# Voluntary Information-Sharing System Working Group Committee Meeting

June 29-30, 2017
Hilton Arlington, Arlington, VA

1

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

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

## Welcome

- Welcome to the VIS Working Group committee meeting.
- Thank you for joining us (in person/by phone).
- Designated Federal Official (DFO), presiding official today (Dr. Christie Murray).

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2

# Purpose

To fulfill section 10 of the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2016:

- Consider the development of a voluntary information-sharing system to encourage collaborative efforts to improve inspection information feedback and information sharing with the purpose of improving gas transmission and hazardous liquid pipeline facility integrity risk analysis.
- Provide recommendations to the Secretary of Transportation.

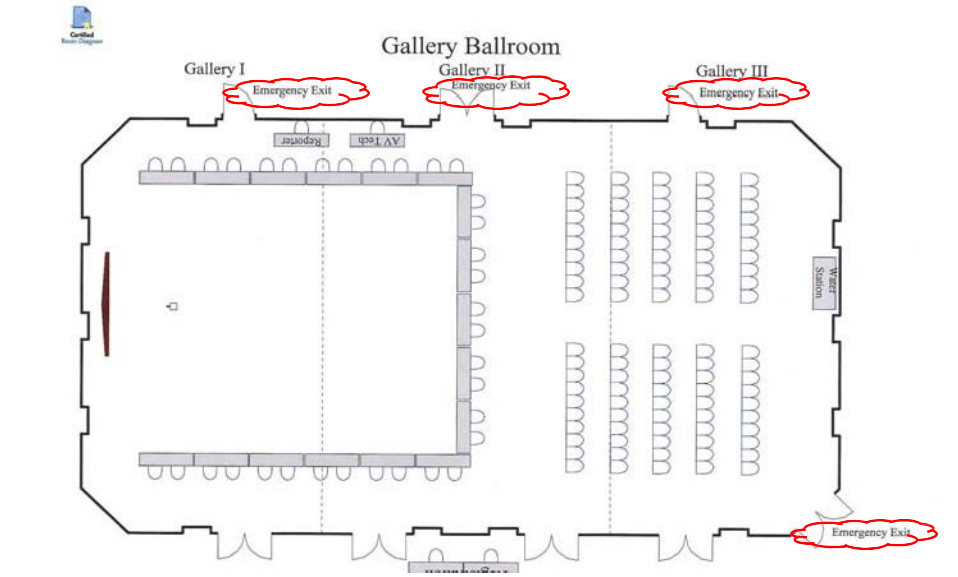


# Housekeeping Items

- Restrooms are located near the elevators.
- Silence your mobile devices to minimize disruptions.
- Invite audience participation:
  - Hold comments until we open the floor
  - Please keep remarks brief (less than 5 min)
- Written comments should be submitted to the docket: Docket No: PHMSA-2016-0128
- Participants conduct themselves in a professional manner.

# Safety

## Emergency Exits




## 2017 Contest Winner
## 811 Video

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6

# Committee and Staff Introductions

## Call Meeting to Order

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## VIS Working Group Members (24)

| Representatives | Candidate Name | Organization |
|---|---|---|
| **PHMSA Representative(s)** | Alan Mayberry | PHMSA |
| **Industry Stakeholders** | | |
| Operators of Pipeline Facilities | Leif Jensen | Sunoco Logistics (API) |
| | Dan Cote | Nisource Gas (AGA) |
| | Eric Amundsen (INGAA) | Panhandle Energy/Energy Transfer Partners |
| Inspection Technology Vendors | Bryce Brown | ROSEN Group (INGAA) |
| | Jason Cradit | TRC Oil and Gas (Wilbros Divestiture) (INGAA) |
| | Alicia Farag | LocusView Solutions |
| | Mark Zuniga | Universal Pegasus International Inc. |
| Coating Cathodic Protection Vendors | Robert Buchanan | Seal for Life Industries |
| | Christopher Warner | Mears Group Inc |
| Pipeline Inspection Organizations | Mike LaMont | Integrity Plus |
| Industry (General) | Mark Hereth | Process Performance Improvement Consultants (INGAA) |
| **Safety Advocacy Groups** | Kate Blystone | Pipeline Safety Trust |
| | Dr. Simona Perry | Pipeline Safety Coalition |
| **Research Institutions** | Dr. Yiming Deng | Michigan State University |
| | Michael Keller | University of Tulsa, Mechanical Engineering Department |
| **State Public Utility Commissioners/State Officials** | Diane Burman (NARUC) | New York State Public Service Commission |
| | Sherina Edwards (NARUC) | Illinois Commerce Commission |
| **State Pipeline Safety Inspectors** | Joe Subsits | Washington Utilities and Transportation Commission |
| | Michelle Thebert | Georgia Public Service Commission |
| **Labor Representatives** | John MacNeill | Utility Workers Union of America |
| | Eric Sherman | Native American Contractors Association |
| | Walter Jones | Laborers' Health & Safety Fund of North America |
| **Other Entities** | Holly Pearen | Environmental Defense Fund |

# Day 1 - Agenda Overview

8:30 am – 5:00 pm (ET)

- Committee and staff introductions
- Call meeting to order and opening statement from Chair
- Opening remarks from PHMSA leadership
- Committee Management –
  - Overview of FACA Subcommittees
  - Forming Subcommittees
- Committee Business
  - Integrity management overview/In-line inspection tools
  - Operator integrity management implementation
- Lunch on your own (noon ET) - 1 hour (see restaurant map)
- Geospatial pipeline data and NPMS
- Operator assessment tool & GIS implementation (3)
- Action Item Recap and Closing Remarks



# Day 2 - Agenda Overview

8:30 am – noon (ET)

- Roll call and call to order
- Day 1 Recap
- Operator challenges with IM/ILI/data sharing (2)
- Committee Management
  - Alternate DFO updates
  - Proposed co-chair selection (vote)
  - Additional expertise needed on committee (vote)
  - Subcommittee formation/planning (possible vote)
  - Planning for next meeting
- Action Item Recap and Closing Remarks

# Opening Remarks

Mr. Howard McMillan, PHMSA Acting Deputy Administrator
Mr. Alan Mayberry, Associate Administrator for Pipeline Safety

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# Committee Management

## FACA Subcommittees: The Basics

Ahuva Barrams
Attorney Advisor, Office of Chief Counsel
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1
2

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## What is a Subcommittee?

- A group, generally not subject to the Federal Advisory Committee Act (FACA), that reports to an advisory committee and not directly to a Federal officer or agency, whether or not its members are drawn in whole or in part from the parent advisory committee
- FACA Final Rule 41 CFR § 102-3.25



## FACA Management
## 41 C.F.R. Part 102-3

- Subcommittees are not subject to notice or public disclosure requirements of FACA.
- The creation and operation of subcommittees must be approved by the agency establishing the parent advisory committee.
- Subcommittee may only provide advice to Parent Committee.

## Holding meetings of a subcommittee (41 CFR Part 102-3)

- There is no requirement for subcommittee meetings to be announced in the Federal Register or to allow public access.
- The Designated Federal Official (DFO), or Alternate DFO, must attend subcommittee meetings.
- Subcommittee **cannot** be used as a substitute for the parent committee.



## VIS Charter

- PHMSA has the authority to create subcommittees and determine how subcommittee members are selected and what interests those subcommittee members represent.
- Subcommittees must report back to the parent committee.
- Subcommittees must not provide advice or work products directly to PHMSA or the Secretary.

## VIS Bylaws: Section VIII: Creating Subcommittees

- The chairperson may establish subcommittees with PHMSA's approval.
- Subcommittees must be listed in the Charter and be updated at renewal time.
- Subcommittee reports must be submitted to the parent committee for review and approval.*

*Note: such reports will be subject to FACA



## Questions or Comments?

# Committee Management

## Forming Subcommittees

19

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## Subcommittee Considerations

- What subcommittees are needed?
- How will subcommittees help address the mandate?
- Which parent committee members sit on each subcommittee? External participants?
- Who will chair each subcommittee?
- What are the tasks and deliverables for each subcommittee?
- How will consensus be reached?
- How will the subcommittee report out?

