

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



Ethanol Road Mapping Workshop

A Summary Presentation

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Hazmat Safety

Why a PHMSA Involvement?

- Energy Policy Act of 2005, President's 2006 State of the Union Address & Executive Order 13432 set forth strategy designed to displace use of gasoline produced from foreign oil by increasing use of renewable fuels such as ethanol and other biofuels ("20 in 10").
- PHMSA will have regulatory jurisdiction within Part 195 of its hazardous liquid pipeline regulations.
- PHMSA has research funding available to address potential threats with its stakeholder partners.
- Desire/need to remove any pipeline related barriers to an ethanol/bio-diesel economy
 - Significant investment and growth in ethanol will depend on pipelines for safe, reliable & cost-effective transportation solutions.
 - Other transportation modes (rail/barge/highway) nearing capacity with E10 economy and pose potentially more safety risks when moving higher volumes.



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What is PHMSA's Challenge with Biofuels?

- Identify and quantify any safety and reliability threats to liquid pipelines.
- Address emergency response issues unique to biofuels and ethanol.
- Remove or manage these threats through a risk-based, data driven integrity management approach.
- Address adequacy of operating procedures, set minimum standards and modify them as needed.
- Work with multiple industry and government stakeholders to address any safety, environment, and equipment impacts due to ethanol transportation.



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Policy Development & Setting Minimum Standards

- **Issued Ethanol Federal Register Notice – Aug. 10, 2007**
 - Biofuel pipelines regulatory jurisdiction - 49 CFR Part 195.
 - Outlined critical role of pipelines in biofuels transportation; requested technical papers and R&D proposals on implementation challenges; and described PHMSA's cooperative activities with emergency responders.
 - Part 195 applies to ethanol/biofuel pipelines.
 - Requested public feedback
 - *Comments received in response to the notice were generally supportive of PHMSA's overall approach.*



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Policy Development & Setting Minimum Standards

- **Participation on policy setting groups**
 - 20-in-10 Working Group
 - Biomass R&D Panel
- **Working with Emergency Responders**
 - Providing policy guidance & revise response plans
 - Setting minimum standards for response equipment/training



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Research & Development and Studies

- **Pipeline R&D Forum in Feb. 2007**
 - Subject matter experts identify some ethanol challenges
- **R&D Solicitation in July 2007, Awards in January, 2008**
 - Ethanol effects on new and existing pipelines
 - Seven proposals now requested
 - Solutions in 1-3 years
- **Pipeline Industry JIP on Ethanol Blends**
 - Identifies QA/QC impacts & investigates pipe retrofiting options
 - Solutions in 9-12 months
- **Foam & Retardant Research for Ethanol**
 - Response equipment performance with blends and pure ethanol



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Stakeholder Coordination, Communication & Outreach

- **The Pipeline Industry**
 - American Petroleum Institute; Association of Oil Pipe Lines; American Society of Mechanical Engineers and Pipeline Research Council International
- **With Emergency Response Organizations**
 - U.S. Fire Service; National Association of State Fire Marshals; International Association of Fire Chiefs; Independent Liquid Terminal Association; and the Ethanol Emergency Response Committee
- **Federal Agencies & Others**
 - DOE, USDA, USFA & EPA
 - Hydrogen Executive Leadership Panel (HELP)

Ethanol Pipeline Research: Basic Steps & Phases



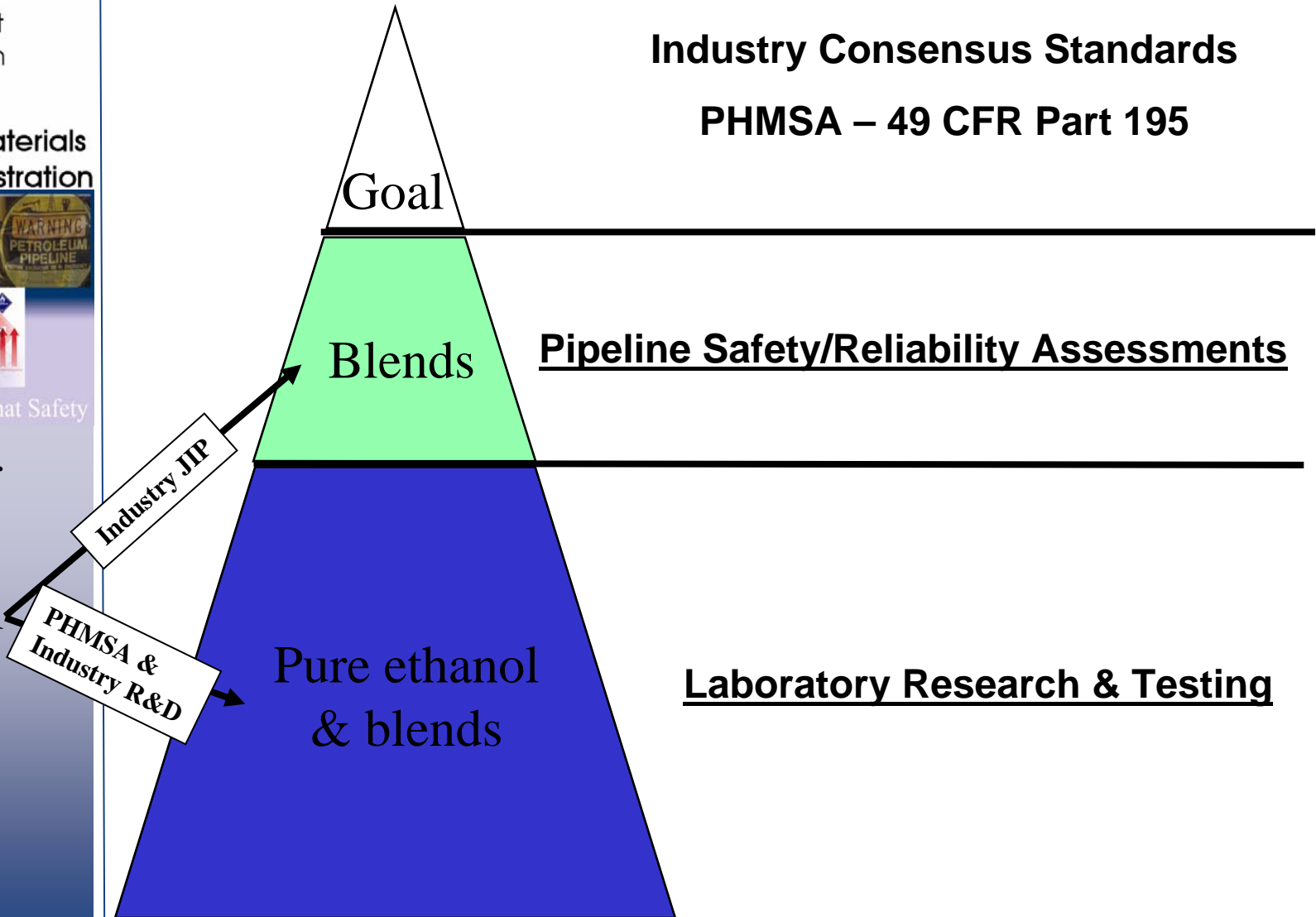
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Status of
current
technical
issues...





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Ethanol Pipelines:

What are Future Actions for PHMSA?

- Develop any required technology improvements to address threats
- Work with Standard Developing Organizations to push new knowledge into consensus standards
- Work with Emergency Response Community :
 - Revise emergency response plans & measures
 - *Assess ethanol blend physical properties (flammability/toxicity)*
 - Investigate response equipment effectiveness with ethanol/ethanol blends
 - *Absorption booms and foam retardants*