

**Pipeline R&D Planning Workshop**  
**Washington, DC**  
**11/27/01**

**Executive Summary**

The United States is critically dependent on natural gas and petroleum liquids transported through pipelines. The infrastructure that currently transports these energy resources is ageing, with a significant fraction being more than fifty years old. While new pipelines are being planned and constructed, pipeline operators typically plan on continued operation of the vast majority of existing pipeline mileage. Assuring the long-term integrity and security of these existing pipelines is essential.

Recognizing these facts, the Office of Pipeline Safety (OPS) designed a continuing process to emphasize the importance of continuing R&D. The OPS began by broadening the R&D planning process to include key resources with technical knowledge of pipelines, standards, and problem areas. States, industry, and other Federal agencies significantly supported and agreed with the OPS R&D Blueprint planning process.

The OPS R&D Blueprint planning process focused on the following objectives:

- Facilitate better R&D planning by the organizations that fund pipeline-related R&D,
- Increase the assurance that major industry, regulatory and public concerns are being addressed by ongoing or planned R&D,
- Assemble diverse stakeholder input on R&D needs and priorities,
- Assemble and communicate R&D plans among funding organizations,
- Promote more effective technology transfer.

On November 21, 2001, an industry/OPS planning workshop accomplished the following tasks:

- Share perspectives on key pipeline safety, security and reliability issues,
- Assemble perspectives on the R&D gaps and priorities to address these issues,
- Begin the documentation of current and recently completed R&D designed to resolve these issues, and
- Suggest objectives of and approaches to continuing the R&D communication process.

The starting point for the workshop was a matrix, developed by representative pipeline research organizations, that preliminarily represented current and recently completed R&D activities.

Among the R&D gaps identified by workshop participants were the need to:

- Address R&D activities that require a planning horizon of greater than two or three years,
- Provide greater emphasis on integrity management tools and practices for distribution companies,
- Provide practical options for improved leak detection and mitigation over a wide range of leak rates,
- Continue development of techniques, particularly direct assessment, for evaluating the integrity of pipelines that cannot be inspected using current in-line inspection technologies, and

- Develop improved techniques for real-time monitoring of parameters influencing pipeline integrity.

Workshop participants considered the following areas some of the most important R&D areas for future funding:

- Improved in-line inspection techniques,
- Real-time detection of incipient third-party damage,
- Improved methods for integrating data on risk factors to support integrity management, and
- Improved means to characterize external corrosion.