20

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# Proposed Subcommittees (6)

| Subcommittee | Primary Section 10 Mandate Requirement(s) Addressed |
|---|---|
| **Data Sharing System Needs (SMS?)** | • (c)(1) the **need for, and the identification of, a system** to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the in a confidential manner to improve pipeline safety and inspection technology **need to maintain proprietary and security-sensitive data**<br>• (c)(2) ways to **encourage the exchange** of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis |
| **Technology and R&D** | • (c)(3) opportunities to share data, including dig verification data between operators of pipeline facilities and in-line inspector vendors to expand knowledge of **the advantages and disadvantages of the different types of in-line inspection technology and methodologies**<br>• (c)(4) **options to create a secure system** that protects proprietary data while encouraging the exchange of pipeline inspection information and the **development of advanced pipeline inspection technologies and enhanced risk analysis** |
| **Training and Qualifications** | • (c)(3) opportunities to share data, including dig verification data between operators of pipeline facilities and in-line inspector vendors to **expand knowledge** of the advantages and disadvantages of the different types of in-line inspection technology and methodologies |
| **Best Practices** | • (c)(5) **means and best practices** for the protection of safety- and security-sensitive information and proprietary information |
| **Regulatory, Funding, and Legal** | • (c)(1) the need for, and the identification of, a system to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the need to **maintain proprietary and security-sensitive data in a confidential** manner to improve pipeline safety and inspection technology<br>• (c)(4) **options to create a secure system** that protects proprietary data while encouraging the exchange of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis<br>• (c)(6) regulatory, funding, and legal barriers to sharing the information described in paragraphs (1) through (4) |
| **Recommendation Report/Definitions Development** | • (d) The Secretary shall publish the recommendations provided under subsection (c) on a publicly available Web site of the Department of Transportation. |

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21

# Data Sharing System Needs (Sample)

| | Primary Section 10 Mandate Requirement(s) Addressed |
|---|---|
| **Data Sharing System Needs (SMS?)** | • (c)(1) the **need for, and the identification of, a system** to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the in a confidential manner to improve pipeline safety and inspection technology **need to maintain proprietary and security-sensitive data**<br>• (c)(2) ways to **encourage the exchange** of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis |
| | **Task Statement** |
| **Purpose:** | To determine the need for, and identification of a system that can maintain proprietary and security-sensitive data and to identify ways to encourage the exchange of relevant pipeline inspection information for risk analysis purposes. |
| **Task Description:** | Review and consider the following:<br>• Assess the current state of pipeline safety In-line inspection, dig verification data for information sharing.<br>• Identify gaps, issues, and type of information needs with dig verification information sharing.<br>• Provide justification to support recommendation on the need for a information sharing system. (Vote)<br>• Identify mechanisms and solutions to protect sensitive safety information and ways to encourage of information.<br>• Identify stakeholders who need the identified types of information.<br>• Identify what voluntary information-sharing system requirements are needed.<br>• Recommend the scope for |
| **Deliverables:** | • Subcommittee recommendation(s)/proposal(s) to the parent committee report<br>  • Summary of recommendation(s) to parent committee for approval<br>  • List of acronyms and common terminology and definitions<br>  • Sources and references |
| **Target Milestones & Dates:** | The initial work plan is due to the parent committee no later than 30 days after the subcommittee's kick-off meeting. Initial report recommendations/proposals are due to the parent committee by no later than one year from the subcommittee's kick-off meeting date. |

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## Discussion and Next Steps

- Proposed subcommittees - (needs/changes/gaps?)
- Address key considerations
- Preparatory work (before the next committee meeting)
  - Tasks, deliverables, timelines for each subcommittee
  - Committee member leads/participation on subcommittees
  - Guidance and logistics support for subcommittees



## Questions or Comments?

# Committee Business

## Integrity Management Overview
## Gas and Liquid Transmission Pipelines

Chris McLaren
PHMSA, Office of Pipeline Safety

25



## What PHMSA Regulates

| Pipeline Facilities by System Type CY 2016 for Gas and CY 2015 for Liquid | | | |
|---|---|---|---|
| System Type | Miles | % Miles | # Operators |
| Hazardous Liquid | 208,616<br>7,578 Tanks | < 8% | 483 |
| Gas Transmission | 299,945 | 11% | 1,009 |
| Gas Gathering | 17,478 | < 1% | 342 |
| Gas Distribution (Mains & Services) | 2,204,025 | 81% | 1,263 |
| Total | 2,730,064 | 100% | 2,555 unique OpID |
| Liquefied Natural Gas | 153 Plants | 228 Tanks | 83 |

data as-of 3/27/2017

26

## What is Pipeline Integrity Management?

- Integrated, iterative processes for assessing and mitigating pipeline risk in order to reduce both the "likelihood and consequences" of pipeline incidents or accidents.
- Management and analysis processes integrate all available pipeline integrity-related data and information to assess the risks associated with pipelines
- Based upon risk, implement additional risk control measures.

27

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- 27 -

## What is Pipeline Integrity Management Program?

- Safety process that an operator of a pipeline system can use to assess and mitigate risks in order to reduce both the likelihood and consequences of incidents.
  - It covers both a prescriptive-and a performance based IM Program
- A comprehensive, systematic and integrated IM Program provides the means to improve the safety of pipeline systems.

28

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- 28 -

## Why Integrity Management Programs?

- "In the 1980's and 1990's" accidents began to occur at higher rates, sometimes with high consequences
  - Edison, NJ
  - Bellingham, WA
  - Carlsbad, NM
- Heightened Public Safety Awareness
- Consequences showed Public, Industry and Government the need for on-going Pipeline Integrity Programs to maintain safety

29

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## What Changed?

- Pipeline accident investigations tended to reveal that accident causes were situations, often not addressed in any regulation

30

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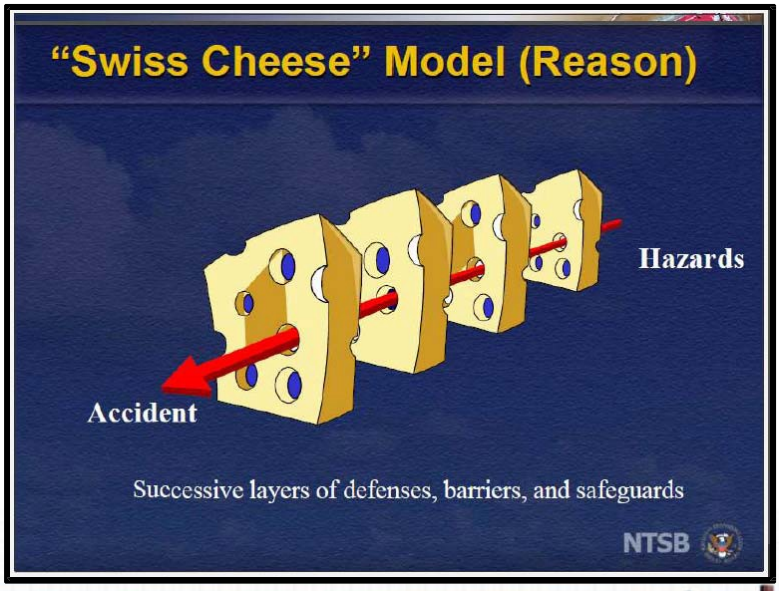
- 30 -

31








# Why Change?

- Approaches to reduce pipeline accident rates further:
  - Revise pipeline regulations (Parts 192 and 195) to address accident causes or unique problems as they arose or could be anticipated
  - Encourage or require pipeline operators to find and address issues that are unique to their operating conditions (Integrity Management)
    - Gas Transmission – 49 CFR Part 192, Subpart O
    - Hazardous Liquid – 49 CFR Part 195.452

32



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# Why Integrity Management Programs?

Aging Infrastructure

Aging Infrastructure with Integrity Management

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# Aging Infrastructure (% by Decade in USA)

| Decade | Hazardous Liquid | Gas Transmission | Gas Distribution Main | Gas Distribution Service |
|---|---|---|---|---|
| Unknown & < 1920 | 2% | --- | | |
| 1920s | 2% | 2% | --- | --- |
| 1930s | 3% | 4% | 6% | 3% |
| 1940s | 8% | 7% | 2% | 2% |
| 1950s | 20% | 22% | 10% | 8% |
| 1960s | 21% | 23% | 17% | 13% |
| 1970s | 16% | 11% | 12% | 14% |
| 1980s | 9% | 10% | 14% | 17% |
| 1990s | 11% | 11% | 21% | 22% |
| 2000s | 8% | 10% | 18% | 21% |

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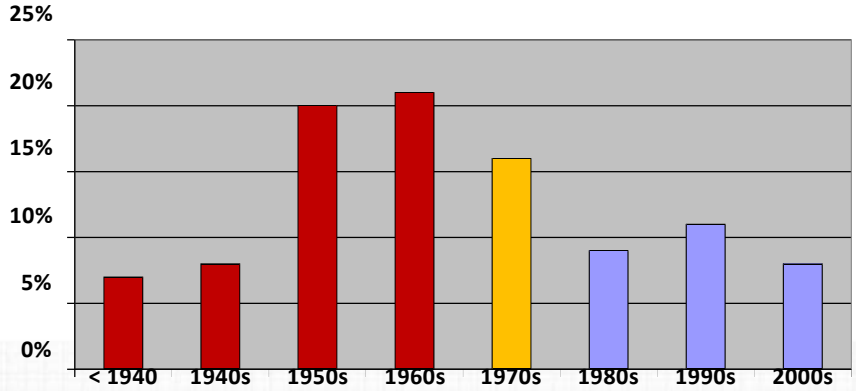
34

