U. S. Department of Transportation

Pipeline and Hazardous Materials Safety Administration

Defect Remediation/Repair/Mitigation Research

Government/Industry Pipeline R&D Forum

www.phmsa.dot.gov

R&D Program Elements and Goals

	Program Elements	Program Element Goals
1.	Damage Prevention	Reducing the number of incidents and accidents resulting from excavation damage and outside force
2.	Pipeline Assessment and Leak Detection	Identifying and locating critical pipeline defects using inline inspection, direct assessment and leak detection
3.	Defect Characterization and Mitigation	Improving the capability to characterize the severity of defects in pipeline systems and to mitigate them before they lead to incidents or accidents
4.	Improved Design, Construction, and Materials	Improving the integrity of pipeline facilities through enhanced materials, and techniques for design and construction
5.	Systems for Pipeline Mapping and Information Management	Enhancing the ability to prevent and respond to incidents and accidents through management of information related to pipeline location (mapping) and threats definition
6.	Enhanced Operation Controls and Human Factors Management	Improving the safety of pipeline operations through enhanced controls and human factors management
7.	Risk Management & Communications	Reducing the probability of incidents and accidents, and mitigating the consequences of hazards to pipelines
8.	Safety Issues for Emerging Technologies	Identifying and assessing emerging pipeline system technologies for opportunities to enhancing their safety

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#	Type	Location	Project ID	Contractor	Project Title	PHMSA	Co-Share	% Complete
1.	HazLiq GasTrans Dist-Steel	Onshore	DTPH56-05-T-0006	CC Technologies, Inc.	"Pipeline Assessment and Repair Manual"	$76,000	$75,000	100
2.	HazLiq GasTrans Dist-Steel	Onshore	DTRS56-03-T-0002	CC Technologies, Inc.	"Assessment & Validation of TFI-Identified Anomalies Criteria for Repair and Available Repair Methods"	$70,000	$70,000	100
3.	HazLiq GasTrans Dist-Steel	Onshore	DTRS56-03-T-0011	BMT Fleet Technology Limited	"Validation of Sleeve Weld Integrity and Workmanship Limit Development"	$45,000	$93,550	100
4.	HazLiq GasTrans Dist-Steel	Onshore	DTRS56-05-T-0003	Battelle Memorial Institute	"Model Modules to Assist Assessing and Controlling Stress Corrosion Cracking (SCC)"	$365,887	$700,000	100
5.	HazLiq GasTrans	Offshore	DTRS56-02-X-0024	Stress Engineering Services	"DW RUPE: Deepwater GOM Pipeline Damage Characteristics & Repair Options"	$10,000	$150,000	100
6.	HazLiq GasTrans Dist-Steel	Onshore	DTRS56-03-T-0012	Edison Welding Institute, Inc.	“Improved Inspection and Assessment Methods for Pipeline Girth Welds and Repair Welds”	$356,674	$460,000	100
7.	GasTrans	Onshore Alaska	DTRS56-04-X-0025	National Institute of Standards and Technology (NIST)	"Task Order #2: Fatigue Fracture and Crack Arrest in High-Strength Pipeline Steels"	$500,000	$0	100
8.	GasTrans	Onshore Alaska	DTRS56-03-T-0007	Engineering Mechanics Corporation of Columbus	"First Major Improvements to the Two-curve Fracture Arrest Model"	$615,028	$4,263,976	97
9.	HazLiq GasTrans	Onshore Alaska	DTRS56-03-T-0009	Edison Welding Institute, Inc.	"Advanced Welding Repair and Remediation Methods for In-service Pipelines"	$409,673	$450,000	91
10.	HazLiq GasTrans Dist-Steel	Onshore	DTRS56-03-T-0010	BMT Fleet Technology Limited	"Alternate Welding Processes for In-service Welding"	$181,000	$422,300	90
11.	HazLiq GasTrans Dist-Steel	Onshore Offshore	DTPH56-06-T-000018	CC Technologies, Inc.	"Dissecting Coating Disbondments"	$199,417	$300,000	34
					Total:	**$2,828,679**	**$6,984,826**	

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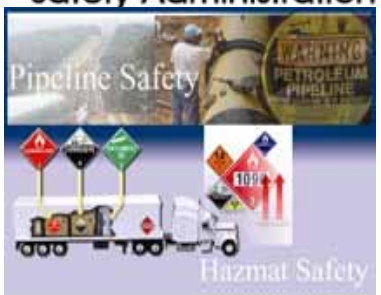

Project Outcomes

- **Goal: Improve the standard practice, make overall process improvements and increase the general knowledge for pipeline defect detection, repair and mitigation.**
  - **Improved repair procedures and practices**
  - **Improved welding procedures for pipeline repairs**
  - **Mitigation of SCC colonies, other defects/threats**

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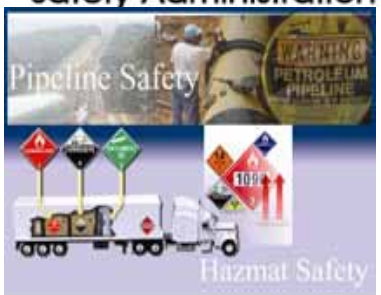

Impact on Standards

1. **Identify affected consensus standards**
2. **Contact Standard Developing Organization**
3. **Determine if research was used to revise standard**
4. **Update R&D website**

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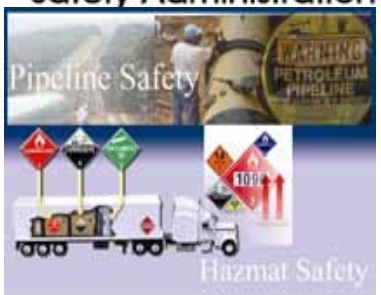

Working Group Discussion

Identify gaps and challenges in the R&D program that need to be focused on for topics that are currently being researched as well as topics that need to be researched.

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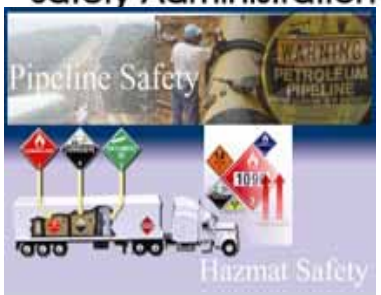

PHMSA R&D Contact Information

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