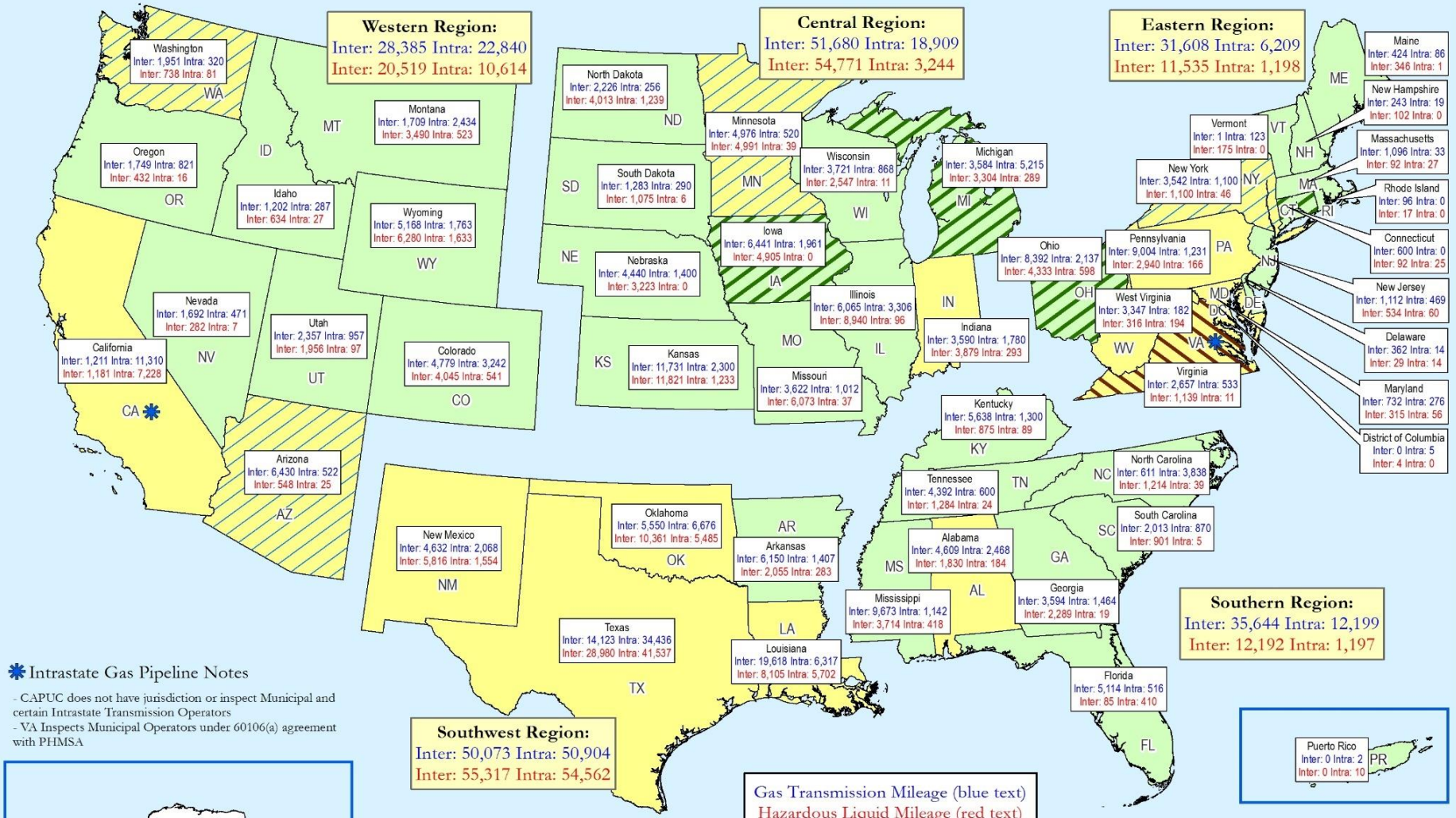
- All States and Puerto Rico Participate in PHMSA's Pipeline Safety Program - Except AK and HI.

- PHMSA must Inspect Pipelines in States that Do Not Participate in PHMSA's Pipeline Safety Program.



U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Gas Transmission and Hazardous Liquid Pipeline Safety Programs
Participating States in the Federal/State Cooperative Partnership



Intrastate Gas Pipeline Notes

- CAPUC does not have jurisdiction or inspect Municipal and certain Intrastate Transmission Operators
- VA Inspects Municipal Operators under 60106(a) agreement with PHMSA

Mileages depicted reflect all onshore data that has been incorporated into the National Pipeline Mapping System (NPMS) as of January 2020.

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Projection: Albers Equal-Area Conic
Map Produced: January 2020

State Programs

- 51 States (including Puerto Rico) with Intrastate Gas Safety Authority – All States Except AK and HI

- 15 States with Intrastate Hazardous Liquid Safety Authority: AL, AZ, CA, IN, LA, MD, MN, NY, NM, OK, PA, TX, VA, WA, and WV.

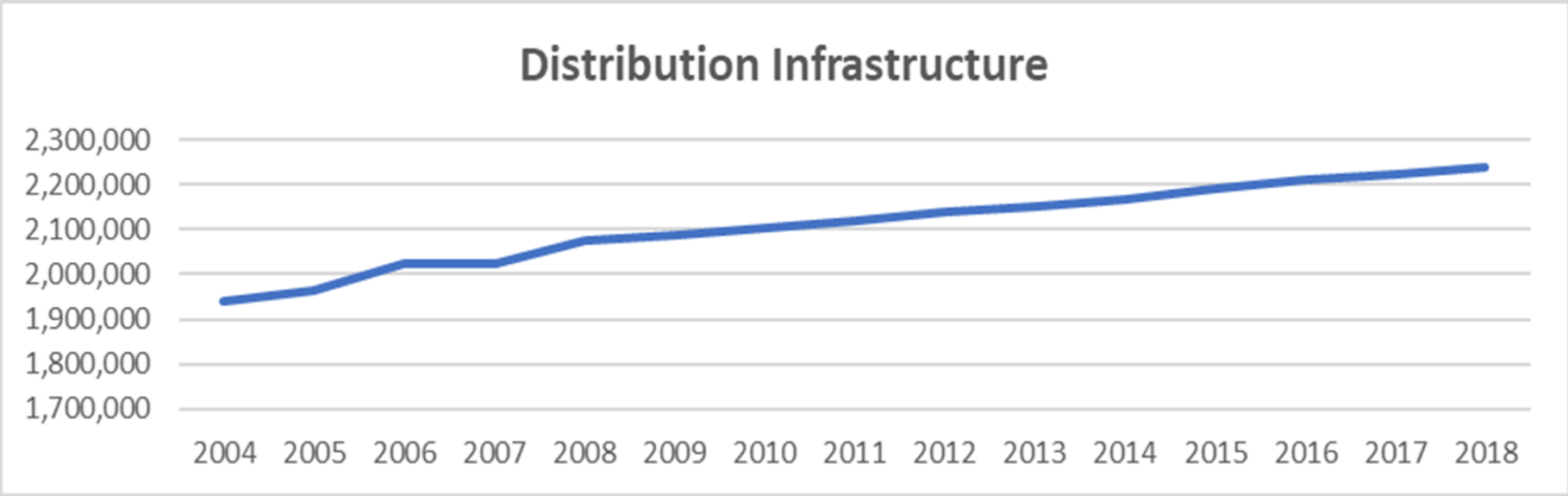
State Programs

- 8 States with Interstate Agent Safety Authority for Gas Pipelines
  - ✓AZ, CT, IA, MI, MN, NY, OH, and WA

- 5 States with Interstate Agent Safety Authority for Hazardous Liquid Pipelines
  - ✓AZ, MN, NY, VA, and WA

State Programs

States Inspect over 90% (2,356,046 miles) of the Gas Pipeline Infrastructure (Intra and Interstate) under PHMSA's Safety Authority.

