

Training Title

PIPELINE & PIPING INSPECTION, MAINTENANCE, REPAIRING & INTEGRITY ASSESSMENT

Training Duration

5 days

Training Dates & Venue

REF	Pipeline & Piping Inspection, Maintenance,				
ME071	Repairing & Integrity Assessment	5	20-24 Jan. 2025	\$5,500	Dubai, UAE

Training will be held at any of the 5-star hotels. The exact venue will be informed once confirmed.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Buffet Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

INTRODUCTION & DESCRIPTION

The pipeline networks expanded rapidly all over the world when it became apparent that pipelines are an efficient, economic way to move oil, gas, and petroleum products to consumers. More challenges face the pipeline industry. So, good understanding of pipeline design, maintenance and rehabilitation will help tackling these challenges.

Although pipelines are protected by many methods such as coating and cathodic protection, pipe failures are likely to take place. Various methods are used to repair defected pipelines such as pipe clamps, clock spring or pipe replacement.

This course deals with the design, maintenance and rehabilitation of pipeline systems. An overview of the pipeline industry is discussed. Participants will have acquired and/or consolidate the essential knowledge and skills to design, maintain and repair pipelines.

TRAINING OBJECTIVES:

- The course covers construction and welding practices, weld inspections, weld flaws and acceptance criteria.
- The course covers hydro testing methods and alternative leak detection techniques.
- The participant will gain a practical understanding of piping and pipeline corrosion mechanisms, how to recognize them, classify them and resolve them.

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- The participant will be introduced to the latest techniques and research in piping and pipeline integrity to analyze a degraded condition due to either corrosion or mechanical damage.
- The participants will review case histories of field failures and will evaluate their cause and solutions to avoid recurrence.

WHO SHOULD ATTEND?

Managers, engineers, operators, supervisors, inspectors, equipment suppliers, or those who wish to be familiar with pipeline systems.

TRAINING METHODOLOGY:

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of the multiple-choice type will be made available on a daily basis to examine the effectiveness of delivering the course.

All presentations are made in an excellent way. Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

COURSE OUTLINES

- Transportation by Pipeline
- * Pipeline System Components
- * Types of Pipelines
- * Piping Overview (pipes – valves – fittings)
- * Pipeline material
- * Prime movers in Pipeline Systems
- * Pipeline Safety.
- * Pipeline Glossary.
- ▪ Pipeline Design
- * Design Sequence of P/L network.
- -- Evaluation of fluid availability
- -- Estimate of fluid demands.
- -- The Basic design of P/L network.
- -- The Economics of the P/L system.
- * Fluid properties affecting flow.

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- * Design of Gas Pipelines
 - -- Calculation of compressibility factor.
 - -- Properties of gas mixtures.
 - -- Pressure drops in gas pipeline due to friction.
 - -- Gas pipeline flow equations.
 - -- Friction factor and transmission factor.
 - -- Gas Pipeline velocity and erosional velocity calculation.
 - -- Increasing gas throughput by looping and booster compressor.
 - -- Calculation of pipe maximum allowable operating pressure.
 - -- Fundamental Calculations of gas compressor stations.
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- * Design of Liquid Pipelines
 - -- Calculation of Liquid Flow Parameters
(Line capacity – Pressure drops – Pipe Diameter – Max. Velocity)
 - -- Designing Loop Systems. -- Heavy Crude Transport.
- -- Water Hammer Phenomenon. -- Pumps in Liquid Pipeline Systems.
- ■ Pipeline Maintenance
- * Pipeline Patrolling.
- * Corrosion-resistant Material.
- * Pipeline Coating.
- * Pipeline Corrosion Inhibitor.
- * Pipeline Cathodic Protection.
- * Pipeline Pigging.
- * Smart Pig.
- ■ Pipeline Rehabilitation
 - * Pipe sleeve/clamp.
 - * Pipe clock spring.
 - * Pipe Replacement.
 - Case studies.

NOTE:

Pre & Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

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