Training Title

PIPELINES: DESIGN, INSPECTION & TESTING

Training Duration

5 days

Training Venue and Dates

REF ME047	Pipeline: Design Inspection & Testing	5	04-08 March, 2024	$6,500	London, UK

In any of the 5 star hotels. The exact venue will be informed once finalized.

Training Fees

- **$6,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Buffet Lunch**

TRAINING DESCRIPTION

The course will review the basic requirements of the ASME B31 Code for Pressure Piping. Topics include: design conditions, pipe sizing, pressure design, flexibility analysis, material, fabrication, examination, testing, and mechanical integrity for existing piping systems, as provided in API 570 Piping Inspection Code.

TRAINING OBJECTIVES:

- **To provide the participant with a complete and up-to-date overview of the area of Piping Technology**
- **The participant will learn the design, fabrication, examination and testing requirements of ASME B31**
- **Familiarizing the participant with the related standards for inspection and repair of piping systems that have been in service, as provided in API 570, Piping Inspection Code**
- **The participant will gain a deep understanding of the physical phenomena which affect the operation, durability of piping systems**
- **Participant will learn to calculate the pipe schedule, and pipe size that serve certain application**
- **Participant will learn different methods of pipe inspection and testing based on related Codes and Standards**
- **Participant will be exposed to different method of checking pipe flexibility**

WHO SHOULD ATTEND

Engineers and Technicians of mechanical, and chemical engineering background will benefit largely from this workshop. Maintenance, Operation, inspection, and R and D People should also attend this course.

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 motivate everybody find the right answers. You will also be

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

All presentations are made in excellent colorful power point. Very useful Course Materials will be given.

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

COURSE OUTLINE: -

The Following Topics will be covered in this course over five days

Basics of Piping
Pipe Dimensions and Schedule number
Pipe Manufacturing Methods
Welded and Seamless Pipes
Pipe Drawing Symbols
Types of pipes – application wise
Standard pipe
Pressure pipe
Line pipe

Piping Materials
Chemical properties
Mechanical properties
Physical properties
Property stability
Classification of steel
Steel heat treating practices.
Aging of properties

Piping Codes and Standards
ASME Boiler and Pressure Vessel Code
ASME B31: Code for pressure piping
API Specifications (Spec), Recommended Practices (RP), and Standards (Std.)
Spec. 5L-90: Specification for Line Pipe
American Welding Society - AWS Welding Handbook

Pipeline Design
1. Design Parameters
Maximum Operating Pressure
Flow Rate of Oil or Gas
Delivery Pressure
Pressure Drop

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

Pumping Power
2. Failure Theories
3. Design Criteria
Maximum Allowable Stress
Maximum Allowable Pressure
Construction Factor
4. Steel Selection
5. Pipe Sizing
Pipe Diameter
6. Pipe thickness calculation
Pipe Schedule

Pump and Compressor Stations
Originating and booster Stations
Pump Selection
Parallel and Series Operation

Pipeline Installation
Off-shore and on-shore installations

Welding Techniques
Welding Processes
Welding Procedures
Weld Passes

Inspection and Testing
Visual Inspection
Non-Destructive Testing
Class designation
Hydrostatic testing

Pigging for Cleaning and Monitoring
Types of Pigs
Monitoring Internal Corrosion
Pipe Repair

Buried pipelines
Corrosion and Cathodic Protection
Pipe Coating

Stress Analysis
Flexibility Analysis Methods
Flexibility Analysis Demonstration
Equipment Load Limits
Cold Spring
Elastic Follow-up

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

Fluid Service Requirements

NOTE:
Pre & Post Tests will be conducted
Case Studies, Group Exercises, Group Discussions, Last Day Review &Assessments will be carried out.

…….

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com