MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

OIL AND GAS FACILITIES ENGINEERING AND MANAGEMENT

"Integrated Engineering and Operations for Efficient, Safe, and Profitable Facilities"

Schedule

Date	Venue	Fees
23 – 27 Nov 2026	London, UK	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Oil and gas facilities are complex infrastructures that require multidisciplinary coordination across engineering, operations, and management functions. From design and construction to operations and maintenance, effective facilities management ensures safety, reliability, environmental compliance, and profitability.

This comprehensive training program equips professionals with the engineering and managerial skills needed to oversee oil and gas facilities across their lifecycle. Participants will explore systems integration, asset integrity, project execution, and performance optimization in upstream, midstream, and downstream operations.

Objectives

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

- Understand the full lifecycle of oil and gas facilities – from concept to decommissioning
- Apply core engineering principles in design, safety, operations, and integrity management
- Plan and manage facility construction, commissioning, and handover processes
- Optimize operations through reliability, availability, and maintainability (RAM) strategies
- Implement industry best practices in facility integrity and risk management

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Why Attend

- Gain end-to-end understanding of oil and gas facility design and operations
- Strengthen your ability to lead multidisciplinary facility engineering projects
- Learn to optimize facility uptime and minimize failures through proactive maintenance
- Stay current with international standards and HSE regulations
- Advance your career with a systems-thinking approach to energy facility management

Target Audience

This program is designed for:

- Facilities engineers and project engineers
- Operations and maintenance professionals in oil & gas assets
- Pipeline and plant engineers
- HSE and asset integrity specialists
- Managers responsible for production, commissioning, and reliability

Individual Benefits

Key competencies that will be developed include:

- Engineering design integration across facility systems
- Project planning and execution in oil & gas environments
- Operational troubleshooting and performance optimization
- Equipment reliability and maintenance planning
- Risk-based decision-making and safety management

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved facility uptime and operational reliability
- Enhanced lifecycle asset management across engineering disciplines
- Compliance with safety, environmental, and performance standards
- More effective capital project delivery and commissioning
- Optimized cost management and risk mitigation across facilities

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Industry best practices in engineering, operations, and lifecycle management
- Case Studies – Oil and gas facility failures, successes, and performance reviews
- Workshops – Problem-solving sessions on facility planning, integrity, and optimization
- Peer Exchange – Experience-sharing on plant challenges, shutdowns, and design trade-offs
- Tools – Checklists, process diagrams, RAM models, and project planning templates

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Course Outline

Detailed 5-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Facility Lifecycle and Design Overview

- Module 1: Introduction to Oil & Gas Facilities (07:30 – 09:30) • Types of facilities: upstream, midstream, downstream • Facility lifecycle phases – concept to abandonment • Key equipment, systems, and interdependencies
- Module 2: Engineering Design Principles (09:45 – 11:15) • Facility layout, flow assurance, and materials selection • Design codes and global standards (API, ASME, IEC, ISO) • HSE considerations in engineering design
- Module 3: Workshop – Facility Configuration Planning (11:30 – 01:00) • Designing an optimal layout for a sample oil processing site
- Module 4: Peer Exchange – Lessons from Early-Stage Design (02:00 – 03:30) • Group insights on planning pitfalls and stakeholder alignment

Day 2: Construction, Commissioning, and Operations

- Module 5: Project Planning and Execution (07:30 – 09:30) • EPC project lifecycle and contractor coordination • Work breakdown structure and milestone management • Risk and change management in facility projects
- Module 6: Commissioning and Startup (09:45 – 11:15) • Pre-commissioning vs. commissioning phases • Testing procedures, punch listing, and handover • Managing safety during startup
- Module 7: Workshop – Commissioning Plan Simulation (11:30 – 01:00) • Build a commissioning checklist and timeline
- Module 8: Case Study – Commissioning Failures and Recovery (02:00 – 03:30) • Real-world scenario analysis and corrective strategies

Day 3: Operations Optimization and Integrity Management

- Module 9: Facility Operations and Uptime Management (07:30 – 09:30) • Key operating parameters and optimization levers • Capacity, throughput, and bottleneck analysis • Energy efficiency and flare minimization
- Module 10: Asset Integrity and Maintenance Planning (09:45 – 11:15) • Static and rotating equipment reliability • Inspection, monitoring, and condition-based maintenance • Integrity management systems and RBI (Risk-Based Inspection)
- Module 11: Workshop – Integrity Program Design (11:30 – 01:00) • Create a maintenance and inspection plan for a gas plant
- Module 12: Peer Review – Maintenance Effectiveness (02:00 – 03:30) • Compare facility KPIs and maintenance strategies

Day 4: Process Safety and Risk Management

- Module 13: Process Safety Fundamentals (07:30 – 09:30) • Hazard identification (HAZOP, HAZID) and risk assessment • Safety Integrity Levels (SIL), LOPA, and criticality analysis • Emergency shutdown systems and relief devices
- Module 14: Risk and Reliability Modeling (09:45 – 11:15) • Availability, reliability, maintainability (RAM) modeling • FMECA, fault tree, and root cause analysis tools • Quantitative risk assessment (QRA)
- Module 15: Workshop – Safety Case Development (11:30 – 01:00) • Design a process safety case for a hazardous unit
- Module 16: Group Discussion – Operational Risk Mitigation (02:00 – 03:30) • Peer exchange on managing risk in live facilities

Day 5: Integrated Facility Management and Performance Improvement

- Module 17: Lifecycle Facility Management (07:30 – 09:30) • Asset information systems and performance tracking • Technology upgrades, brownfield expansions • Decommissioning and lifecycle closure planning
- Module 18: Performance Monitoring and Benchmarking (09:45 – 11:15) • KPIs and dashboards for plant operations • Global benchmarking and best practice metrics
- Module 19: Final Project – Facility Optimization Plan (11:30 – 01:00) • Group design of an optimized facility management strategy
- Module 20: Review, Feedback, and Certification (02:00 – 03:30) • Course summary, participant insights, and certificate awards

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Certification

Participants will receive a Certificate of Completion in Oil and Gas Facilities Engineering and Management, validating their multidisciplinary skills in engineering design, operations, integrity, and lifecycle facility optimization in the oil & gas sector.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**