

2016 Pipeline R&D Forum



November 16-17, 2016
Cleveland, Ohio



Welcome and Opening Remarks



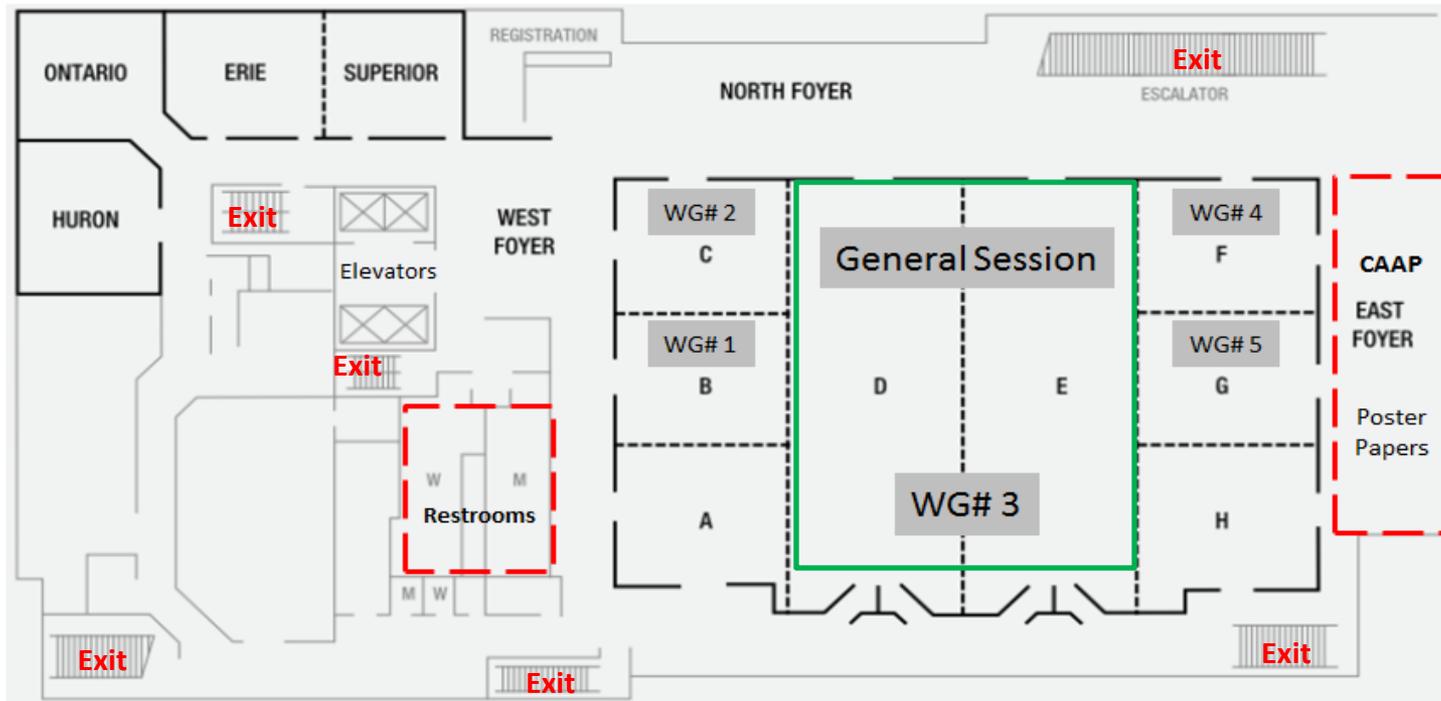
Dr. Christie Murray

Acting Deputy Associate Administrator for Policy and Programs
Office of Pipeline Safety



Housekeeping Items

- Emergency Exits
- Restrooms
- Please *silence* your mobile devices!