# Aging Infrastructure (% by Decade in USA)

**Hazardous Liquid Pipeline Vintage**

**55% installed prior to 1970**

**(182,615 miles/ 74,472 HF-ERW/50,740 LF-ERW)**




35

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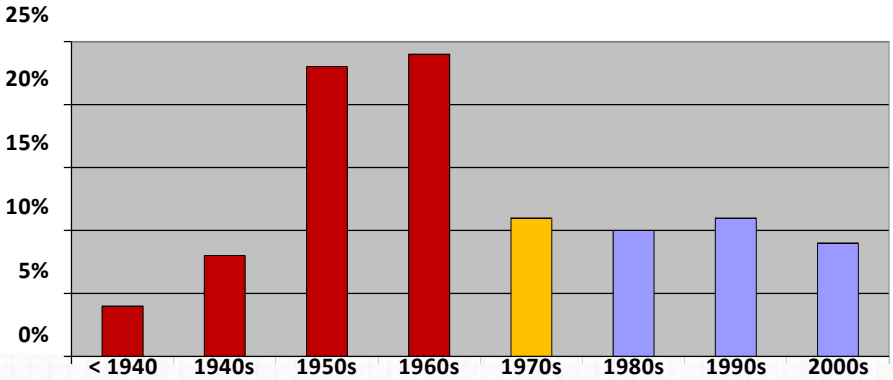
- 35 -

# Aging Infrastructure (% by Decade in USA)

**Gas Transmission Pipeline Vintage**

**59% installed prior to 1970**




36

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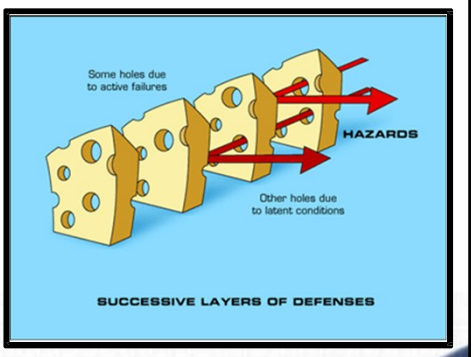
- 36 -

# Aging Infrastructure

**What are some of the layers used to protect against Aging Pipeline Infrastructure against integrity threats?**

- Operating Safety Factors
- Tests – material, weld
- External Pipe Coating
- Cathodic Protection
- Patrols for 3rd Party and Environmental Damage
- On-going Maintenance
  - Integrity Management




37

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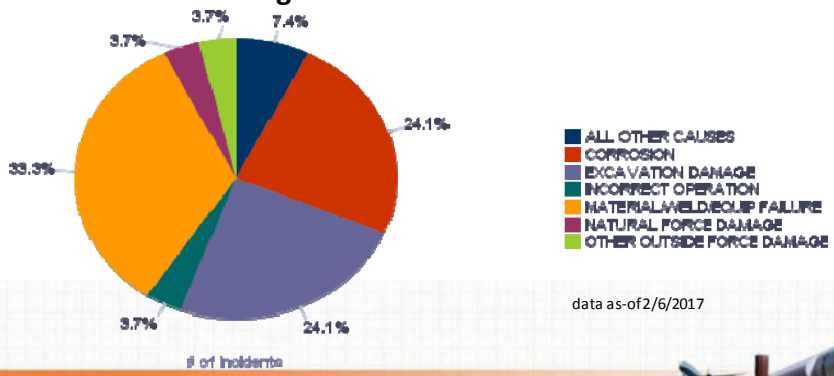
# Gas Transmission Pipeline Significant Incidents

**CY 2016 Leading Causes:**

Material/Weld/Equipment Failure – 33%
Corrosion – 24%
Excavation Damage – 24%




data as-of 2/6/2017

38

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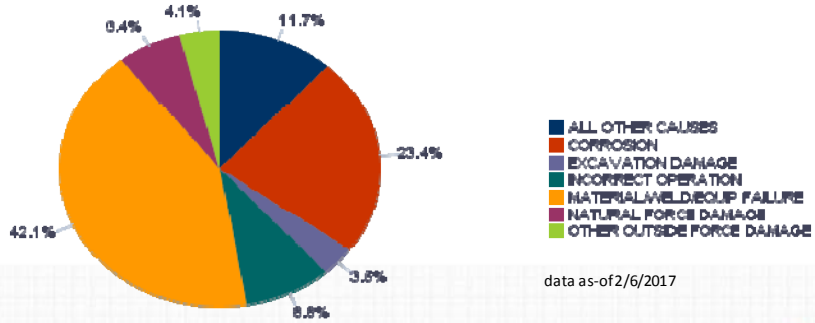
# Hazardous Liquid Pipeline Significant Incidents

**CY 2016 Leading Causes:**

- Material/Weld/Equipment Failure – 42%
- Corrosion – 23%
- Other – 12%




data as-of 2/6/2017

39

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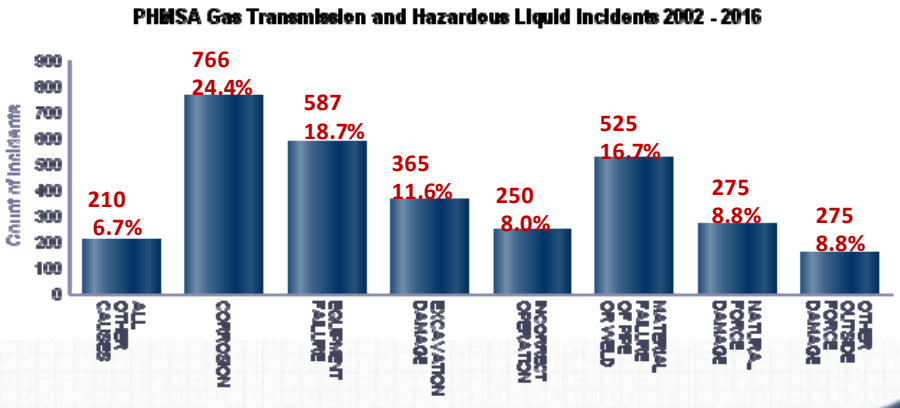
# Gas Transmission and Hazardous Liquid Incidents – 2002 to 2016




40

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# Integrity Management - Objectives

1. Improve Operator Integrity Management Systems
2. Accelerate Assessments and Remediation of Pipelines in High Consequence Areas (HCAs)
   - Gas Pipelines
   - Hazardous Liquid Pipelines
3. Increase Public Assurance in Pipeline Safety
4. Improve Government Role in Reviewing Integrity Plans and Programs

41

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# IM Program Requirements Overview

- Pipelines Segments Covered - High Consequence Areas (HCAs)
- Baseline Assessment Plan – Integrity Assessment
  - Information/Data Analysis
  - Identification of Threats to the Pipeline
  - Risk Assessment
  - Prioritized Integrity Assessment Plan
- Remediation Procedures
- Preventive and Mitigative Measures
- Continual Evaluation and Assessment
- Performance Effectiveness Measures
- Records – documentation of findings and remediation
- Notifications

42

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# IM Program Requirements Overview

- **Integrity Assessment Methods**
  - **Inline Inspection Tools (Smart Pigs)**
    - Dents, buckles, and weld misalignment
    - Pipe Expansion
    - Corrosion, metal loss, and wall thickness changes
    - Cracks – pipe body, weld seam and girth welds
    - Pipe Strains – lateral sol movement and pipe bending
    - Hard spots in pipe – which can lead to cracks
  - Pressure Testing
  - Direct Assessment of the Pipe
  - Other Technology

43

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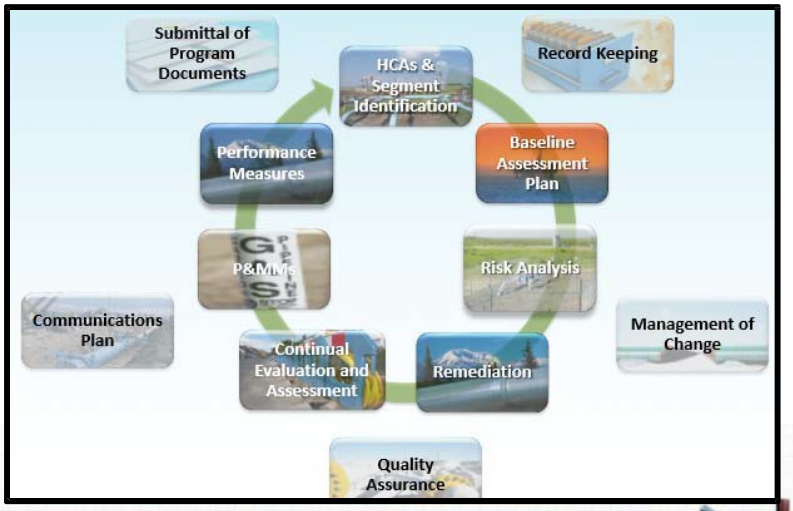
43

# Integrity Management – Continuous Cycle of Evaluation and Improvement




44

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## What are some of the pipeline integrity threats?