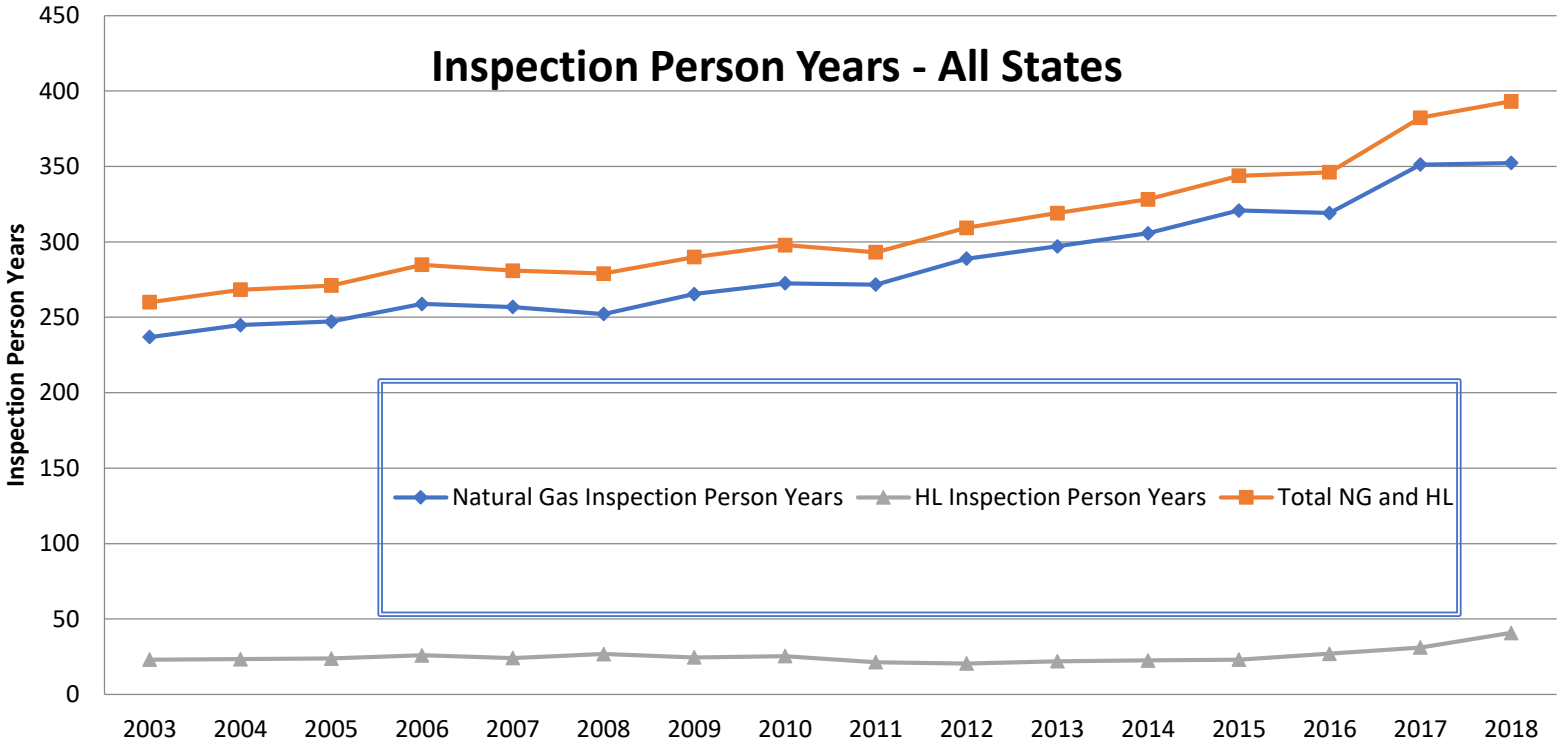


State Programs

- States Inspect over 90% (58,876.6 miles) of the Liquid Intrastate Pipelines under PHMSA's Safety Authority.

- States Inspect 30% (67,394 miles) of the Liquid Infrastructure (Inter and Intrastate) under PHMSA's Safety Authority.

State Programs



State Programs

The Pipeline Safety Act Provides States with Safety Authority Over Intrastate Pipelines:

- 60105 Certification
  - ✓ Inspect and Enforce Intrastate Pipelines
  - ✓ May have more stringent regulations
- 60106 Agreement (CA and VA Municipalities)
  - ✓ Inspect Intrastate Pipelines
  - ✓ PHMSA Conducts Enforcement

State Programs

The Pipeline Safety Act Allows States to Participate in Interstate Pipeline Inspections:

- 60106 Interstate Agent Agreement
- 60105(f) Joint Inspection of Interstate Pipelines
- Project Specific Time Defined Agreements
- States Inspect with PHMSA – PHMSA Enforces

State Programs

The Pipeline Safety Act Also Provides States:

- Funding - 60107 Grants – Up to 80% of total program cost.
- Training – State and Federal Inspectors Train Side by Side at PHMSA's Training and Qualification Division in Oklahoma City, OK.

State Programs

The Pipeline Safety Act Provides PHMSA:

- Authority to monitor states
  - ✓ Compliance with Certification
  - ✓ Grant funding expenditures
- Authority to require reports (Annual Progress Report)
- Authority to decertify non-performing states

State Programs

Special Permit/Waivers:

- Intrastate pipeline operators, where state has safety authority, must send request to State
  - ✓State will forward to PHMSA with supporting documents to work toward a unified position
  - ✓State will approve waiver and PHMSA will send no objection
- Interstate pipeline operators request go directly to PHMSA

State Programs

Interpretations:

- All interpretations of the federal regulations go to PHMSA
- States may interpret their regulations which are more stringent than minimum federal regulations

Questions?

Lunch

1 Hour 15 Minutes
Restart at 12:45 p.m.

Safeguarding Pipelines

David K. Lehman

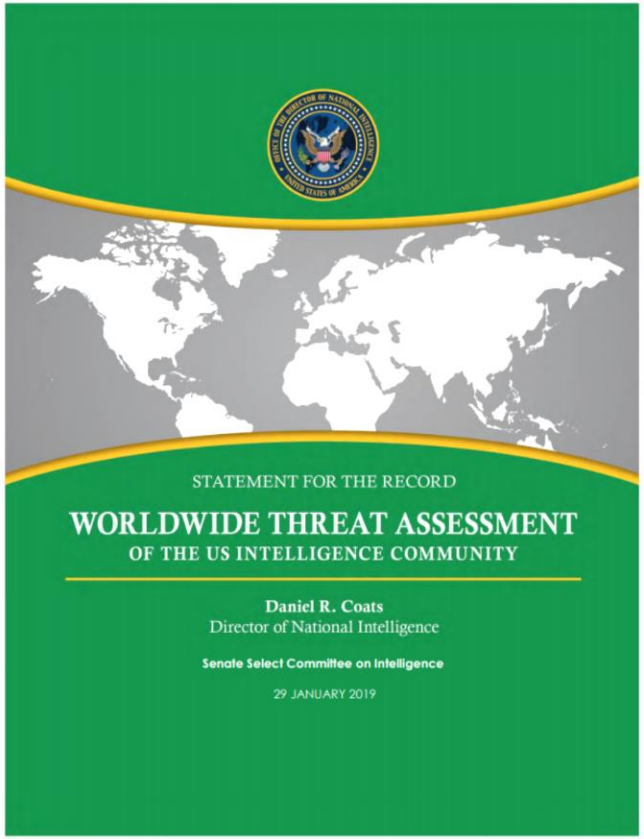
November 2019

PHMSA's Role

- Federal agencies recognize and rely on PHMSA's technical expertise on the nation's pipeline infrastructure
- PHMSA maintains situational awareness of physical and cyber threats to pipelines due to the potential safety consequences of a security incident

Worldwide Threat Assessment – January 2019

"China has the ability to launch cyber attacks that cause localized, temporary disruptive effects on critical infrastructure—such as disruption of a natural gas pipeline for days to weeks—in the United States"



https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf

Government Accountability Office – May 2019

"The interstate pipeline system runs through both remote and highly populated urban areas, and it is vulnerable to accidents, operating errors, and malicious attacks."

