**MAWA EVENTS**

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

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# COMMISSIONING - START-UP - SHUTDOWN

*""Mastering the Critical Phases of Plant Lifecycle to Ensure Safe and Efficient Operations""*

## Schedule

| Date | Venue | Fees (Face-to-Face) |
|---|---|---|
| 15 – 19 Feb 2026 | Manama, Bahrain | USD 3495 per delegate |

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

## Introduction

Commissioning, start-up, and shutdown are the most critical phases in a facility's lifecycle—where planning, coordination, and precision have a direct impact on safety, cost, and long-term operational reliability. Missteps during these stages can result in significant delays, equipment damage, and safety incidents.

This intensive five-day course equips plant and project professionals with the methodologies, tools, and best practices needed to successfully plan and execute commissioning, start-up, and shutdown procedures. Participants will gain hands-on strategies to mitigate risks, ensure readiness, and manage multidisciplinary teams during transitional phases of plant operations.

## Objectives

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

- Plan and execute pre-commissioning, commissioning, start-up, and shutdown activities
- Coordinate cross-functional tasks and documentation across stakeholders
- Implement safety, inspection, and functional test protocols
- Manage punch lists, handover, and performance testing
- Mitigate operational and environmental risks during critical transitions

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## Why Attend

- Learn proven frameworks to reduce commissioning time and cost overruns
- Ensure smooth transition from construction to operational phase
- Improve safety and environmental compliance during system transitions
- Avoid common failures through structured planning and team coordination
- Enhance communication between engineering, operations, and project management

## Target Audience

This program is designed for:

- Project engineers, construction and commissioning managers
- Operations, process, and mechanical engineers
- Maintenance and reliability professionals
- Safety, QA/QC, and instrumentation personnel
- EPC contractors and client representatives involved in handover and start-up phases

## Individual Benefits

Key competencies that will be developed include:

- End-to-end commissioning and start-up planning
- Functional testing and validation skills
- Documentation control and handover procedures
- Risk identification and contingency planning
- Interdisciplinary coordination and leadership

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- More efficient, timely, and safe project start-ups and shutdowns
- Reduced risk of system failures post-handover
- Stronger integration between construction, commissioning, and operations teams
- Improved documentation, compliance, and system integrity
- Better lifecycle asset performance from day one of operation

## Instructional Methodology

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

- Strategy Briefings – Detailed instruction on commissioning workflow and system readiness
- Case Studies – Real-world examples of commissioning successes and shutdown failures
- Workshops – Team exercises in punch list management, functional testing, and risk analysis
- Peer Exchange – Industry experience sharing on commissioning and handover scenarios
- Tools – Templates for pre-commissioning checklists, start-up plans, and shutdown logs

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## Course Outline

**Detailed 5-Day Course Outline**

**Training Hours:** 07:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

**Day 1: Introduction and Pre-Commissioning Planning**

- Module 1: Lifecycle Overview – From Construction to Operation (07:30 – 09:30) • Definitions: pre-commissioning, commissioning, start-up, shutdown • Interfaces between EPC, vendors, operations, and QA/QC • Phase gates and handover milestones
- Module 2: Pre-Commissioning Scope and Preparation (09:45 – 11:15) • Utility availability, system cleaning, and loop checks • Pre-commissioning checklist and equipment readiness • Vendor support and documentation control
- Module 3: Safety and Risk Management Planning (11:30 – 01:00) • Hazard identification and control measures • Permit to work (PTW), LOTO, and confined space protocols • Emergency response planning
- Module 4: Workshop – Pre-Commissioning Readiness Review (02:00 – 03:30) • Group exercise using a sample P&ID and checklist • Cross-discipline input validation

**Day 2: Commissioning Execution and System Testing**

- Module 1: Commissioning Philosophy and Workflows (07:30 – 09:30) • Mechanical completion and subsystem definition • Systems approach and functional testing levels • Interdisciplinary communication and punch list management
- Module 2: Instrumentation and Control System Checks (09:45 – 11:15) • Loop verification, alarm testing, and calibration • Commissioning DCS/PLC integration • Instrument datasheet cross-checks
- Module 3: Electrical and Mechanical Commissioning (11:30 – 01:00) • Energization procedures and load testing • Motor rotation checks and lubrication systems • Static and dynamic equipment test procedures
- Module 4: Workshop – Developing a Commissioning Plan (02:00 – 03:30) • Sample project breakdown and activity sequencing • Building work packs and responsibility matrices

**Day 3: Start-Up Planning and Initial Operation**

- Module 1: Start-Up Readiness and Go/No-Go Decisions (07:30 – 09:30) • System walk-downs and readiness inspections • Checklists for go-live approval • Stakeholder sign-offs and communication
- Module 2: First-Time Start-Up Procedures (09:45 – 11:15) • Initial energization and controlled process loading • Start-up sequencing and ramp-up management • Monitoring performance parameters
- Module 3: Emergency Start-Up Scenarios (11:30 – 01:00) • Start-up under abnormal or time-constrained conditions • Safety systems and trip logic validation • Documentation and learning capture
- Module 4: Workshop – Start-Up Simulation (02:00 – 03:30) • Simulated start-up of a simple process • Identifying weak points and adjusting the plan

**Day 4: Shutdown, Decommissioning, and Turnarounds**

- Module 1: Planned and Emergency Shutdown Strategies (07:30 – 09:30) • Shutdown sequencing and load shedding • Equipment isolation and depressurization • Shutdown risk scenarios and fail-safe procedures
- Module 2: Decommissioning and Preservation (09:45 – 11:15) • Draining, flushing, and inerting systems • Asset preservation and lay-up best practices • Environmental and disposal considerations
- Module 3: Turnaround Planning and Lessons Learned (11:30 – 01:00) • Shutdown window planning and critical path items • Resource and contractor coordination • Post-shutdown review documentation
- Module 4: Workshop – Shutdown Safety Drill Planning (02:00 – 03:30) • Emergency shutdown checklist development • Roles, responsibilities, and communication lines

**Day 5: Integration, Handover, and Certification**

- Module 1: Handover to Operations and Documentation (07:30 – 09:30) • Punch list closure, redlining, and as-built drawings • O&M manual submission and asset registers • Handover protocols and team briefings

- Module 2: Performance Testing and Optimization (09:45 – 11:15) • Testing against design and contractual specs • Performance verification and guarantee testing • Reliability-centered commissioning metrics
- Module 3: Final Q&A and Action Planning (11:30 – 01:00) • Review of course concepts and tools • Participant action plan for their upcoming project phases
- Module 4: Certification and Closing Session (02:00 – 03:30) • Final knowledge check or team presentation • Distribution of certificates • Wrap-up and feedback session

## Certification

Participants will receive a Certificate of Completion in Commissioning – Start-Up – Shutdown, validating their expertise in planning and executing critical transitional phases in plant operations, with a strong focus on safety, system integrity, and cross-functional coordination.

## 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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