MAWA EVENTS

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

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UTILITIES SYSTEMS MANAGEMENT IN OIL& GAS INDUSTRY

"Optimize the Design, Operation, and Integration of Utility Systems to Support Reliable Oil & Gas Operations"

Schedule

Date	Venue	Fees (Face-to-Face)
04 – 06 Feb 2026	Dubai, UAE	USD 2495 per delegate

Introduction

Utilities are the lifeblood of oil and gas facilities—supporting process units, enabling safety systems, and ensuring operational continuity. Utilities systems such as steam, compressed air, cooling water, nitrogen, and fuel gas must be managed with precision to ensure availability, efficiency, and compliance with HSE standards.

This 3-day intensive training provides participants with a practical understanding of utility system design, integration, operation, and performance monitoring within oil and gas facilities. Participants will gain insights into energy optimization, reliability improvement, and cross-functional coordination for utility network efficiency.

Objectives

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

- Identify and describe key utility systems used in oil and gas operations
- Understand the operating principles and performance requirements of each system
- Optimize utility consumption, distribution, and availability across process units
- Troubleshoot common issues related to pressure, flow, contamination, and redundancy
- Apply energy efficiency and reliability strategies to utility networks
- Align utility system performance with plant safety, production, and environmental goals

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Why Attend

- Gain a comprehensive understanding of utility systems and their role in plant reliability
- Learn troubleshooting and efficiency techniques for high-demand utility operations
- Improve energy management, cost control, and system integration
- Explore case studies of utilities optimization from oil and gas facilities worldwide
- Develop skills to coordinate with process, maintenance, and engineering teams effectively

Target Audience

This program is designed for:

- Operations and process engineers in oil & gas facilities
- Utilities and maintenance supervisors
- Plant reliability and HSE professionals
- Facility managers and technical officers
- Energy management, commissioning, and project engineers

Individual Benefits

Key competencies that will be developed include:

- Technical understanding of steam, air, nitrogen, cooling water, and fuel systems
- Skills in performance monitoring and troubleshooting of utility systems
- Capability to identify inefficiencies and propose optimization solutions
- Practical knowledge of load balancing and supply reliability
- Improved cross-functional communication on utility-related issues

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced reliability and efficiency of plant utility systems
- Reduced energy consumption and improved cost performance
- Fewer production interruptions caused by utility outages or inefficiencies
- Better compliance with environmental and safety standards
- Increased collaboration across departments managing utilities

Instructional Methodology

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

- Strategy Briefings – Core systems, flow diagrams, safety standards, and operation benchmarks
- Case Studies – Real examples from oil & gas facilities across the Gulf and globally
- Workshops – Troubleshooting utilities issues, capacity planning, and optimization exercises
- Peer Exchange – Operational challenges and lessons learned from participants
- Tools – Templates for utilities performance tracking, energy KPIs, and redundancy mapping

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Course Outline

DETAILED 3-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: Overview of Utility Systems in Oil & Gas Plants

- Module 1: Introduction to Plant Utilities (07:30 – 09:30) • Role and interdependence of utility systems in oil & gas facilities • Types of utility systems: steam, nitrogen, air, water, fuel, power • Key performance metrics and system availability
- Module 2: Steam Generation and Distribution (09:45 – 11:15) • Boiler types, steam headers, condensate return • Steam traps, pressure control, and heat recovery systems • Common issues: scaling, wet steam, leakage
- Module 3: Cooling Water and Closed Loop Systems (11:30 – 01:00) • Open vs. closed systems, water chemistry, and treatment • Cooling towers and heat exchangers • Flow rate optimization and fouling prevention
- Module 4: Workshop – Utilities Network Mapping (02:00 – 03:30) • Participants map utility systems for a typical oil & gas plant layout

Day 2: Critical Utility Systems – Compressed Air, Fuel, Nitrogen

- Module 1: Compressed Air Systems (07:30 – 09:30) • Air compressor types, dryers, filters, and receiver tanks • Leak detection, dew point control, and instrumentation air integrity • Pressure drops and maintenance practices
- Module 2: Nitrogen and Inert Gas Systems (09:45 – 11:15) • Nitrogen generation vs. bulk supply • Purging, blanketing, and inerting operations • Integration with safety systems and leak monitoring
- Module 3: Fuel Gas and Utility Power Systems (11:30 – 01:00) • Gas conditioning, metering, and regulation • Backup fuel systems and dual-fuel supply • Power distribution: transformers, UPS, emergency generators
- Module 4: Workshop – Troubleshooting Utilities Performance (02:00 – 03:30) • Group exercises on resolving flow, pressure, and contamination issues

Day 3: Optimization, Safety, and Reliability in Utility Management

- Module 1: Energy Efficiency in Utilities (07:30 – 09:30) • Benchmarking consumption and identifying energy losses • Variable frequency drives (VFDs), automation, and demand control • KPIs for utilities energy performance
- Module 2: Utility System Reliability Strategies (09:45 – 11:15) • Redundancy, backup design, and isolation procedures • Maintenance best practices for continuous availability • Failure modes and risk analysis
- Module 3: Utility System Safety and Emergency Response (11:30 – 01:00) • Safe handling of high-pressure steam and gases • Lockout/tagout and confined space protocols • Emergency preparedness and response drills
- Module 4: Final Case Study & Action Planning (02:00 – 03:30) • Group presentation on utilities management improvement project • Discussion and wrap-up

Certification

Participants will receive a Certificate of Completion in Utilities Systems Management in Oil & Gas Industry, validating their technical knowledge and operational skills in managing and optimizing utility systems across upstream and downstream facilities.

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.

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