National Security Threats (cont.)

"The energy sector remains a key target of nation-state cyber intrusions, supply chain attacks, economic espionage efforts and other threats"

William Evanina

Director of the National Counterintelligence and Security Center

November 2019

"Recent "ransomware" cyberattacks on the oil and gas sector may have hit five oil and gas facilities, forcing them to revert to manual operations, cybersecurity firm ThreatGEN said."

E&E News

January 29, 2020

Who PHMSA Works With

CISA
CYBER+INFRASTRUCTURE

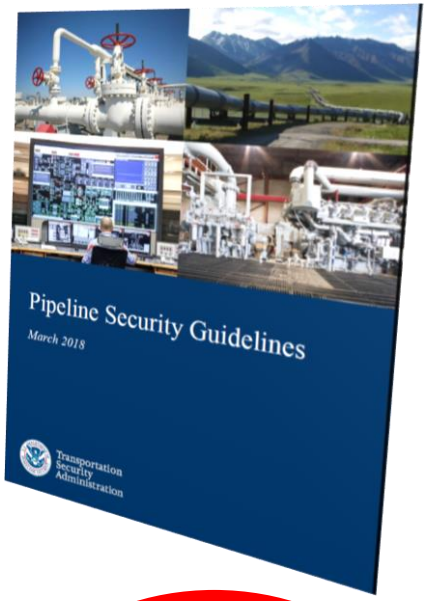
Transportation Security Administration

INDUSTRIAL CONTROL SYSTEMS CYBER EMERGENCY RESPONSE TEAM

"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."

PHMSA Safeguarding Pilot Programs

- PHMSA inspectors will conduct visual observations of an operator's security posture
- During regularly scheduled control room inspections, PHMSA inspectors will have a discussion on cyber safeguarding



Oil Spill Preparedness

Oil Spill Response Program

Response Plan Reviews

- Review response plans for compliance with 49 CFR Part 194
- Identify deficiencies and needed actions
- Informal and formal consultation
- Approve plans found to be in compliance

Oil Spill Drills and Exercises

- Preparedness for Response Exercise Program (PREP)
- Participate in or observe drills and exercises
- Provide feedback to operators
- Outreach and training

Inspection and Enforcement

- Ensure onshore oil pipeline operators have current plan
- Verify response plan information is correct and up-to-date
- Require inaccurate information to be corrected and revised plan submitted to PHMSA

Response Plan Review Process

In-Processing

- Log incoming plans
- Assign sequence number (if required)
- Check plan for completeness
- Assign priority
- Place in Review Queue

Review

- Perform Plan Review
  - Full
  - Resubmission
  - Subsequent for corrected plans
- Document results
- Recommend approval or corrections

Disposition

- Prepare correspondence based upon recommendations
- Maintain records
- Monitor resubmissions
- Provide plans upon request

Status of Response Plans

552 Plans

Common Errors

- Worst case discharge calculations
- Missing or expired contracts with oil spill removal organizations
- Referencing incorrect or outdated Area Contingency Plans
- Incomplete or insufficient local agency notifications
- Missing required information or signatures

Coming Soon

- Good Practices Guide for Onshore Oil Response Plans
  - How to comply with 49 CFR Part 194
  - PIPES Act of 2016 considerations – response under ice and Safety Data Sheets
- Oil Spill Exercise and Training Project

Questions?

PHMSA
Accident Investigation Division
(AID)

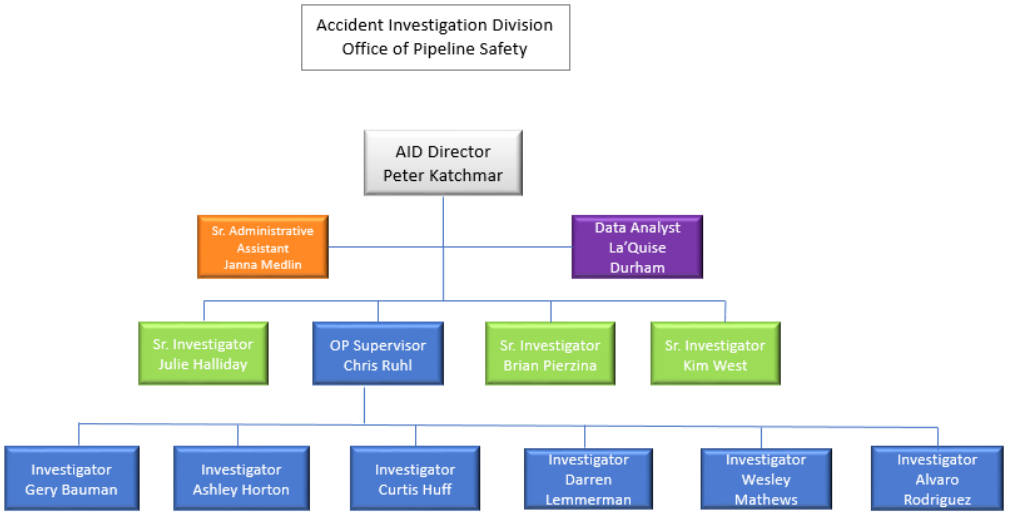
Chris Ruhl
Operations Supervisor
PHMSA OPS, Accident Investigation
February 25th, 2020

Presentation Topics

- Accident Investigation Division Intro
- National Pipeline Incident Coordinator
- Regulatory Changes impacting Accidents
- Lessons Learned

Who we Are

- 9 Accident Investigators
- 1 Data Analyst
- Core team located in OKC
- 5 additional members across the country
  - 1 SC
  - 1 OH
  - 2 MN
  - 1 WA



What we Do

- Evaluate all NRC reports
- Coordinate incidents with state and federal partners
- Conduct on site accident investigations
- Review all 30-Day reports
- Capture and share lessons learned
- Identify emerging safety trends

National Pipeline Incident Coordinator (NPIC)

- Monitors/Evaluates/Coordinates all ongoing incidents 24/7/365

- Single Point for Operators, State Partners and Agencies

NPIC number is (888) 719-9033

PHMSAAccidentInvestigationDivision@dot.gov

When Do We Deploy?

- Impacts to People
- Impacts to Property
- Incident of Potential National Significance

PHMSA Lead Investigator

- Integrates into Incident Command
- Coordinates on-scene efforts with other agencies
- Lead on scene investigation
- OPS Regions are responsible for repair and restart

Regulatory Reminder: 48 Hour NRC reporting

- Revise or confirm the initial telephonic notice

  - amount released
  - # of fatalities and injuries
  - all other significant facts relevant to cause of the incident
  - extent of the damages

Regulatory Reminder: SDS to Responders

- Within 6 hours
- Locals, State and Feds
- Self-executing by Pipes Act of 2016

energy API

AMERICAN PETROLEUM INSTITUTE

API Recommended Practice 1174

Recommended Practice for Onshore Hazardous Liquid Pipeline Emergency Preparedness and Response

FIRST EDITION | DECEMBER 2015 | 48 PAGES | $93 | PRODUCT NO. D11741

This Recommended Practice (RP) provides to operators of onshore hazardous liquid pipelines a framework that promotes the continual improvement of emergency planning and response processes, including identification and mitigation of associated risks and implementation of changes from lessons learned. This RP assists the operator in preparing for a safe, timely, and effective response to a pipeline emergency.

