

Pipeline R&D Forum

Gas Transmission Operator's Viewpoint

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Consideration of Types of R&D

- Research Horizon
 - Near vs. Long Term
- Research Focus
 - Existing vs. New pipelines
- Current transmission mileage
 - ~300,000 mi gas
 - ~160,000 mi hazardous liquid
- Projected construction << existing

Address Threats

Time Dependent	Time Indep. Or Random	Resident or Stable
External Corrosion	Third Party Damage	Manufacturing Defects
Internal Corrosion	Incorrect Operations	Construction Defects
Stress Corrosion Cracking	Weather and Outside Force	Equipment Failure

Knowledge needed to:

- Prevent
- Detect
- Characterize
- Assess impact
- Determine timely and appropriate remediation

Knowledge Systems

- Develop knowledge for above
- Determine gaps in knowledge
- Determine needs in technology / devices
- From knowledge, develop processes & protocols
- Embody in recognized standards for implementation

Solve Current Problems First

- Safety & Integrity Management
 - Remediation resource allocation & timing
 - Technically justified actions
 - Reduced impacts of outages
- Standard and Regulation Development
 - Adequate technical data
 - Transparent development process