- **Materials**
- **Construction**
- **Operations & Maintenance**
  - **Integrity Management**

45

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## What are some of the pipeline integrity threats?

- **Materials – pipe and coatings**
  - Pipe material –
    - Wall Loss, corrosion
    - Seams – cold welds, lack of fusion, stitched welds, hook cracks
    - Laminations
    - Hard spots

46

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# What are some of the integrity threats?

- **Materials – pipe and coatings**
  - Pipe coatings
    - Bare pipe
    - Poorly installed coatings
    - Disbonded coatings
    - Tenting over the weld
    - Coatings that shield Cathodic Protection

  - Poor Coatings
    - Corrosion, SCC, & SSC

47

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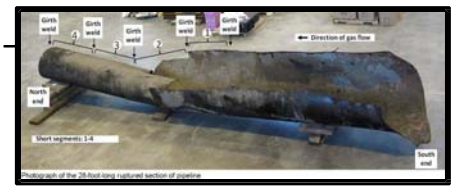
# What are some of the integrity threats?

- **Construction**
  - No pressure test, < 1.25 times MAOP/MOP
  - Installation issues – miter bends
  - Welding – alignment
  - Non-Destructive Examination – on girth welds
  - Girth weld coating
  - Depth of cover
  - Dents during installation, backfill & clean-up




48

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# Challenges to Success of IM

- **Data validation**
- **Response to missing or suspect data**
- **Integrity-related decision-making**
- **Data Integration–what does it show?**
- **Preventive and mitigative measures**
  - Run the tools – dig, test, & survey (ILI, CIS, DCVG, ground patrols, etc.)
  - Remediate/Replace – dig, repair, re-coat, replace, etc.
- **Reassessment and resurvey**
- **Rigorous processes to manage pipeline integrity**

49

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49

# IM for Hazardous Liquid Pipelines

- Published in December 2000, as 195.452
- Addresses Pipeline segments for assessment that "could affect" HCAs

Navigating the Rule -

- 195.450 Defines High Consequence Areas (HCAs)
- 195.6 Defines Unusually Sensitive Areas (USAs)
- 195.452 Establishes Pipeline Integrity Management Requirements to Protect HCAs
- Appendix C Provides Additional Guidance and Information

50

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# What are High Consequence Areas (HCA) for Hazardous Liquid Pipelines

- Unusually Sensitive Areas of the Environment
- High Population Areas and Other Populated Areas
- Commercially Navigable Waterways

51

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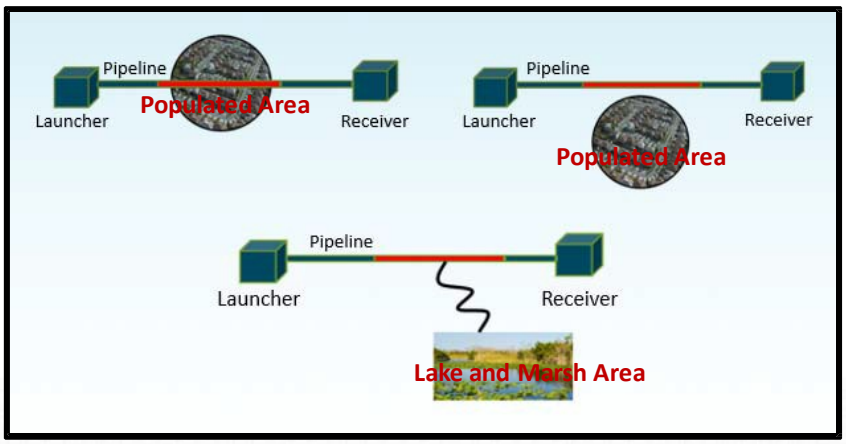
# Hazardous Liquid Pipeline - HCA




52

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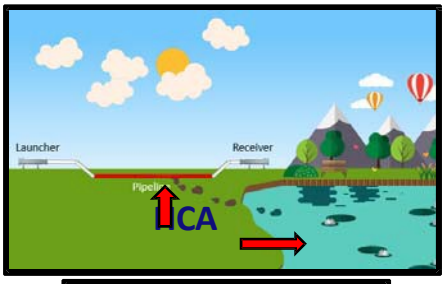
- 52 -

# Hazardous Liquid Pipeline - HCA



53

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# IM for Gas Transmission Pipelines

- Published December 15, 2003, with subsequent amendments
- HCAs are identified differently than for hazardous liquid, and Rule applies to pipeline segments "in" HCAs (vs. "could affect" in HL)

Navigating the Rule -

- Published as a new Subpart to Part 192
- Subpart O—Gas Transmission Pipeline Integrity Management
- Subpart contains numbered sections (49 CFR 192.9xx) with content similar to numbered paragraphs in 195.452

54

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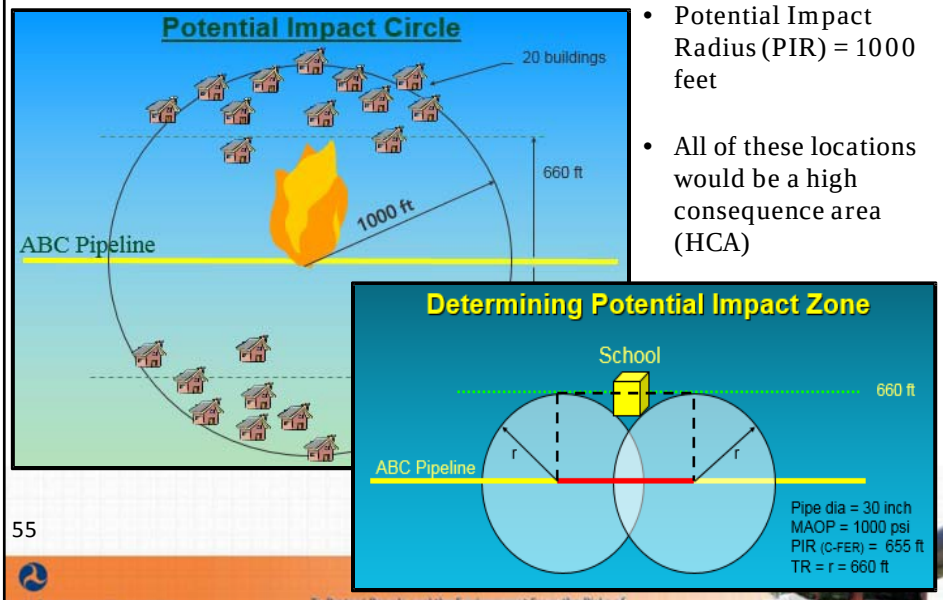
# Gas Transmission – HCA - examples




- Potential Impact Radius (PIR) = 1000 feet
- All of these locations would be a high consequence area (HCA)

55

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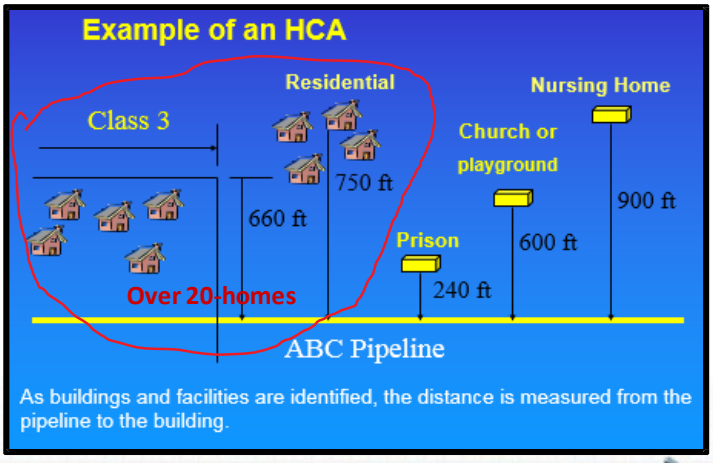
# Gas Transmission – HCA - examples

- Potential Impact Radius (PIR) = 1000 feet
- All of these locations would be a high consequence area




