

TRAINING TITLE

CHEMICAL HANDLING AND INJECTION SYSTEM STARTUP, SHUTDOWN, NORMAL OPERATIONS AND TROUBLESHOOTING

Training Duration

5 day

Training Venue and Dates

Ref. No. PE029	Chemical Handling and Injection System Startup, Shutdown, Normal Operations and Troubleshooting	5	08-12 Sep. 2025	\$5,500	ABU DHABI, UAE
---------------------------	--	----------	------------------------	----------------	-----------------------

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

Chemical handling and injection systems are essential components of oil and gas operations, ensuring efficient production, protecting assets, and maintaining flow assurance. This 5-day course provides an in-depth understanding of the processes and best practices for the startup, shutdown, normal operations, and troubleshooting of chemical handling and injection systems. It emphasizes safety, operational efficiency, and the skills required to identify and resolve system challenges effectively.

www.definetraining.com

TRAINING OBJECTIVES

Upon the successful completion of this course, participants will be able to:-

By the end of this course, participants will be able to:

1. Understand the fundamentals of chemical handling and injection systems.
2. Safely perform system startup, shutdown, and normal operations.
3. Monitor, adjust, and optimize chemical injection parameters for varying conditions.
4. Identify and troubleshoot common operational issues and system failures.
5. Apply industry best practices for safety, efficiency, and environmental compliance.

DMCT/OL/9/18(Rev3Dt:23/9/18)

WHO SHOULD ATTEND?

This course is ideal for professionals involved in the operation, maintenance, and management of chemical handling and injection systems, including:

- **Operators and Technicians**
- **Process Engineers**
- **Maintenance Personnel**
- **Production Supervisors**
- **HSE (Health, Safety, and Environmental) Professionals**
- **Field Engineers**
- **Trainees and New Entrants** in oil and gas operations

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:

www.definettraining.com

Day 1: Introduction to Chemical Handling and Injection Systems

- Overview of chemical handling and injection systems in oil and gas operations.
- Importance of chemical injection for asset integrity, flow assurance, and operational efficiency.
- Types of chemicals used: corrosion inhibitors, scale inhibitors, demulsifiers, biocides, and others.
- Overview of chemical injection system components: pumps, tanks, pipelines, valves, and controllers.

DMCT/OL/9/18(Rev3Dt:23/9/18)

- Key safety considerations in chemical handling: hazard identification, PPE, and safe practices.
- Introduction to system operational phases: startup, shutdown, and normal operations.

Day 2: Startup Procedures for Chemical Injection Systems

- Pre-startup inspections and readiness checks for equipment and chemicals.
- Setting up injection systems: calibration, filling, and initial parameter adjustments.
- Step-by-step guide to safely starting chemical injection systems.
- Monitoring parameters during startup: flow rates, pressure, and chemical concentrations.
- Common startup challenges and their solutions: airlocks, leaks, and pump issues.
- Simulating a startup procedure for a chemical injection system.

Day 3: Normal Operations and Performance Monitoring

- Key performance indicators (KPIs) for effective chemical injection: flow rates, dosing accuracy, and system reliability.
- Best practices for maintaining steady-state operations and achieving optimal chemical usage.
- Monitoring and controlling injection parameters for different operating conditions.
- Chemical compatibility and adjustments for varying production needs.
- Troubleshooting operational issues: blocked lines, pump malfunctions, and inconsistent dosing.
- Analyzing operational data and identifying areas for optimization.

Day 4: Shutdown Procedures and Maintenance

- Types of shutdowns: planned, unplanned, and emergency shutdowns.
- Safe and systematic shutdown procedures: depressurization, draining, and flushing systems.
- Cleaning and storing equipment to prevent corrosion or contamination during downtime.
- Routine maintenance of injection systems: pump servicing, pipeline inspections, and chemical storage checks.
- Addressing common maintenance issues: corrosion, wear and tear, and clogging.
- Developing a shutdown and maintenance plan for a case scenario.

DMCT/OL/9/18(Rev3Dt:23/9/18)

Day 5: Troubleshooting and Advanced Topics

- Systematic troubleshooting approach for startup, shutdown, and normal operations.
- Common challenges in chemical injection systems: underdosing, overdosing, and leaks.
- Advanced troubleshooting techniques: root cause analysis and predictive maintenance tools.
- Emerging trends in chemical handling and injection systems: automation and smart technologies.
- Environmental considerations: reducing chemical waste and eco-friendly alternatives.
- Troubleshooting and presenting solutions for a simulated system failure.
- Course review, Q&A, and certification distribution.

NOTE:

Pre-& Post Tests will be conducted.

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



www.definettraining.com

DMCT/OL/9/18(Rev3Dt:23/9/18)

P.O BOX 45304
ABU DHABI, U.A.E

T +971 2 6264455
F +971 2 6275344

www.definettraining.com