



Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety

Pipeline Safety Research & Development Program

Sentho White, Director, Engineering & Research Division

November 30, 2021



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

PHMSA: Your Safety is Our Mission



Working Group Overview

- Six Working Groups will run concurrently tomorrow, December 1, 2021
 - The Working Groups required pre-registration
- Six Working Groups will publicly report-out their findings on December 2, 2021. See agenda via:
 - <https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=153>
- The Working Groups will assist PHMSA in developing its research agenda for the coming years
- Working Groups are occurring virtually; contract support will aid in creating a collaborative space



Working Groups

1. Rehabilitation of Aging Cast Iron Pipelines
2. Integrity of Underground Natural Gas/Hydrogen Storage
3. Utilization of Inspection tools on Hydrogen Pipelines
4. Hydrogen Network Components
5. Methane Mitigation – Construction and Operations
6. Breakout Tanks – Methods to Prevent Corrosion of Tank Bottoms



Working Group 1 - Topic

Rehabilitation of Aging Cast Iron Pipelines

- Support of Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
- Cast iron pipelines are prone to leaks and are located in socially vulnerable communities or urban areas
- Explore R&D topics that would advance technological solutions to rehabilitate aging cast iron pipelines



Working Group 1 - Leadership

- **PHMSA Leader:** Chris McLaren, Program Manager
- **Industry Co-Leader:**
 - Saadat Khan, Director of Gas Distribution Asset & Engineering NYS, National Grid



Working Group 2 - Topic

Integrity of Underground Natural Gas/ Hydrogen Storage

- Support of Executive Order 14008, Tackling the Climate Crisis at Home and Abroad
- Seek solutions:
 - Advance the safe underground storage of hydrogen gas and/or hydrogen gas blended with natural gas (hydrogen/blends).
 - Reduce methane emissions from natural gas Underground Natural Gas Storage



Working Group 2 - Leadership

- **PHMSA Leader:** James Pfeifle, General Engineer/Program Manager
- **Industry Co-Leader:**
 - Anders Johnson, VP Gas Storage, Kinder Morgan
 - Gordon Loyd, Project Engineer, Combustion Turbine Group, Northern California Power
 - Hilary Petrizzo, Project Manager, Hydrogen Engineering Strategy, Southern California Gas



Working Group 3 - Topic

Utilization of Inspection Tools on Hydrogen Pipelines

- Inline Inspection (ILI) tools are critical to the integrity of pipeline facilities
- Advance knowledge as to the impact of and hydrogen/blends concentrations on ILI tools



Working Group 3 - Leadership

- **PHMSA Leader:** Christian Sellu, Pipeline Safety Inspector
- **Industry Co-Leader:**
 - Kirk Wissmar, Pipeline Integrity Engineer, BHE GT&S
 - Greg Van Boven, Senior Engineer, Innovation & Decision Optimization, TC Energy



Working Group 4 - Topic

Hydrogen Network Components

- The utilization of hydrogen gas and/or hydrogen gas blended with natural gas can limit potential environmental impacts from pipeline infrastructure
- Advance knowledge as to the impacts of hydrogen gas at various concentrations on the transmission and distribution pipeline network



Working Group 4 - Leadership

- **PHMSA Leader:** Vinnie Holohan, General Engineer
- **Industry Co-Leader:**
 - Mirela Hiti - Manager of Energy Transition Technologies, TC Energy
 - Tim Harris, Research and Development Senior Engineer, Southern Company
 - Kevin Woo, Hydrogen Strategy Team Lead, SoCalGas
 - Danielle Mark, Senior Gas Engineer, PG&E



Working Group 5 - Topic

Methane Mitigation – Construction and Operations

- Support of Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
- Support methane reduction mandates from the PIPES act of 2020
- Seeking solutions to reduce methane releases from PHMSA regulated infrastructure



Working Group 5 - Leadership

- **PHMSA Leader:** Steve Nanney, Senior Engineer
- **Industry Co-Leader:**
 - Zach Keith, Manager, Environmental Sciences, Williams
 - Adam Stickl, Materials Engineer, Washington Gas
 - Nick Medina, Public and Government Affairs Manager, ExxonMobil Pipeline Company



Working Group 6 - Topic

Breakout Tanks – Methods to Prevent Corrosion of Tank Bottoms

- Support of the Joint Explanatory Statement of the Consolidated Appropriations Act of 2021
- Seeking solutions to:
 - Supplementary or alternative techniques to cathodic protection systems and the application of such techniques to regulated aboveground storage tanks
 - New corrosion control techniques that may be used to improve leak prevention of aboveground storage tanks



Working Group 6 - Leadership

- **PHMSA Leader:** Zaid Obeidi, General Engineer
- **Industry Co-Leader:**
 - Chris Aldrich, Integrity Management Program Coordinator, Marathon Pipeline, LLC
 - Justin Samuel, Engineer, Integrity Tech Services, Phillips 66
 - John G. Field, Corrosion Engineer, Energy Transfer Partners



Thank You!

Research Program Contacts

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