

TRAINING TITLE

PRESSURE TESTING PROCEDURES: BEST PRACTICES AND SAFETY GUIDELINES

Training Duration

5 day

Training Venue and Dates

Ref. NO. HS091	Pressure Testing Procedures: Best Practices and Safety Guidelines	5	11-15 Aug. 2025	\$5,500	DUBAI, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

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

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

This specialized 5-day course is designed for professionals in the oil and gas industry to develop a thorough understanding of pressure testing processes, safety protocols, and best practices to ensure the integrity of equipment, pipelines, and systems. Pressure testing is a critical activity for verifying the strength and safety of components, and it is essential to conduct these tests according to industry standards to prevent costly failures, accidents, and downtime.

TRAINING OBJECTIVES

By the end of the course, participants will be able to understand

- **Pressure Testing Procedures:** Understand the different types of pressure testing, including hydrostatic and pneumatic tests, and when to use each method in the oil and gas sector.
- **Safety Guidelines:** Learn critical safety practices to protect personnel, equipment, and the environment during pressure testing operations, particularly in high-risk environments.
- **Industry Standards and Compliance:** Become familiar with industry regulations and standards (e.g., API, ASME, OSHA) and how to implement them effectively in your testing processes.
- **Leak Detection and Troubleshooting:** Master the techniques for detecting leaks, troubleshooting common testing issues, and taking corrective actions when tests fail.

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- **Emerging Technologies:** Explore the latest technological advancements in pressure testing that enhance accuracy, efficiency, and safety in operations.

WHO SHOULD ATTEND?

This course is tailored for engineers, technicians, safety officers, project managers, and compliance professionals who are responsible for conducting or overseeing pressure testing operations in the oil and gas industry. It is especially valuable for those working with pipelines, equipment, and systems subject to high pressures, where accurate testing and safety are paramount.

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 multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

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

COURSE PROGRAM:

Day 1: Introduction to Pressure Testing in the Oil and Gas Industry

Understanding Pressure Testing in Oil and Gas

- Definition and purpose of pressure testing in the oil and gas industry
- Importance of pressure testing for safety, integrity, and regulatory compliance
- Types of pressure testing: Hydrostatic, Pneumatic, and Leak testing

Regulatory and Industry Standards

- Overview of relevant regulations and industry standards (e.g., API, ASME, OSHA)
- Understanding the codes and best practices for pressure testing
- International and local guidelines for pressure testing procedures

Pressure Testing Equipment and Tools

- Key equipment used in pressure testing (pumps, gauges, valves, test vessels)
- Maintenance and calibration of pressure testing equipment
- Safety considerations when using pressure testing tools

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Day 2: Hydrostatic Pressure Testing – Procedures and Best Practices

Fundamentals of Hydrostatic Pressure Testing

- Purpose and process of hydrostatic pressure testing
- Fluid selection (water, brine, glycol) and testing conditions
- Calculating the test pressure and duration

Step-by-Step Hydrostatic Testing Procedure

- Preparation before testing (system cleaning, venting, and isolating)
- Conducting the test (gradual pressurization, monitoring gauges)
- Post-test procedures (draining, inspecting, and documentation)

Troubleshooting and Common Issues

- Identifying and addressing leaks, equipment failure, or pressure drops
- Reporting and corrective action for test failures
- Preventative measures to avoid common issues

Day 3: Pneumatic Pressure Testing – Safety and Best Practices

Overview of Pneumatic Pressure Testing

- Why pneumatic pressure testing is used in oil and gas operations
- Key differences between hydrostatic and pneumatic testing
- Applications of pneumatic testing in pipelines and equipment

Safety Hazards and Precautions

- Understanding the risks of pneumatic testing (high-energy release, explosive potential)
- Safety measures to prevent accidents (over-pressurization, rupture)
- Personal protective equipment (PPE) for pneumatic testing

Pneumatic Pressure Testing Procedure

- Detailed steps of performing pneumatic pressure testing
- Monitoring, pressure relief systems, and safe depressurization
- Post-test inspection and documentation requirements

Day 4: Leak Testing, Documentation, and Reporting

Introduction to Leak Testing

- Importance of leak detection in oil and gas systems
- Types of leak testing (air, nitrogen, helium, tracer gas testing)
- Leak detection methods and equipment (ultrasonic sensors, pressure drop testing)

Documentation and Reporting Requirements

- Best practices for recording test results and creating reports
- Understanding pressure test certificates and compliance documentation
- Reporting non-conformance and corrective actions

Case Studies and Real-World Applications

- Review of real-life case studies: successes and failures in pressure testing

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- Lessons learned and how to apply best practices in different scenarios
- Group discussion on specific industry challenges and solutions

Day 5: Safety, Risk Management, and Emerging Technologies

Safety Guidelines and Risk Management in Pressure Testing

- Managing risks and ensuring safety during pressure testing operations
- Emergency response and evacuation protocols
- Safety drills and preparedness for pressure testing emergencies

Innovations in Pressure Testing Technologies

- Emerging technologies in pressure testing (automated systems, digital monitoring)
- Benefits of real-time data and remote pressure testing
- Future trends and innovations in pressure testing and safety

Interactive Workshop and Group Discussion

- Practical hands-on session: simulate a pressure test from start to finish
- Group discussion on improving pressure testing procedures in participants' own organizations
- Q&A, feedback, and course wrap-up

NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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