56

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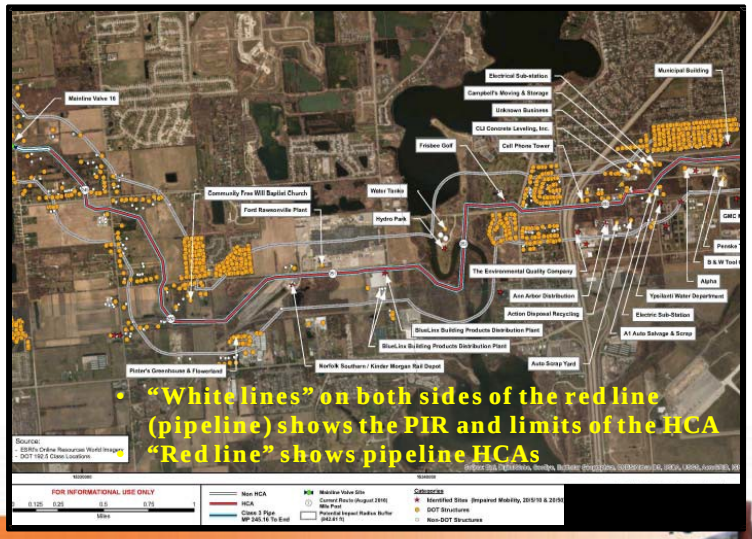
# Gas Transmission – PIR and HCA - Example




- "White lines" on both sides of the red line (pipeline) shows the PIR and limits of the HCA
- "Red line" shows pipeline HCAs

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| Hazardous Liquid Pipeline - Mileage | | | |
|---|---|---|---|
| | Total Miles | HCA | Non-HCA |
| | 208,644 | 86,194 (41%) | 124,450 |

| Gas Transmission Pipeline - Mileage | | | |
|---|---|---|---|
| | Total Miles | HCA | Non-HCA |
| Class 1 | 236,412 | 1,762 (<1%) | 234,650 |
| Class 2 | 30,247 | 1,524 (5%) | 28,723 |
| Class 3 | 37,358 | 17,814 (48%) | 19,544 |
| Class 4 | 1,067 | 836 (78%) | 231 |
| **Total** | **305,084** | **21,936 (7%)** | **283,148** |

58

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## Integrity Assessments

- Used to evaluate/remediate threats to pipeline integrity such as:
  - Dents, buckles, and weld misalignment
  - Corrosion, metal loss, and other anomalies
  - Cracks – pipe body, weld seam and girth welds
  - Lateral forces from soil movement
  - Wall thickness
  - Hard spots in pipe – which can lead to cracks

59

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## Integrity Assessment Methods

- In-line Inspection (ILI)
- Pressure Testing
- Direct Assessment Methods
- Other Technologies
  - (notifications of new, emerging technologies for specific applications)
- Method is chosen to address threat(s) to integrity of pipeline and/or collect specific information
  - ILI Tools - Metal loss, mechanical damage, geometry, cracks, or location and mapping

60

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# Processes/Standards using ILI

- **To support operators meeting IM regulation requirements, standards have been developed :**
  - ASME B31.8-S – Managing System Integrity of Gas Pipelines
  - API 1160 - Managing System Integrity for Hazardous Liquid Pipelines
- Standards specific to ILI include:
  - API 1163 – In-Line Inspection Systems Qualification
  - NACE 0102 - In-Line Inspection of Pipelines
  - ASNT-ILI-PQ - In-line Inspection Personnel Qualification and Certification

61

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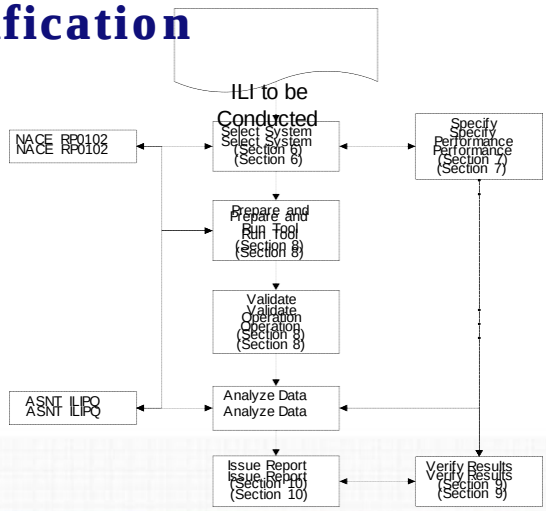
# API 1163 – ILI Systems Qualification




62

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# Committee Business

## Types of In-Line Inspection Tools Used for Integrity Assessments

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# Integrity Assessment ILI Tools

- **Based on the pipeline threat analysis:**
  - Deformation
    •dents, buckles, and pipe expansions
  - Metal Loss
    •corrosion and gouges Cracking
  - – pipe body and welds
    - Stress Corrosion Cracking of pipe body
    - Pipe seam weld cracking
      - Lack of fusion/cold welds/Hook cracks Hard spots in pipe body
  - Mapping
    - Location and pipe movement

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# Launcher/Receiver Barrels for Inline Inspections (Smart Pigging)

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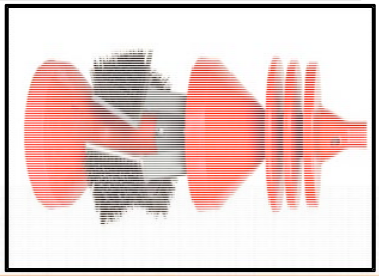
# Pipeline Cleaning Pigs

- Brushes are used to clean the inside of the pipeline prior to inline inspection (Smart Pigging)
- Mechanical and sometimes chemical cleaning techniques may be employed



66

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# Why Clean a Pipeline Prior to ILI?

**Evidence of a dirty pipeline**

67

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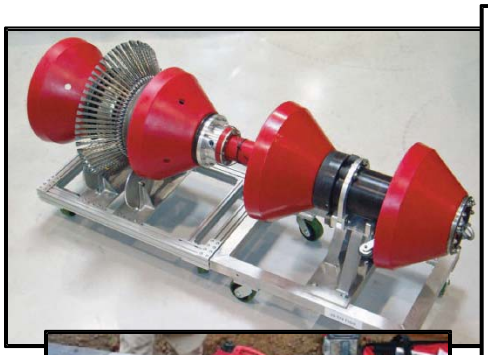
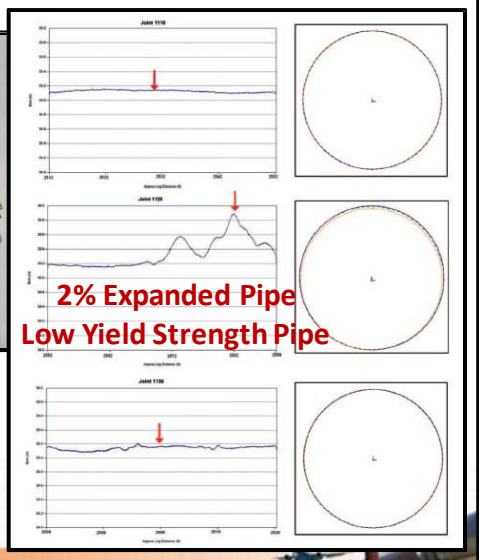
- 67 -

# Deformation Inline Inspection Tool






68

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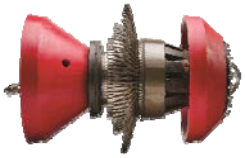
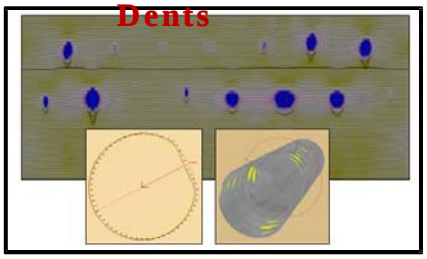
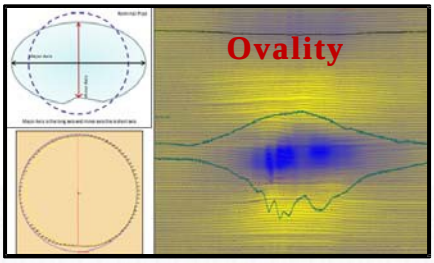
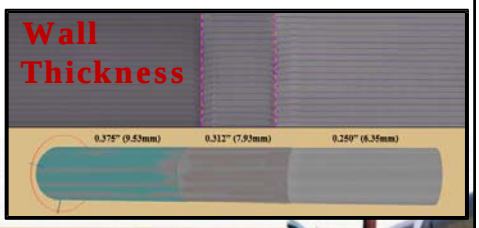
# Threat of Dents and Ovality

