Government/Industry Pipeline Research & Development Forum

March 22 - 24, 2005
Houston, Texas

Jerry Engelhardt
Kinder Morgan Energy Partners
Orange, California
714-560-4870

Overview: Liquid Petroleum Pipeline Environmental Risk Assessment Issues

- Liquid Pipeline Systems Environmental Issues Center More Around Soil and Water Issues While Gas Pipeline Issues May Center More Around Air Issues
- Liquid Pipeline Releases Often Involve Soil and/or Water Remediation Projects
- Studies On Remediation Technology May Be Handled by Other Groups Related to Environmental Issues
  - API: Robin Rorick rorickr@api.org 202-682-8083

Examples of Liquid Pipeline Environmental R&D Projects

- Osage-Skiatook Petroleum Environmental Research Project (USGS)
  - Water contaminated with hydrocarbon, primarily from E&P production water
- Field Study of LNAPL (Light Non-Aqueous Phase Liquid) and Dissolved-Phase Plume Genesis (API)
  - Study of crude oil release in Texas

Examples of Environmental Projects Of Interest To Both Liquids & Gas Pipelines

- Disposal of Contaminated Hydrostatic Test Water
- Removal of Older Pipe Coatings Containing Asbestos
- Pipeline Integrity Inspections:
  - Gas: Direct Assessment
  - Liquids: Internal Inspection Tools

Environmental Damage Related to Pipeline Maintenance Digs

- Integrity Management Programs and Risk Management Require Pipeline Inspection by Pigging or Direct Assessment
- After Running Internal Inspection Devices In Liquid Lines It Is Necessary to Make Field Inspections in Specified Time Frames (DOT Liquid Pipeline Regulations)
  - Immediate; 60-Day; 180-Day
- Environmental Permitting Challenges
  - Permitting Can Take More Than 1 Year

Permit Streamlining Progress to Date

- PSIA 2002: Requires Federal Agencies To Work Together To Streamline Maintenance Permitting Process
- In Process For Over 2 Years
- White House Task Force Coordinating Project With DOT
  - Industry Input (API, INGAA)
- Identified Areas for Pilot Project(s)
- Drafting Best Management Practices (BMP)

Pipeline Maintenance Repair Area

- PL Maintenance Area Relatively Small
- PL Repair Generally Within Original Right-of-Way Area

Maintenance Permitting Goals

- Establish Size Of Working Area (Footprint)
- Identify Threatened & Endangered Species in Proposed Work Area (Operator/Consultant)
- BMP’s Established For Known T & E Species
- Streamline Permitting For Federal Agencies First, Followed By State and Local Agencies

Other Pipeline R & D Projects

- Technology Development for Internal Inspection Tools for Crack Detection on Small Diameter Pipelines (less than 12”)
- Technology Development or Improvement for “In the Ditch” Evaluation of Crack Depth

Definitions

- LNAPL : Light Non-Aqueous Phase Liquid: are liquids that are sparingly soluble in water and less dense than water. For example, oil is an LNAPL because it floats on top of water and does not mix with water. At LNAPL contamination sites LNAPL can form a pool of LNAPL in the subsurface on top of the water table.