For ordering information:

Online: www.api.org/pubs

Phone: 1-800-854-7179
(Toll-free in the U.S. and Canada)

(+1) 303-397-7056
(Local and International)

PHMSA Metallurgical Examination Protocol (3/21/2019)

- Useful guidance in conducting a failure analysis following a pipeline failure.

- Utilized during AID investigated events

- www.phmsa.dot.gov/pipeline/library/forms

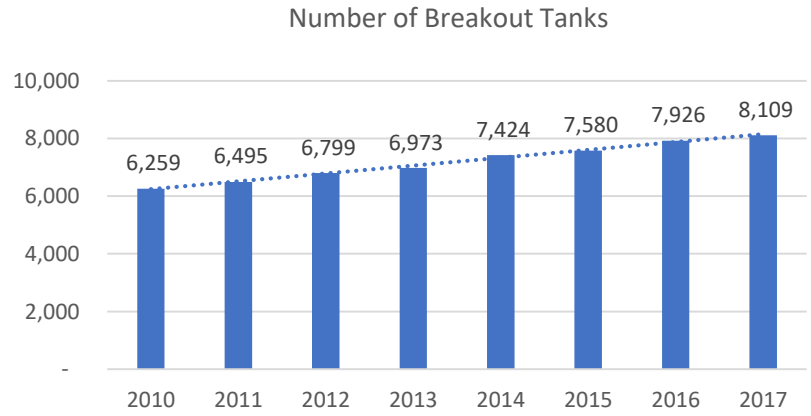
Lessons Learned

- Breakout Tank Floor Failures
- Failures Under or Near Previously Installed Composite Repair Sleeves
- Potential for Damage to Pipeline Facilities Caused by Land Movement
- 1st and 2nd Party Excavation Damage
- Injuries and Fatalities after Emergency Response is Initiated

Breakout Tank Floor Failures

- 3 recent breakout tank floor failures
  - Recently constructed and leaked within days of being put into service

- Failures occurred due to
  - Improperly aligned automatic welding joints
  - Inadequate visual inspection



Failures Under or Near Previously Installed Composite Repair Sleeves

- 3 recent failures

1. Atmospheric corrosion near an existing composite repair sleeve

2. Crack developed under a composite repair sleeve

3. Dent under a composite repair sleeve

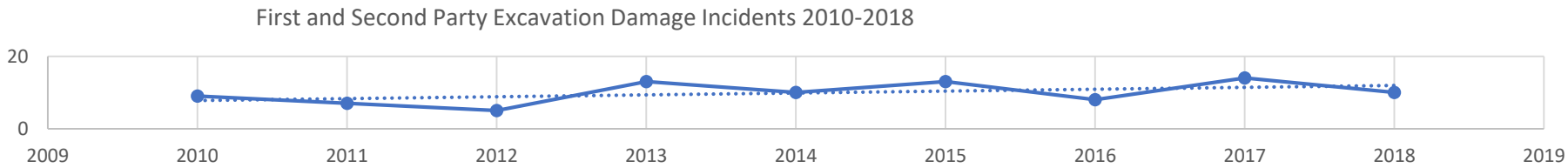
Figure5: Failure at Dent under Composite Repair Sleeve

Damage to Pipelines Caused by Land Movement

- 9 recent incidents investigated
  - Each resulted in failures of weld or body due to strain from land movement
  - Generally rupture leading to large release volumes

First and Second Party Excavation Damage

First and Second Party Excavation Damage Incidents				
Year	# Incidents	# Fatalities	# Injuries	Total Cost
2010	9	0	0	$659,489
2011	7	0	6	$1,493,472
2012	5	0	0	$785,250
2013	13	1	0	$7,015,926
2014	10	0	3	$3,284,395
2015	13	0	0	$1,493,115
2016	8	2	4	$4,003,777
2017	14	0	1	$5,287,099
2018	10	0	0	$2,825,899
2019	3	0	0	$1,363,542
Total	92	3	14	$28,211,964



Potential for Fatalities during Emergency Response

- 7 events identified that resulted in fatality or injury after the ER phase

- Factors
  - Delayed emergency response
  - Public refused to evacuate
  - Emergency response procedures not followed

Questions?

NPIC number is (888) 719-9033

PHMSAAccidentInvestigationDivision@dot.gov

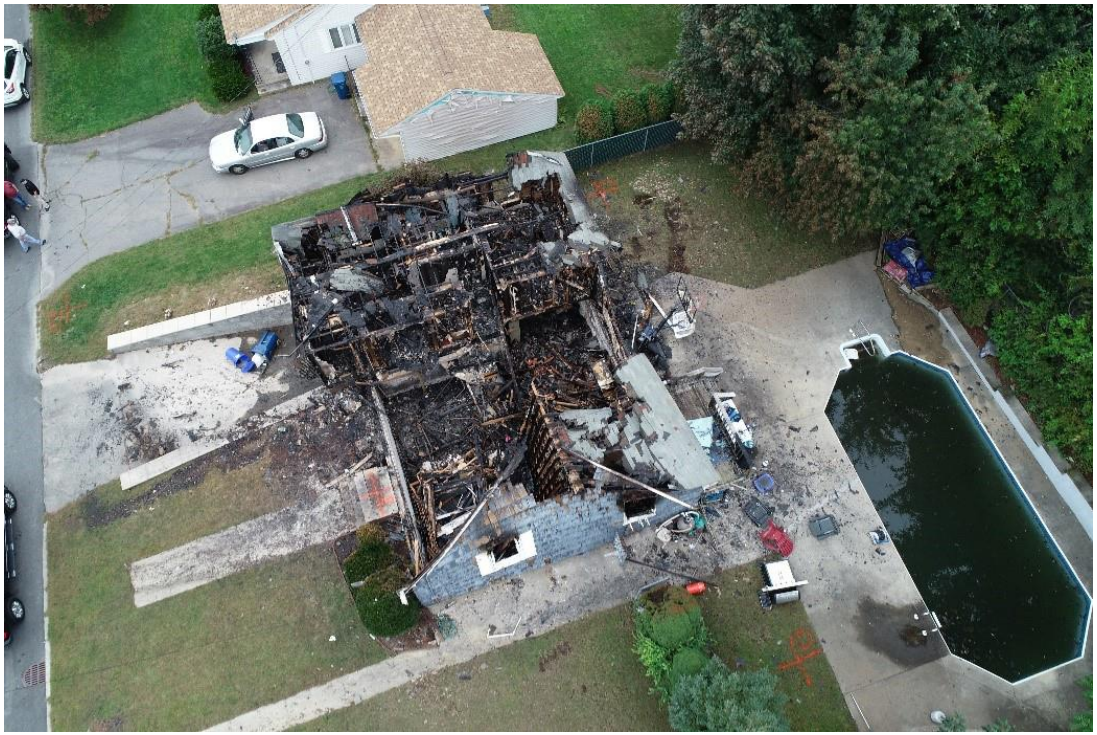
Contacting Emergency Responders

Byron Coy, PE
Sr. Technical Advisor

Pipeline Operators & Emergency Responders

- Periodic Communications
- Emergency Drills
- Incident Command System

Merrimack Valley, MA : Natural Gas Incident, 09/13/2018



Marshall, MI : Crude Oil Accident, 07/26/2010

Other Examples with Significant Emergency Response

- Carmichael, MS : Propane Accident, 11/01/2007
- San Bruno, CA : Natural Gas Incident, 09/09/2010
- Mayflower, AR : Crude Oil Accident, 03/29/2013