- Deformation ILI tools






69

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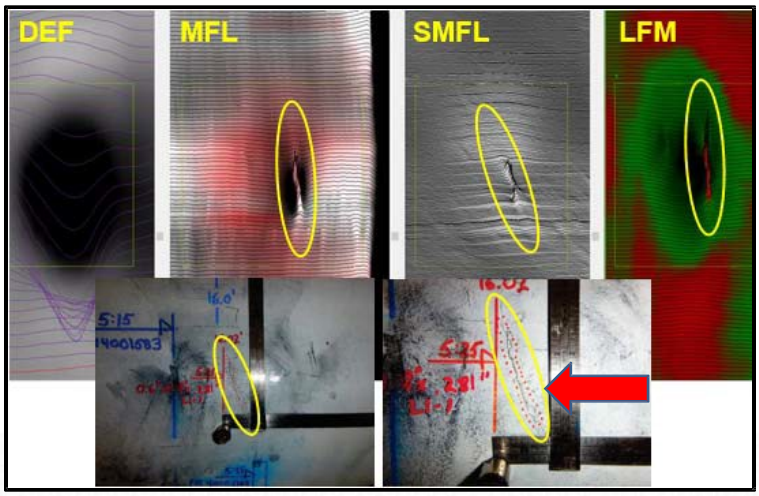
# Mechanical Damage to Pipe

70




- 70 -

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# Assessing the Threat of Metal Loss

- **Various types of tools are used to identify and quantify metal loss (corrosion and gouges)**
- Magnetic Flux Leakage (MFL),
- Ultrasonics,
- Electro Magnetic Acoustic Transducer (EMAT)

71

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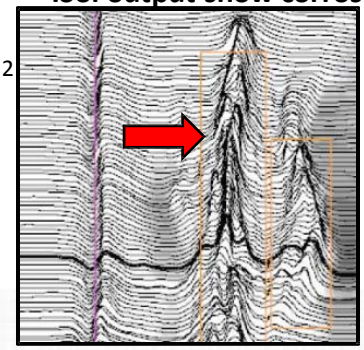
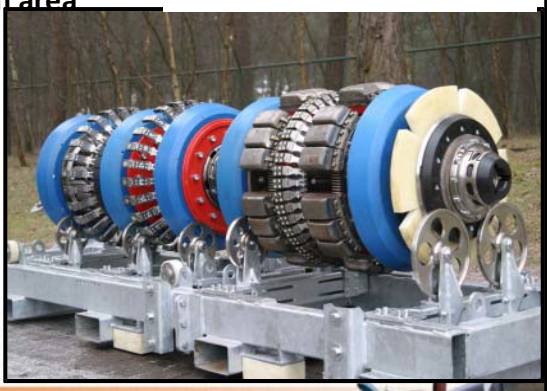
# Corrosion & Geometry Inline Inspection Tools

- **High Resolution Magnetic Flux Inline Inspection Tool with Geometry/Deformation Tool**
- **Tool output show corrosion area**

72





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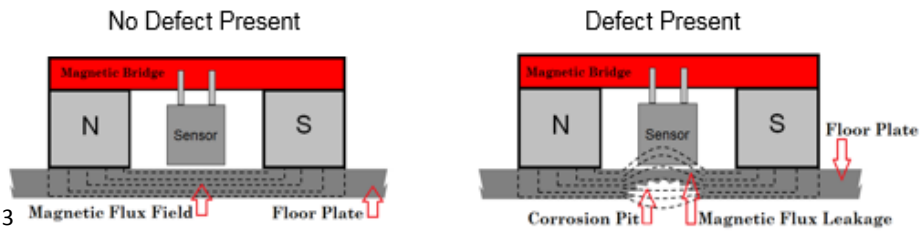
# Magnetic Flux Leakage (MFL) ILI Tool

## Example of how corrosion/wall loss is measured

- Dipole permanent magnets contact the ferrous pipe wall causing the pipeline to become magnetized
  - Sensors in-between the poles measure the magnetic field strength
  - Defects cause the field to "leak" out of the pipe wall

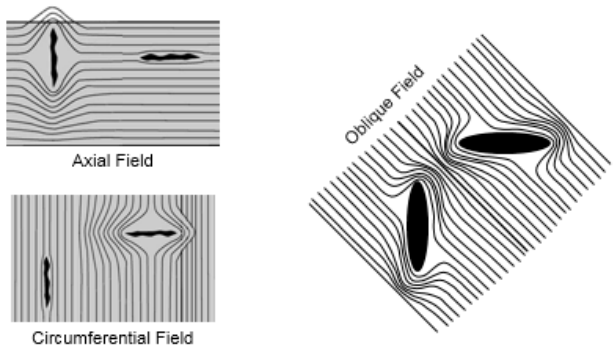



73



# MFL ILI – Example Defect Field Orientations

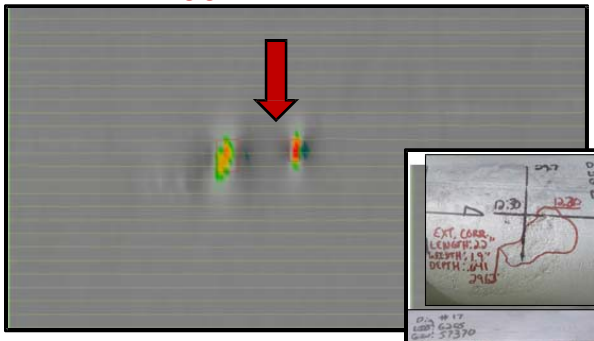
- Magnetic field orientation plays a key role in detection, identification and sizing



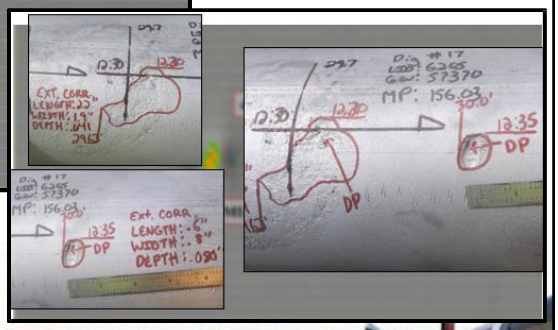

74

# MFL ILI – Metal Loss

**MFL Tool** -



**Field – direct assessment findings**

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# Electro Magnetic Acoustic Transducer (EMAT)

**Body cracks**

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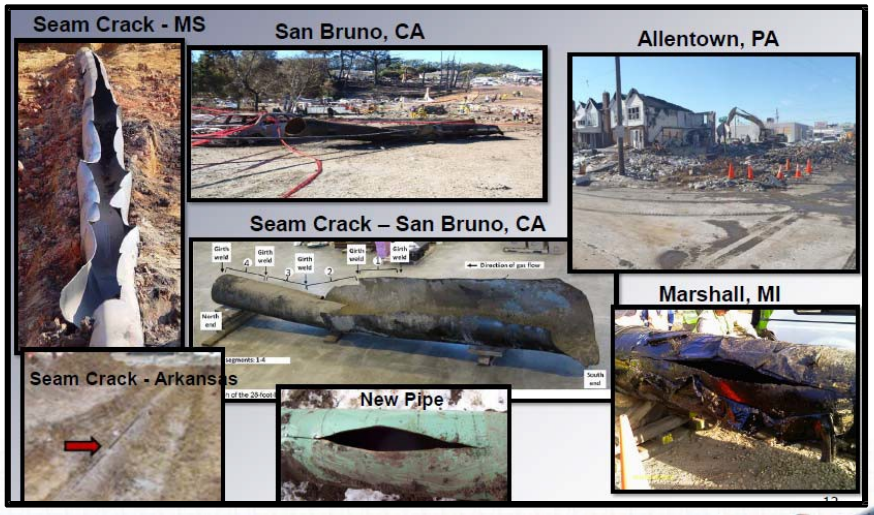
- 76 -

# Why Crack Detection ILI Tools!




77

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# ILI Tool – Multiple Data Sets

78

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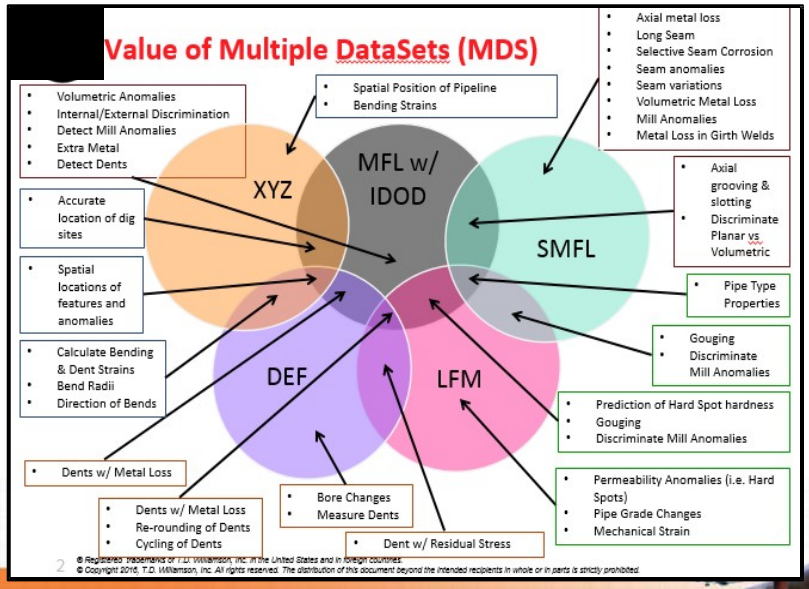
# ILI Tool – Multiple Data Sets




