ADVANCED PIPELINE RISK MANAGEMENT

Introduction:

Risk management has been embraced by both the pipeline industry and regulatory agencies as a way to not only increase public safety but also to optimize all aspects of pipeline design, operations, and maintenance. This advanced workshop is designed to equip attendees with the information and the know-how to set up and implement a comprehensive risk management program for pipelines. It will go into considerable depth in explaining the latest quantitative and qualitative methods for risk profiling and assessments. The focus will be on the establishment of a program that not only fulfills regulatory requirements, but also gives the pipeline owner/operator a long-term decision support tool. This course begins with a review of risk management concepts and methodologies and then focuses on the most popular risk technique in current use by the pipeline industry. The emphasis throughout is on practical, ready-to-apply techniques that yield immediate and cost-effective benefits. This workshop is structured so that it is appropriate for either the practicing or the beginning risk manager. Each will leave with the necessary tools to begin or strengthen risk assessment techniques leading to a formalized risk management program. As much as is possible, course content will be directed to specific audience needs.

Target Audience:

Anyone requiring a detailed knowledge of pipeline risk concepts and how they can be practically integrated into pipeline operations, maintenance, design, or regulation.

Course contents include:

- Basic Concepts of Risk
- Risk Assessment Processes
- Failure Modes
- Consequence Analysis
- Hazard Zone Calculations
- Leak Impact Factor
- Supplemental Assessments
- Data Collection and Analysis
- QA/QC of Data
- Dynamic Segmentation
- Using Common Spreadsheet and Desktop Database Tools
- Managing the Risks
- Resource Allocation Modeling
- Practical Applications
- Integrity Management and Risk Management

Course Outline:

Introduction Methodology Quickview

- Objectives of Risk Management
- Gathering and Effectively Utilizing Information
- Using Model Results in Decision-Making

Definitions Risk Assessment

- Concepts
- Tools
- Methodology choices
- Choosing the optimum approach
- Data collection issues
- A proposed methodology— the basic algorithm with assumptions
- Customizing the methodology for specific applications
- Sensitivity analyses
- Databases and software issues
- Tips and Learning Experiences in Practicing Risk Assessment

Risk Management

- Data Analysis
- Data-based Decision Making
- Project Prioritization Based on Risk Assessments
- Building a Resource Allocation Model
- Correlating relative risk scales with absolute risk

Administrative Processes— Ingredients for Continued Success

- Administrative support structures
- Data maintenance
- Reporting
- Procedures
- Training
- Performance Measurements