Purpose of the Forum

- Collaborate on research solutions to:
 - Improve pipeline safety and reliability
 - Reduce environmental impact
- Disseminate information on current research efforts
- Identify key pipeline technical challenges faced
- Inform a national research agenda that support's PHMSA's safety mission and strategic direction



PHMSA's Strategic Framework

« VISION »

PHMSA 2021
SAFETY - INNOVATION - TRUST
U.S. Department of Transportation



The **Most Innovative**
Transportation Safety
Organization **in the World**

« MISSION »

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's Strategic Goals



Promote continuous improvement in the safety performance of the regulated communities



Invest in safety innovation in the pipeline and hazardous materials transportation sectors



Build greater public and stakeholder trust



Cultivate organizational excellence and a safety culture for our people



Pursue operational excellence in our data, processes, & systems



Strategic Shift in Focus



Forward-looking



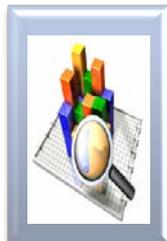
People and Capabilities



Innovation and Technology



Partnerships



Data-drive



Continuous Improvement



R&D Program Supports PHMSA 2021

Integrated Approach

Effective rulemaking and regulations

State-of-the-art science and technology

Private, public, and academic partnerships

Transparent information and communications

Planning and executing pipeline safety programs



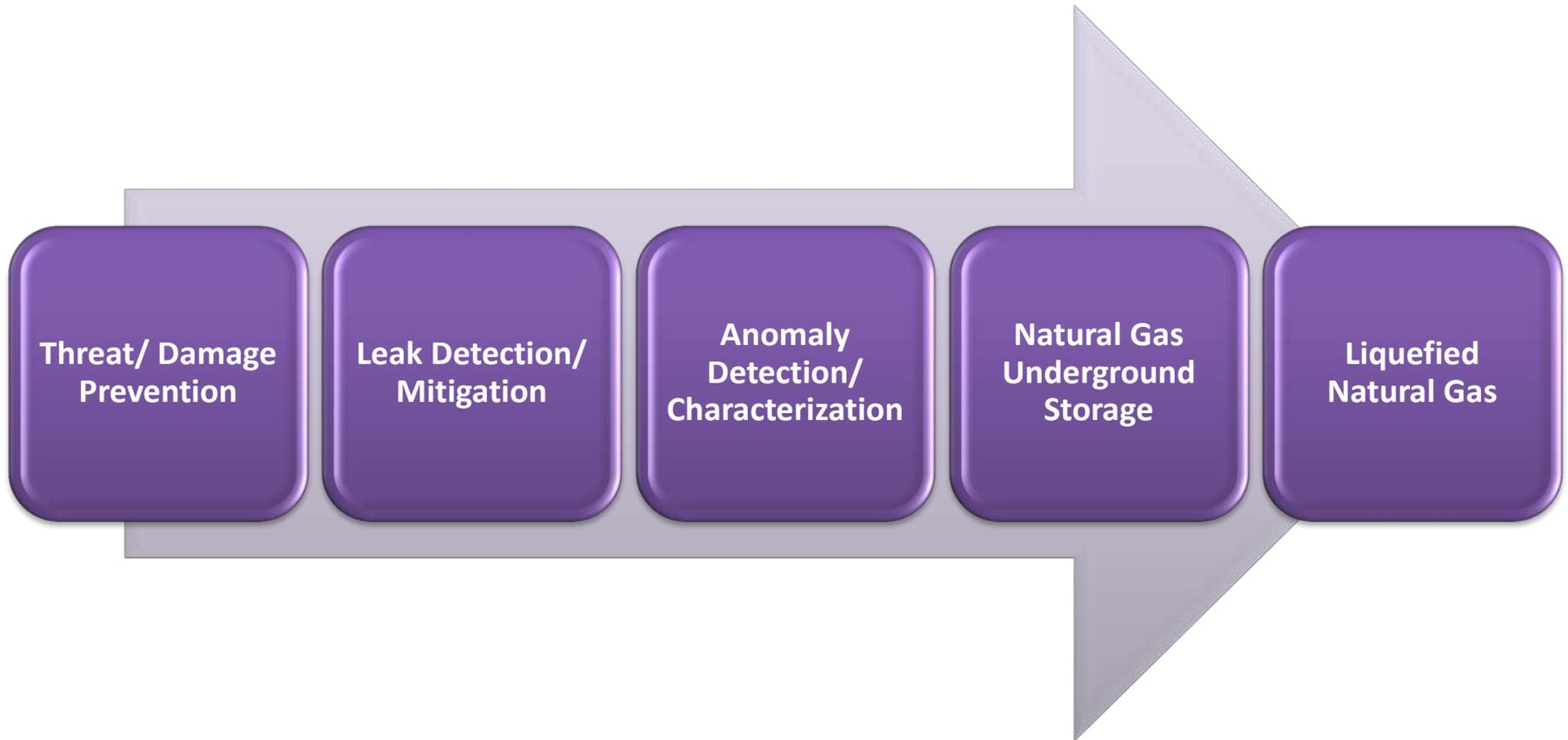
Research and Development Program

- Funded over 270 projects since 2002
 - \$109M from PHMSA
 - \$100M of resource sharing with stakeholders
- Reached the market 26 times with investments
 - Robotic inspection platforms, unpiggable NG transmission lines
 - Laser-based methane leak detection systems
- Developed new tools in damage prevention, leak detection, anomaly detection and characterization, & welding