Delaying Initial Contact with Responders

- More verification needed
- Must have “eyes on” before launching response
- Other factors could be causing the operating anomaly
- Must get supervisor to validate condition
- Must find communications rep. to make call
- ER’s do not want called if there is no real emergency

Delayed Initial Contact

- Greater Potential for Injuries and Death
- Spreading Environmental Damage
- More Resources Needed

NTSB Recommendation P-11-009

- *Require operators … to ensure that their control room operators immediately and directly notify the 911 emergency call center(s) for the communities and jurisdictions in which those pipelines are located when a possible rupture of any pipeline is indicated.*

- Control Room operator or delegated representative

PHMSA Advisory Bulletin ADB-12-09

- Communication with emergency responders
- §§ 192.615, 193.2509 and 195.402
- Promptly notify 9–1–1 emergency call centers, or the local equivalent
- Early coordination will facilitate a more timely and effective response

PHMSA's Renewed Approach

- Frequently Asked Questions
- Inspection Materials
- Inspector Training
- Industry Conferences

Break

15 Minutes

Pipe and Component QA/QC

Operators Meeting

February 25, 2020
Sugar Land Marriott Hotel,
Sugar Land, Texas

Steve Nanney

Pipe and Component QA/QC

- **Issue:**
  - Flanges were not normalized to obtain proper mechanical properties such as toughness for cold operations and weather applications.
  - "Non-normalization" of ASTM A105 or A105N flanges?
  - Low toughness and shear properties
- **Flange Failures:**
  - Refinery and Pipeline
  - Outside US in cold operating temperature environment
- **Manufacturer:**
  - Ulma Flange (Ulma Foria or Ulma Piping, USA Corp.)

Pipe and Component QA/QC

- **Letter and Notice to PHMSA from:**
  - Legal counsel of Weldbend and Boltex sent PHMSA a letter on QA/QC issues with Ulma flanges.
  - Chairman Lipinski (US House Chairman of the Subcommittee on Railroads, Pipelines, and Hazardous Materials) sent a letter to PHMSA concerning Ulma flange QA/QC issues
  - PHMSA met with Chairman Lipinski and Weldbend/Boltex and Fluor on this issue.

Pipe and Component QA/QC

- **PHMSA Actions**:
  - Communicated flange QA/QC issue to PHMSA Region Directors and Construction Team:
    - asked them to report flange issues found during construction, operational, or incident inspections to Region Director and Engineering and Research Division
    - PHMSA inspections have not found any Ulma Flange issues – to-date
  - Contacted 9 US Companies mentioned in the Lawsuit:
    - None of the companies reported QA/QC issues with Ulma flanges
    - Most were aware of the Ulma Flange issue

Pipe and Component QA/QC

- **Common QA/QC Issue:**
  - Failed flanges used in cold working environment.
  - Most were bought through a 3rd-Party Distributor.
  - Purchaser may not have had any oversight QA/QC inspection during manufacturing of the flanges.
- **Code Requirements:**
  - Each component must withstand operating pressures and other anticipated loadings without impairment of its serviceability….
  - Flange assembly must withstand the maximum pressure at which the pipeline is to be operated and to maintain its physical and chemical properties at any temperature to which it is anticipated that it might be subjected in service.
  - 192.143(a) and 192.147(b); 195.102,195.118(c), and 195.126

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Pipe and Component QA/QC

- **Court Actions**: Pipeline & Gas Journal, 02/12/2020
  - United States District Court for the Southern District of Texas, issued a permanent injunction and ordered a recall of flanges made by Spanish company, Ulma Forja and its U.S. subsidiary, Ulma Piping.
  - The Court found that Ulma, "intended to deceive customers by mislabeling the flanges" and even did so after 2017, when the original lawsuit was filed.

Pipe and Component QA/QC

- **<u>Court Actions</u>: US District Court stated**
  - "public deserves truthful product information especially on products as critical as these flanges potentially are."
  - ordered Ulma to <u>"recall any product which purports to be normalized," which has not been normalized per ASTM international standards</u>.

Thank You

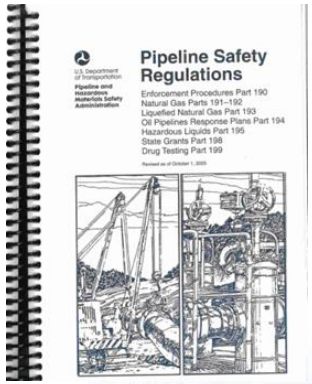
Outreach & Engagement Initiatives

Operators Meeting
Sugar Land, TX
February 25, 2020

Karen Gentile
Community Liaison

Damage Prevention (DP)

PHMSA's CY 2020 Strategic Plan for DP Objectives

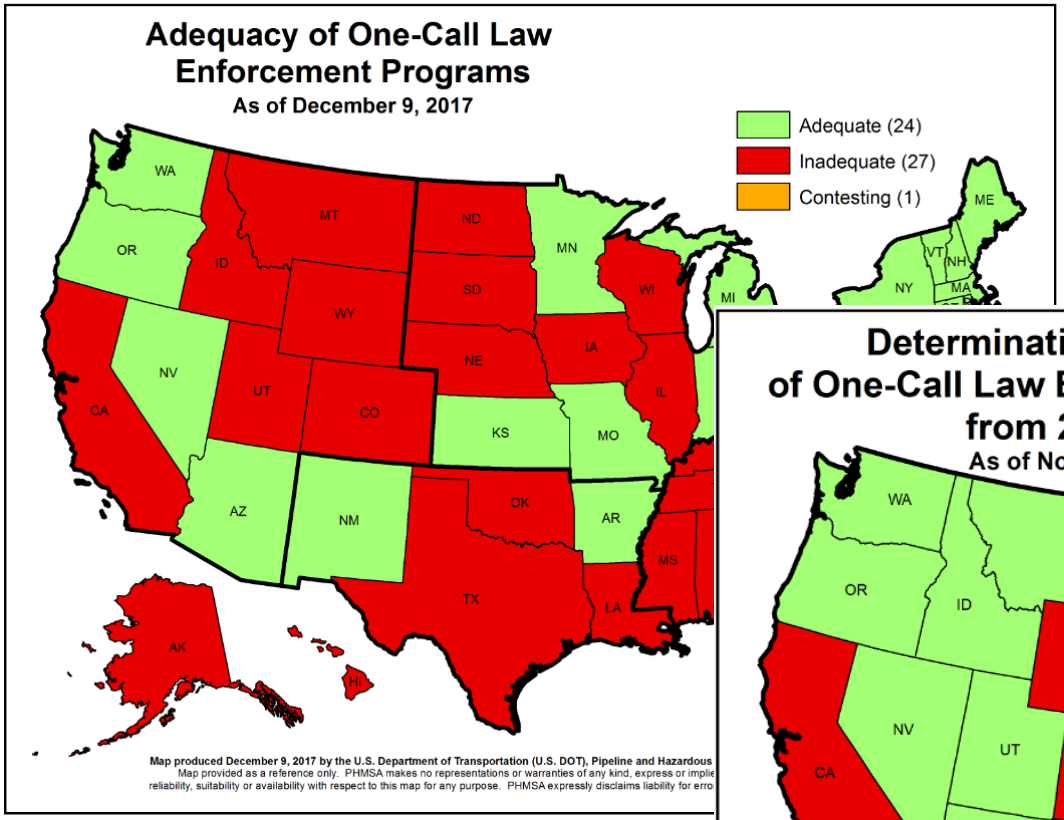


- Support States with developing adequate excavation DP law enforcement programs
- Enforce 49 CFR Part 196, Protection of Underground Pipelines from Excavation Activity
- Promote use of 811
- Expand DP messaging beyond 811
- Advance damage prevention technology
- Provide educational resources to stakeholders

"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."

