

TRAINING TITLE

PRODUCT STORAGE, LOADING AND TRANSPORT SYSTEMS DESIGN

Training Duration

5 day

Training Venue and Dates

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| Ref. No. SL075 | Product Storage, Loading and Transport systems Design | 5 | 22-26 Sep 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

The efficient storage, loading, and transportation of hydrocarbon products are critical to the smooth functioning of the oil and gas value chain. From crude oil terminals to LNG export facilities and refined product distribution hubs, the design of these systems must ensure operational safety, environmental compliance, and cost efficiency.

This 5-day course provides an in-depth understanding of the principles, technologies, and best practices for designing and optimizing storage, loading, and transport systems in the oil and gas industry. Participants will explore the integration of these systems into production and supply chains, focusing on performance, safety, and regulatory compliance.

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TRAINING OBJECTIVES

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

1. Gain a comprehensive understanding of storage, loading, and transportation systems in oil and gas operations.
2. Learn the design principles for tanks, pipelines, marine loading arms, and other critical infrastructure.
3. Develop skills to optimize operations for efficiency, safety, and reliability.

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4. Explore advanced technologies, including automation, IoT, and digital twins, for system optimization.
5. Understand global standards and regulations governing hydrocarbon handling and transport.
6. Work through real-world case studies to apply their knowledge in practical scenarios.

WHO SHOULD ATTEND?

This course is designed for:

- Facility designers and project engineers.
- Operations and terminal managers.
- Process and logistics engineers.
- Safety and compliance professionals.
- Supply chain and transportation specialists in oil and gas.

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:

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Day 1: Fundamentals of Storage, Loading, and Transport Systems

- Overview of Hydrocarbon Product Storage and Transportation in the Oil and Gas Industry
- Types of Storage Systems: Tanks, Caverns, and Pipelines
- Key Design Principles for Safe and Efficient Storage
- Introduction to Loading Systems: Marine, Truck, and Rail Loading
- Overview of Transportation Modes: Pipelines, Tankers, and Railcars
- Case Study: Storage and Loading Systems in an Oil Refinery

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Day 2: Storage Systems Design and Operations

- Tank Design Fundamentals: Fixed Roof, Floating Roof, and Pressurized Tanks
- Safety Considerations in Storage System Design: Venting, Fire Protection, and Spill Containment
- Material Selection and Corrosion Protection
- Instrumentation and Automation in Storage Facilities
- Maintenance and Inspection of Storage Systems
- Case Study: Optimizing Storage Capacity in a Crude Oil Terminal

Day 3: Loading Systems Design and Safety

- Design of Loading Systems for Trucks, Railcars, and Ships
- Key Equipment: Loading Arms, Vapour Recovery Systems, and Meters
- Safety Measures in Loading Operations
- Automation and Control Systems for Loading Operations
- Simulating a Loading System Using Software Tools
- Case Study: Risk Assessment in Marine Loading Operations

Day 4: Transportation Systems Design and Optimization

- Pipeline Design and Operation for Hydrocarbon Transport
- Tanker Design and Operations for Crude Oil and LNG Shipping
- Railcar and Truck Transport: Design and Operational Considerations
- Integration of Transport Systems in Supply Chains
- Environmental Considerations in Product Transportation
- Designing a Transport System for a Hypothetical Oilfield

Day 5: Integrated Systems and Future Trends

- Integration of Storage, Loading, and Transport Systems
- Economic Analysis: Cost Optimization and Asset Utilization
- Compliance with International Standards: API, ASME, and IMO Regulations
- Emerging Technologies: Digital Twins, IoT, and Automation in Product Handling
- Designing an End-to-End Product Handling System
- Review, Assessment, and Closing Remarks

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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