Research and Development Forum

Collaborating on emerging technical challenges



Competitive Academic Agreement Program (CAAP)

- Launched in 2013 to:
 - Expose students to pipeline safety challenges
 - Spur innovation through academic research
 - Deliver solutions to hand off for further research investigation leading to commercialization
- PHMSA awarded 26 CAAP awards for \$4.4M (+ \$1.6M from universities)
- 138 students participated in the program
- 13 poster papers presented at this year's forum



The Way Ahead...

- Integrated and collaborative approach:
 - Congressional mandates
 - Safety recommendations
 - Market-driven
 - Critical pipeline challenges
 - National research agenda
- Identify technical gaps & new topics
- Align research efforts with risk management



Agenda Overview - Day 1

- **Panel:** National Perspectives on Key Technical Challenges
- **Working Group Overview & CAAP Overview**
- **CAAP:** Student Poster Paper Session
- **Lunch** (reference list)
- **Concurrent Working Groups (Phase I):**
 - #1 Threat/Damage Prevention (Salon B)
 - #2 Leak Detection/Mitigation (Salon C)
 - 3# Anomaly Detection/Characterization (Salon D&E)
 - 4# Natural Gas Underground Storage (Salon F)
 - 5# Liquefied Natural Gas (Salon G)
- **Adjournment**
- **Special Session:** Comprehensive Study to Understand Longitudinal ERW Seam Failures



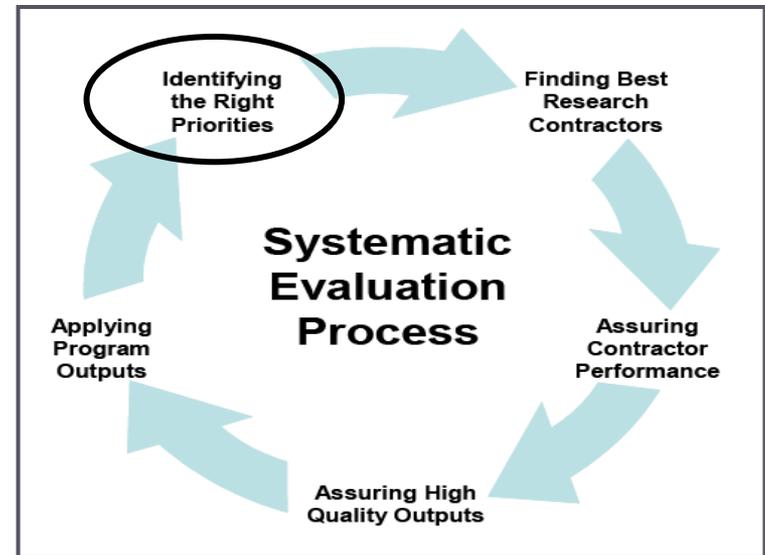
Agenda Overview – Day 2

- **Concurrent Working Groups Phase II**
 - #1 Threat/Damage Prevention (Salon B)
 - #2 Leak Detection/Mitigation (Salon C)
 - 3# Anomaly Detection/Characterization (Salon D&E)
 - 4# Natural Gas Underground Storage (Salon F)
 - 5# Liquefied Natural Gas (Salon G)
- **Lunch** – On your own
- **Break**
- **Working Group Report Outs**
- **Summary/Next Steps/Adjournment**



Your Role Here is Important!

- Your presence is valued and your input is welcomed!
- We need to identify the technical priorities for future research
- And...continue to build coalitions to:
 - Coordinate
 - Collaborate
 - Co-fund
 - Complimentary with no Duplication



Speak Up/Out!

- Q&A after panel presentations, if time permits
- Complete the Forum Survey
 - Handed out tomorrow
- Don't worry if you miss something – All presentations to be posted shortly after at:
<https://primis.phmsa.dot.gov/rd/workshops.htm>



Panel 1: National Perspectives on Key Technical Challenges

Moderator:

Joshua Arnold

Engineering and Research Programs DOT/PHMSA