79

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# Field Information

- Data and Information is acquired "in the ditch" during remediation of conditions and must be integrated with ILI results for validation
- "Unity Plots" compare the ILI tool report with field measurements and results to gauge performance and identify any adjustments needed

80

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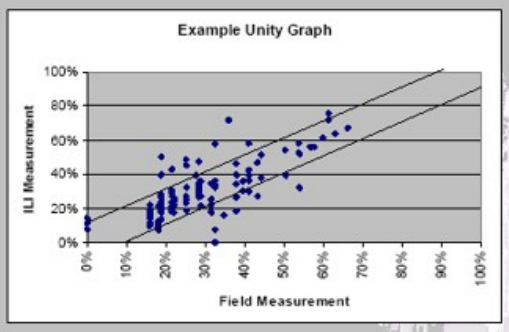
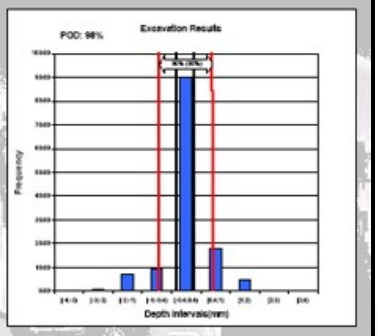
# Field Assessment – Verification Digs

81

- Compare dig results to tool specification

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# Other ILI Technologies and Tools

- **ILI devices (pigs) can be**:
  - free-flowing,
  - tethered, or
  - self-propelled
- **Examples of other tools include:**
  - Electro-Magnetic Acoustical Transducer Tool (EMAT) – for crack like features in gas pipelines typically since liquid coupling is not available
  - Ultrasonic Shear Wave Tools for identifying crack like features where liquid coupling is available

82

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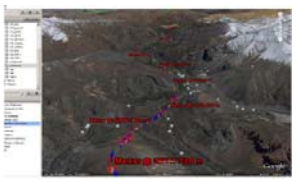
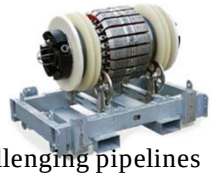
# Other Inline Inspection Tools

- **Mapping**
  - 3D geographical pipeline coordinates
- **Speed Control**
  - Speed control valve for gas pipelines
    High product flow rates during inspection
- **Dual Magnetization**
  - Hard spots, cold working
- **Bi-directional**
  - Loading lines, risers, single body tools for challenging pipelines
- **Deep water offshore tools**
  - High pressure, multi diameter





83

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- 83 -

# NACE SP-0102 – Inline Inspection of Pipelines

**Table 1: Types of ILI Tools and Inspection Purposes[B]**

| Anomaly | Imperfection/ Defect/Feature | Metal Loss Tools | | | Crack Detection Tools | | Deformation Tools |
|---|---|---|---|---|---|---|---|
| | | Magnetic Flux Leakage (MFL) | | | | | |
| | | Standard Resolution (SR) | High Resolution (HR) | Ultrasonic Compression Wave[M] | Ultrasonic Shear Wave[M] | Transverse MFL | |
| **Metal Loss** | | | | | | | |
| | External Corrosion | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | No Detection |
| | Internal Corrosion | | | | | | |
| | Gouging | No ID/outer diameter (OD) discrimination | | | | | |
| **Crack-Like Anomalies** | | | | | | | |
| | Narrow Axial External Corrosion | Detection[A] | Detection[A] | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | Detection,[A] Sizing[B] | No Detection |
| | Stress Corrosion Cracking | No Detection | No Detection | No Detection | Detection,[A] Sizing[B] | Limited Detection,[A][C] Sizing[B] | No Detection |
| | Fatigue Cracks | No Detection | No Detection | No Detection | Detection,[A] Sizing[B] | Limited Detection,[A][C] Sizing[B] | No Detection |
| | Long Seam Cracks, etc. (toe cracks, hook cracks, incomplete fusion, preferential seam corrosion) | No Detection | No Detection | No Detection | Detection,[A] Sizing[B] | Detection,[A][C] Sizing[B] | No Detection |
| | Circumferential Cracks | No Detection | Detection,[C] Sizing[B] | No Detection | Detection,[A] Sizing[B][D] | No Detection | No Detection |
| | Hydrogen-Induced Cracking (HIC) | No Detection | No Detection | Detection [A] | Limited Detection | No Detection | No Detection |
| **Deformation** | | | | | | | |
| | Sharp Dents | Detection[E][G] | Detection[E][L] | Detection[E][G] | Detection[E][G] | Detection[E][G] | Detection,[F] Sizing |

[B] For additional information, refer to API 1163.[3]

84

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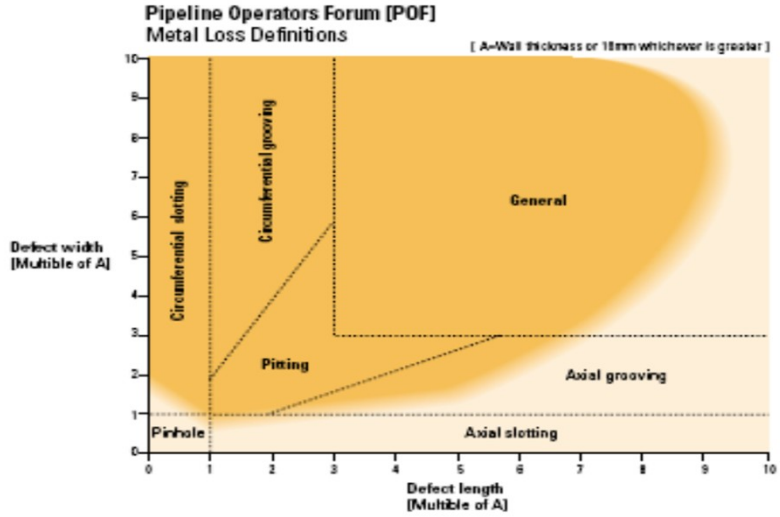
# Magnetic Flux Leakage Tool




85

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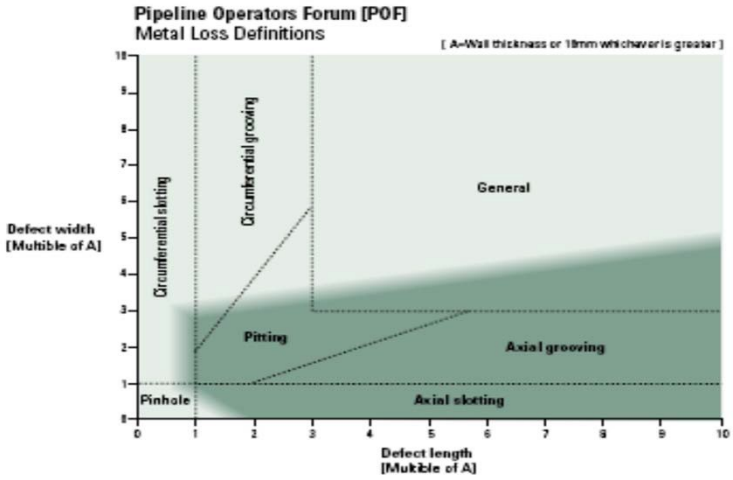
# Transverse Magnetic Flux Leakage Tool




86

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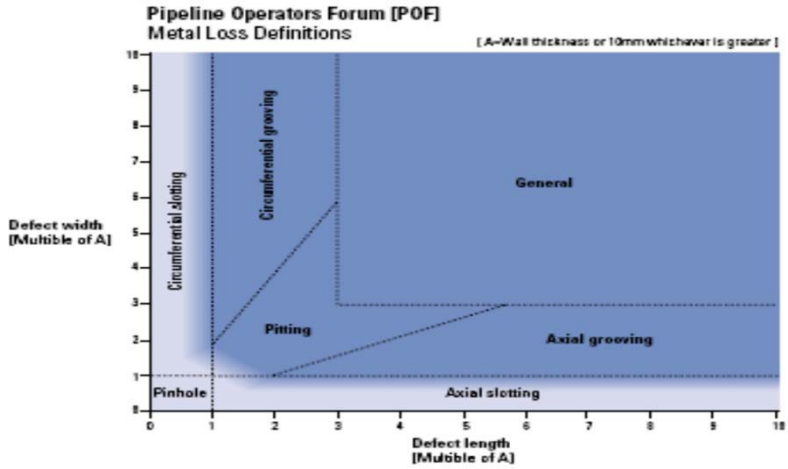
# Ultrasonic Tool (Compressive Wave)




87

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# End of the ILI Field Pigging

## Evaluations of the Findings Begin

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88

# Questions or Comments?

89

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# Committee Business

## Operator Integrity Management Implementation

Drew Hevle – Kinder Morgan

90

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# Questions or Comments?