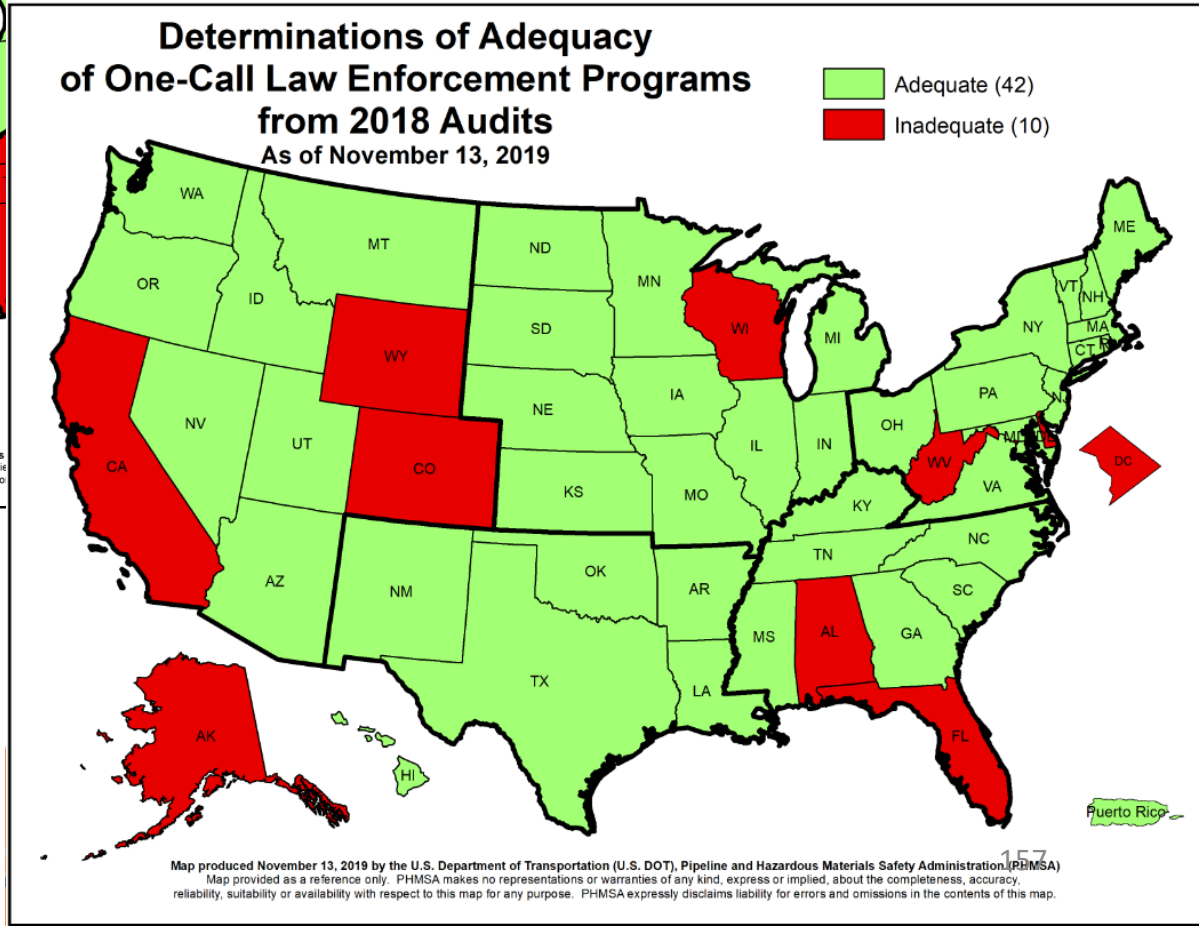
Damage Prevention (DP)

State One-Call Law Enforcement Programs



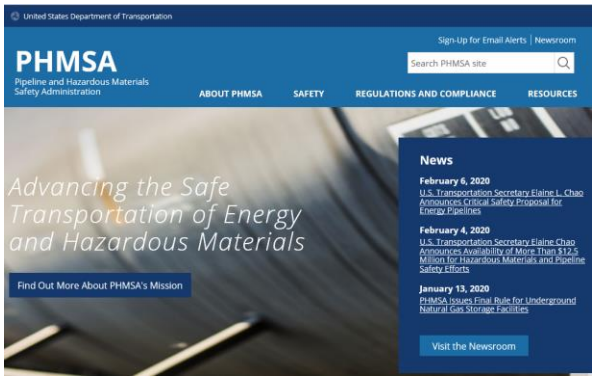
24 Adequate States

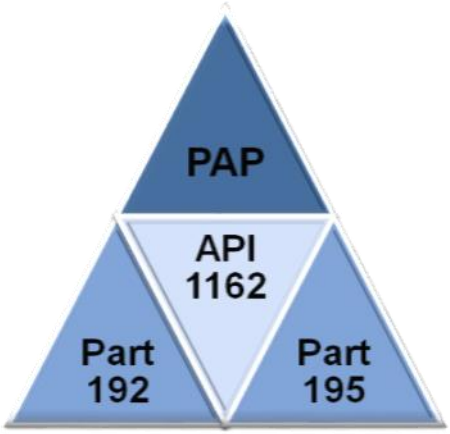
42 Adequate States



Public Awareness

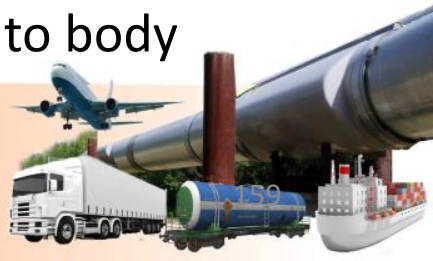
- Website updates and enhancements; expanding information
- Active participant on American Petroleum Institute (API) Recommended Practice (RP) 1162, Public Awareness Programs for Pipeline Operators, 3rd Edition, Task Group
  - Publication - Expected 3rd Qtr. 2020
  - PHMSA to evaluate for Incorporation by Reference





API RP 1162 (3rd Edition) Considerations

- Address risk communications
- Address asset/operational changes to hazards (new operations, changes to operations, etc.)
- Share general excavator messaging on awareness of state one-call laws and consequences
- Share how and when collaborative efforts/messaging might be useful/appropriate
- Share guidance on operator-specific messaging
- Clarify guidance on “non-English speaking population”
- Clarify “liaison” with emergency officials
- Improve guidance on program evaluation and effective measures
- Clarify “may,” “should,” and “shall” requirements
- Clarify behavioral change/intent and ways to measure it
- Move Baseline and Enhanced Program Tables from Annex to body



Going from Awareness to Engagement

Public Awareness

"Telling"

- Compliance-based
- Prescribed frequencies
- One-way information sharing

Public Engagement

"Involving & Asking"

- Ongoing interaction with the public
- Two-way dialogue
- Providing mutual benefit and/or impact
  - Listening
  - Sharing

Stakeholder Engagement

One of Ten Essential Elements to API RP 1173

- Internal and external
- Risk/hazard identification and management
- Two-way communication
- Providing helpful information
- Addressing stakeholder feedback
- Sharing safety performance with the public
- Fostering long term relationships based on trust

Moving to Advance Safety Through Engagement

- Engagement is a matter of pipeline safety.
- Improvements in safety do not occur through homogeneous discussions
- Difficult conversations lead to progress

- The collective pipeline safety industry agrees that more focus is needed on public engagement
- Currently industry-wide discussions taking place on developing public engagement

Community Liaison Program

Engages with the public and other stakeholders to advance public safety.

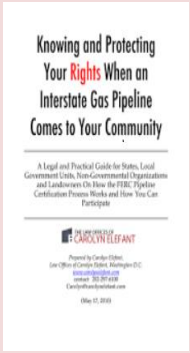
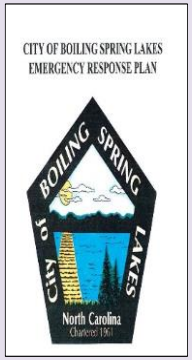
- Respond to public inquiries
- Provides technical assistance to stakeholders
- Actively participates in stakeholder meetings and conferences
- Supports PHMSA's Damage Prevention Program
- Investigate issues and incidents

https://primis.phmsa.dot.gov/comm/CATS.htm?nocache=6020

Inquiries Across the Regions

	2016	2017	2018	2019
Public Inquiries	1163	1293	1270	1129

Top 10 Stakeholder Concerns

(1) Proposed Pipelines and Siting 	(2) New Pipeline Construction and Construction Safety 	(3) Public Awareness 	(4) Exposed/Shallow and Abandoned Pipelines 	(5) Liquefied Natural Gas Siting and Jurisdiction 
(6) ROW and Easements 	(7) Jurisdictional Issues PHMSA Federal Energy Regulatory Commission OSHA Occupational Safety and Health Administration	(8) Active Pipelines 	(9) Emergency Plans 	(10) Environmental Issues 

The CL Team

HEADQUARTERS	
Karen Lynch, Program Manager	
EASTERN REGION	
Karen Gentile *Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont*	**Ian Woods** *Delaware, Maryland, Ohio, Pennsylvania, Virginia, Washington DC, West Virginia*
SOUTHWEST REGION	
James 'Jay' Prothro *Arkansas, Oklahoma, Texas (North)*	**Bill Lowry** *Louisiana, New Mexico, Texas (South)*
SOUTHERN REGION	
Artie Buff *Georgia, North Carolina, South Carolina, Tennessee, Puerto Rico*	**James Kelly** *Alabama, Florida, Kentucky, Mississippi*
CENTRAL REGION	
Angela Pickett *Kansas, Missouri, Iowa, Illinois, Michigan, Minnesota*	**Sean Quinlan** *North Dakota, South Dakota, Indiana, Nebraska, Wisconsin*
WESTERN REGION	
Dave Mulligan *Arizona, California, Colorado, Hawaii, Nevada, Utah*	**Tom Finch** *Alaska, Idaho, Montana, Oregon, Washington, Wyoming*

"Trusted, unified voice of Pipeline Safety"

QUESTIONS?

Regulatory Update
and
A Few Current Events

Operators Meeting
Sugar Land, TX
February 25, 2020

Recent and Upcoming Final Rules

Published:

1. Safety of On-Shore Hazardous Liquid Pipelines (published 10/1/2019)
2. Safety of Gas Transmission Pipelines (mandates) (published 10/1/2019)
3. Emergency Orders (published 10/1/2019)
4. Underground Storage Facilities for Natural Gas (published 2/12/20)

Upcoming:

1. Safety of Gas Transmission Pipelines (RIN-2)
2. Safety of Gas Gathering Pipelines (RIN-3)

Recently Issued Rulemakings

Safety of On-Shore Hazardous Liquid Pipelines
Safety of Gas Transmission Pipelines (mandates)
Emergency Orders
Safety of Underground Natural Gas Storage Facilities

- HL, GT, EO Final Rules published 10/1/2019
- UNGSF Final Rule published 2/12/2020
- Effective date for GT and HL final rules: 7/1/2020
- Effective date for emergency order final rule 12/2/2019
- Received petition for reconsideration on 10/31/2019 (Gas Transmission final rule)
  - PHMSA response on 12/20/19

Upcoming Proposed Rules

Published:

1. Rupture Detection and Valve (NPRM)

Upcoming:

1. Liquid Pipeline Regulatory Reform (NPRM)
2. Gas Pipeline Regulatory Reform (NPRM)
3. Liquefied Natural Gas (NPRM)
4. Standards Update (NPRM)
5. Class Location Requirements (NPRM)
6. USA Definition – Beaches and Coastal Waterways (ANPRM)

Upcoming Proposed Rules
2020 PAC Activity

- The Gas Pipeline Advisory Committee (GPAC) and the Liquid Pipeline Advisory Committee (LPAC) will have to meet for each NPRM, as applicable
- Two joint meetings, three GPAC-only meetings, and one LPAC-only meeting
- Tentative meetings scheduled for July 22nd - 23rd; November 18th - 19th (March meetings postponed)

Pipeline Standards and Rulemaking

https://www.phmsa.dot.gov/standards-rulemaking/pipeline/standards-and-rulemaking-overview

Rulemaking Origins

- Lessons Learned
  - PHMSA Findings/DOT Determinations
  - NTSB Recommendations and Reports

- Legislative Mandates
- Petitions for Rulemaking
- Less Frequently: GAO/OIG/other stakeholders

Legislative Mandates

PIPES Act of 2016 ←

Hazardous Materials Safety Improvement Act of 2012

Pipeline Safety Act of 2011 ←

The Fixing America's Surface Transportation Act

Two Mandates Remaining

Three Mandates Remaining

https://www.phmsa.dot.gov/legislative-mandates/mandates-overview

Legislative Mandates

- PIPES Act of 2016
- Hazardous Materials Safety Improvement Act of 2012
- Pipeline Safety Act of 2011
- The Fixing America's Surface Transportation Act

Protecting Our Infrastructure of Pipelines Enhancing Safety (PIPES) Act

Download PIPES ACT 2016 chart

Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011

Rule Title/Subject/Docket No.	RIN	Rule Stage and Significance	Legislation	Description of work plan- Projected Completion Dates based on currently available information	Current staff Allocation-staff assigned to more than one project at a time.**	Resource constraints affecting process	Additional Details Affecting Rulemaking Progress	Additional Comments on Rulemaking Status
PIPELINE SAFETY 2011								
OPS: Safety of On-Shore Hazardous Liquid Pipelines PHMSA-2010-0229	2137-AE66	Final Rule - Significant-Other	Pipeline Safety 2011 Sec 5(expand IM principles), 8 (leak detection); Sec 21 PIPES Act 2016 Sec 14 (safety data sheets) Sec 25 (assessments)	To OST 08/07/2018 To OMB 2/15/2019 OMB Approval 5/13/2019 Publication 5/27/2019	7 staff			Final Rule moved to OST on 8/7/2018
OPS: Pipeline Rupture Detection and Mitigation for Onshore Populated and High Consequence Areas; New and Replace	2137-AF06	Notice of Proposed Rulemaking (NPRM)	Pipeline Safety 2011 PSA Sec 4 remote control valves; Sec 8 leak detection	To OST 08/27/2018 To OMB 04/26/2019 OMB Approval 7/26/2019 Publication 8/7/2019	5 staff			Proposed Rule moved to OST on 8/27/2018
								Final Rule moved to OST on 10/5/2018

https://www.phmsa.dot.gov/legislative-mandates/mandates-overview

Open Audits and NTSB Recommendations

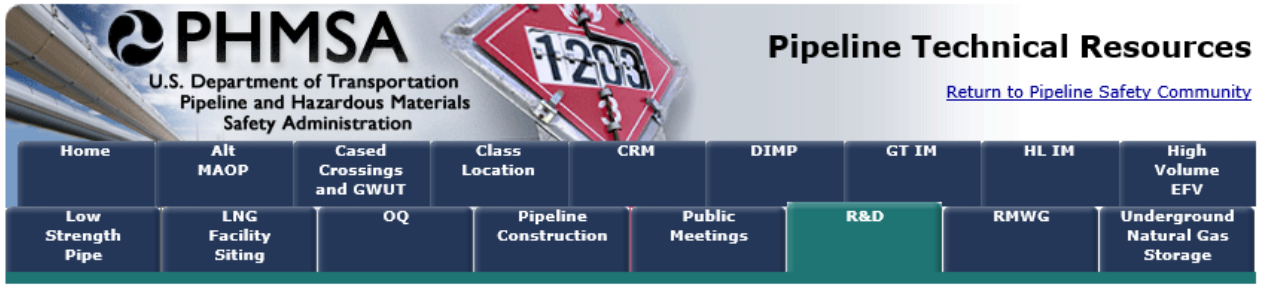
Open Audits: 14

- OIG (5)/ GAO (9);
- PHMSA (7)/ DOT-wide (7)

Open NTSB Recommendations: 45

- Pipeline (20)/ Hazmat (25)
- **https://www.phmsa.dot.gov/phmsa-ntsb-recommendations**

Pipeline Safety R&D Program



Research & Development

R&D Menu

- Home
- Program Strategy
- Program Performance
- Technology Demonstrations
- Technology Success Stories
- Congressional Mandates
- University Partnerships
- R&D Database
- R&D Project Map
- Meetings/Events
- Links
- Contacts
- Feedback
- Submit R&D Idea

Welcome to PHMSA's Pipeline Safety Research and Development Website.

This site is dedicated to the coordination and dissemination of Research and Development information related to Pipeline Safety.

PHMSA conducts and supports research to support regulatory and enforcement activities and to provide the technical and analytical foundation necessary for planning, evaluating, and implementing the pipeline safety program. PHMSA is sponsoring research and development projects focused on providing near-term solutions to help ensure the safe, reliable, and environmentally-sound operation of the Nation's pipeline system.

Recent R&D projects are focused on: leak detection; detection of mechanical damage; damage prevention; improved pipeline system controls, monitoring, and operations; and, improvements in pipeline materials. These projects are addressing technological solutions that can quickly be implemented to improve pipeline safety.

In 2003, a study by the Government Accountability Office (GAO) found that the PHMSA Pipeline Safety R&D Program is aligned with PHMSA's mission and pipeline safety goals.

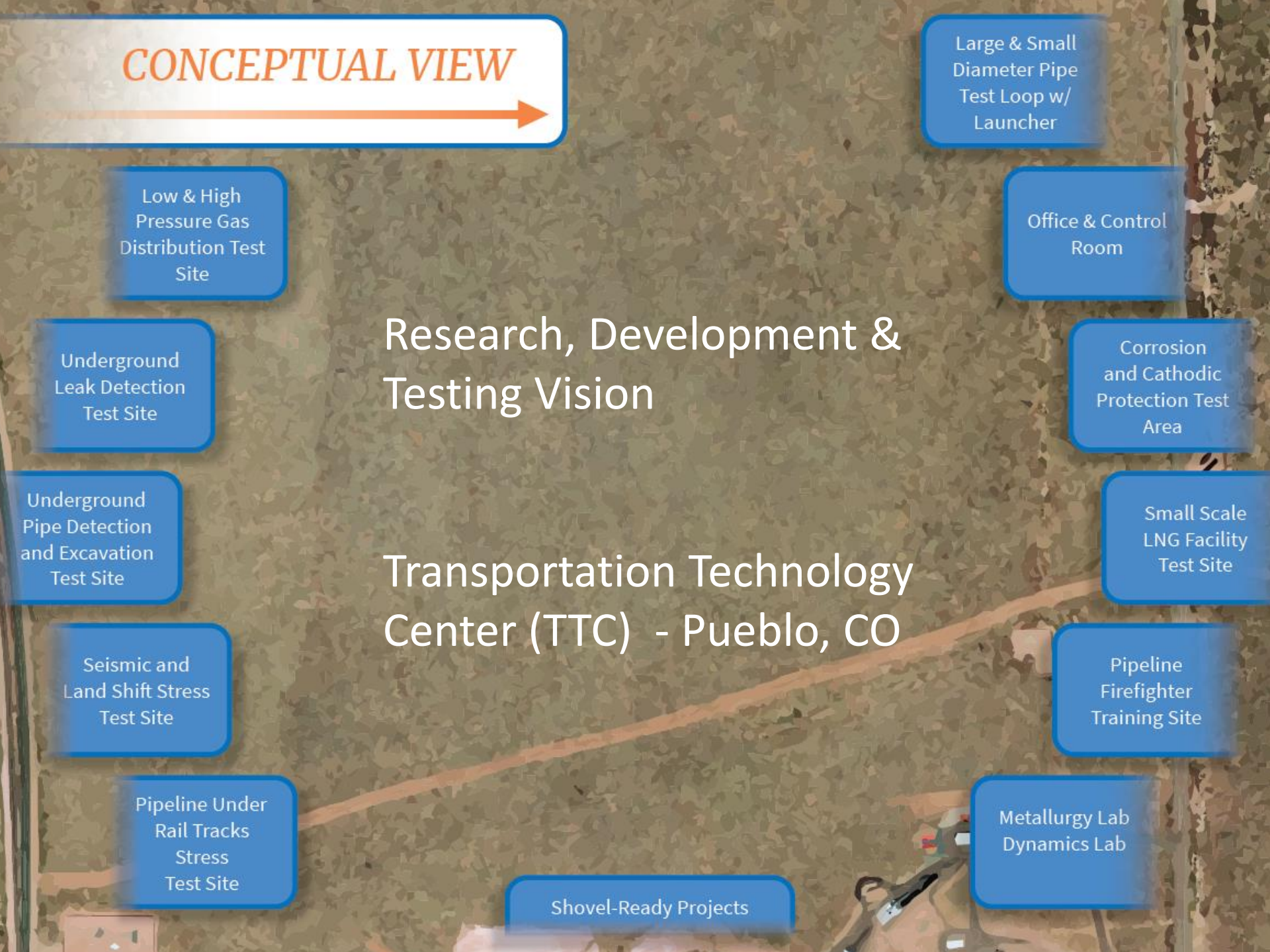
https://primis.phmsa.dot.gov/rd/index.htm

Pipeline Safety
Research & Development (R&D) Program

- We employ a collaborative approach to address mutual challenges
- We help remove technical barriers on a given challenge
- We measure our research results/impacts
- We are transparent - http://primis.phmsa.dot.gov/rd/

Partnering to Improve Pipeline Safety and Innovation

Transportation Technology Center



Research, Development & Testing Vision

Transportation Technology Center (TTC) - Pueblo, CO

PHMSA Grants and Funding Opportunities

PHMSA provides comprehensive grant programs that are designed to improve damage prevention, develop new technologies, improve both hazmat and pipeline safety.

Pipeline Safety Grants

- State Pipeline Safety Base Grants (State Safety Programs)

- One Call Grant (Damage Prevention)
- State Damage Prevention Grant (Damage Prevention)

- Research and Development Opportunities (Technology)
- Competitive Academic Agreement Program (Technology and STEM)

- Technical Assistance Grants (TAG) (Public)

Hazardous Materials Grants

- Hazardous Materials Emergency Preparedness (HMEP)
- Assistance for Local Emergency Response Training (ALERT)
- Hazardous Materials Instructor Training (HMIT)
- Supplemental Public Sector Training (SPST)
- Community Safety Grants

PHMSA Grants and Funding Opportunities

For more information on PHMSA grants, please visit:

https://www.phmsa.dot.gov/grants/pipeline/ops-grants-overview/grants

Safety Management Systems: Helping Us Progress from Reactive –> Proactive -> Predictive

Improved Safety Performance

Minimum Risk Control Practices (Prescriptive)	Minimum Operator-Specific Risk Assessment and Management Programs (Performance)	Encourage Practices "Beyond Compliance"	Promote Enterprise Knowledge Development and Sharing
"Traditional"	"IM"	"SMS"	

Robust Safety Culture

Thank you for all you do to maintain and improve safety.

Closing Remarks

Alan Mayberry and

Linda Daugherty