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## Committee Business

## Geospatial Pipeline Data NPMS

Amy Nelson, GIS Manager
Outreach and Engagement

92

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# Committee Business

## Operator Assessment Tool & GIS Implementation

Eric Amundsen and David Nemeth – Energy Transfer
Nick Homan – Marathon Pipeline
Michael Stackhouse – Phillips 66

93

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# Action Item Recap

## Closing Remarks

94

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# Day 2 - Agenda Overview

8:30 am – noon (ET)

- Roll call and call to order
- Day 1 Recap
- Operator challenges with IM/ILI/data sharing (2)
- Committee Management
  - Alternate DFO updates
  - Proposed co-chair selection (vote)
  - Additional expertise needed on committee (possible vote)
  - Subcommittee formation/planning (possible vote)
  - Planning for next meeting
- Action Item Recap and Closing Remarks

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95

# Committee Business

## Operator Challenges with IM/ILI and data sharing

Eric Amundsen – Energy Transfer
Toby Fore – Kinder Morgan

96

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# Committee Management

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# Committee Management

- Committee Management
  - Alternate DFO update
  - Proposed co-chair selection (vote)
  - Additional expertise needed on committee (vote)
  - Subcommittee formation/planning (possible vote)
  - Planning for next meeting
    - Date
    - Potential topics
- Action Item Recap and Closing Remarks

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation

98

# PHMSA Alternate Designated Federal Officers

## Office of Pipeline Safety

- Chris McLaren, Transportation Specialist in State Programs
- Nancy White, Director of Policy and Programs



# Proposed Co-Chair

## Sherina Maye Edwards

Commissioner Sherina Maye Edwards was appointed by Governor Pat Quinn on February 25, 2013, to a five-year term on the Illinois Commerce Commission (ICC). This appointment was historical as she was the youngest commissioner ever appointed in the state of Illinois.

Prior to her appointment, Commissioner Edwards practiced as an attorney with the highly ranked international law firm, Locke Lord LLP, where she focused on all aspects of consumer finance litigation. Since her appointment to the ICC, she has taken an interest in electric reliability, water, natural gas and critical infrastructure issues. Through her active involvement in the National Association for Regulatory Utility Commissioners (NARUC), Commissioner Edwards serves as the Chair of the Subcommittee on Pipeline Safety as well as Chair of the Subcommittee on Supplier and Workforce Diversity and as a member of the Committee on Gas, with previous service on the Water Committee. In 2015, she traveled to Dubai to present to a foreign delegation on electric reliability and transmission issues. She is also member of the Organization of MISO States and serves as Secretary of the Board.

Most recently, Commissioner Edwards was selected as a 2017 Eisenhower Fellow. In this capacity, she will serve as an ambassador for the United States in South Africa and Australia, meet with leading experts in the energy field, and learn more about the shift to renewable energy.

Commissioner Edwards earned a Bachelor of Arts in Psychology from Spelman College, cum laude, and a Juris Doctorate from Howard University School of Law in Washington, D.C.

For Committee Vote

# Additional Committee Expertise Needed?

- Review current membership.
- Technical areas/expertise?
- Diversity across different pipeline commodities?
- Variety of types of vendors?

For Committee Vote



# Subcommittee Considerations

- What subcommittees are needed?
- How will subcommittees help address the mandate?
- Which parent committee members sit on each subcommittee? External participants?
- Who will chair each subcommittee?
- What are the tasks and deliverables for each subcommittee?
- How will consensus be reached?
- How will the subcommittee report out?

# Proposed Subcommittees (6)

| Subcommittee | Primary Section 10 Mandate Requirement(s) Addressed |
|---|---|
| **Data Sharing System Needs (SMS?)** | • (c)(1) the **need for, and the identification of, a system** to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the in a confidential manner to improve pipeline safety and inspection technology **need to maintain proprietary and security-sensitive data**<br>• (c)(2) ways to **encourage the exchange** of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis |
| **Technology and R&D** | • (c)(3) opportunities to share data, including dig verification data between operators of pipeline facilities and in-line inspector vendors to expand knowledge of **the advantages and disadvantages of the different types of in-line inspection technology and methodologies**<br>• (c)(4) **options to create a secure system** that protects proprietary data while encouraging the exchange of pipeline inspection information and the **development of advanced pipeline inspection technologies and enhanced risk analysis** |
| **Training and Qualifications** | • (c)(3) opportunities to share data, including dig verification data between operators of pipeline facilities and in-line inspector vendors to **expand knowledge** of the advantages and disadvantages of the different types of in-line inspection technology and methodologies |
| **Best Practices** | • (c)(5) **means and best practices** for the protection of safety- and security-sensitive information and proprietary information |
| **Regulatory, Funding, and Legal** | • (c)(1) the need for, and the identification of, a system to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the need to **maintain proprietary and security-sensitive data in a confidential** manner to improve pipeline safety and inspection technology<br>• (c)(4) **options to create a secure system** that protects proprietary data while encouraging the exchange of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis<br>• (c)(6) regulatory, funding, and legal barriers to sharing the information described in paragraphs (1) through (4) |
| **Recommendation Report/Definitions Development** | • (d) The Secretary shall publish the recommendations provided under subsection (c) on a publicly available Web site of the Department of Transportation. |



# Data Sharing System Needs (Sample)

| | Primary Section 10 Mandate Requirement(s) Addressed |
|---|---|
| **Data Sharing System Needs (SMS?)** | • (c)(1) the **need for, and the identification of, a system** to ensure that dig verification data are shared with in-line inspection operators to the extent consistent with the in a confidential manner to improve pipeline safety and inspection technology **need to maintain proprietary and security-sensitive data**<br>• (c)(2) ways to **encourage the exchange** of pipeline inspection information and the development of advanced pipeline inspection technologies and enhanced risk analysis |
| | **Task Statement** |
| **Purpose:** | To determine the need for, and identification of a system that can maintain proprietary and security-sensitive data and to identify ways to encourage the exchange of relevant pipeline inspection information for risk analysis purposes. |
| **Task Description:** | Review and consider the following:<br>• Assess the current state of pipeline safety In-line inspection, dig verification data for information sharing.<br>• Identify gaps, issues, and type of information needs with dig verification information sharing.<br>• Provide justification to support recommendation on the need for a information sharing system. (Vote)<br>• Identify mechanisms and solutions to protect sensitive safety information and ways to encourage of information.<br>• Identify stakeholders who need the identified types of information.<br>• Identify what voluntary information-sharing system requirements are needed.<br>• Recommend the scope for |
| **Deliverables:** | • Subcommittee recommendation(s)/proposal(s) to the parent committee report<br>  • Summary of recommendation(s) to parent committee for approval<br>  • List of acronyms and common terminology and definitions<br>  • Sources and references |
| **Target Milestones & Dates:** | The initial work plan is due to the parent committee no later than 30 days after the subcommittee's kick-off meeting. Initial report recommendations/proposals are due to the parent committee by no later than one year from the subcommittee's kick-off meeting date. |

## Discussion and Next Steps

- Proposed subcommittees - (needs/changes/gaps?)
- Address key considerations
- Preparatory work (before the next committee meeting)
  - Tasks, deliverables, timelines for each subcommittee
  - Committee member leads/participation on subcommittees
  - Guidance and logistics support for subcommittees
- Preparatory meeting?

For Committee Vote (Proposed Subcommittees)

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation

105

## Planning for the next meeting

- *Tentative* – September 13-14, 2017, Washington DC
- Potential Topics
  - Committee Business:
    - Lessons learned from accidents/audits/etc.
    - Scope of VIS work
    - Need for a information-sharing system
    - Challenges with sharing data
    - Examples of other information-sharing systems
    - Open data standards
    - Safety management systems
    - Confidentiality/information security
    - Training and qualification for maintenance personnel
    - R&D
  - Committee Management:
    - Subcommittee formulation

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation

106

# Action Item Recap

# Closing Remarks

107

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation

# Questions or Comments?

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108

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation