MAWA EVENTS

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

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

PROCESS PLANT- COMMISSIONING -START-UP- TROUBLESHOOTING

"Ensuring Safe, Efficient, and Successful Commissioning and Start-up of Process Plants"

Schedule

Date	Venue	Fees (Face-to-Face)
06 – 10 Jul 2026	London, UK	USD 3495 per delegate

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

Introduction

This practical course is designed to equip engineers, managers, and plant personnel with the critical skills and knowledge required for the safe, efficient, and effective commissioning, start-up, and troubleshooting of process plants. Participants will gain a comprehensive understanding of pre-commissioning checks, performance testing, system integration, and operational readiness.

With a strong focus on minimizing delays, reducing risks, and ensuring smooth plant operation, this course integrates real-world case studies, hands-on exercises, and expert-led discussions to prepare participants for the challenges of commissioning and troubleshooting across various industries.

Objectives

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

- Understand the complete commissioning and start-up process of process plants
- Identify critical success factors, risks, and challenges in commissioning projects
- Develop detailed commissioning and start-up plans
- Apply effective troubleshooting techniques to resolve operational issues
- Ensure compliance with safety, environmental, and regulatory standards

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Why Attend

- Gain practical tools and checklists for successful commissioning
- Learn proven troubleshooting methods for common plant issues
- Improve plant reliability, performance, and safety during start-up
- Reduce costly delays and prevent operational failures
- Enhance cross-functional collaboration between engineering, operations, and maintenance teams

Target Audience

This program is designed for:

- Plant engineers and project managers
- Operations and maintenance supervisors
- Commissioning and start-up team members
- Process engineers and technical specialists
- Health, safety, and environmental (HSE) personnel

Individual Benefits

Key competencies that will be developed include:

- Strong understanding of commissioning processes and best practices
- Ability to design and execute start-up and performance testing plans
- Enhanced troubleshooting and problem-solving skills
- Improved coordination between teams during critical phases
- Increased confidence in managing plant risks and safety compliance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced downtime and improved start-up success rates
- Enhanced plant performance and operational efficiency
- Minimized commissioning-related risks and safety incidents
- Faster issue resolution and improved system reliability
- Better alignment between project teams and operational goals

Instructional Methodology

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

- Strategy Briefings – Detailed exploration of commissioning frameworks, tools, and risk management strategies
- Case Studies – Lessons learned from real-world commissioning and troubleshooting projects
- Workshops – Practical exercises on developing commissioning schedules, checklists, and troubleshooting plans
- Peer Exchange – Group discussions on operational challenges and solutions
- Tools – Access to templates for pre-commissioning checklists, start-up plans, and troubleshooting guides

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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: Fundamentals of Commissioning and Start-up

- Module 1: Introduction to Commissioning (07:30 – 09:30)
- Definition, scope, and objectives of commissioning
- Key phases: pre-commissioning, commissioning, and start-up
- Roles and responsibilities of the commissioning team
- Module 2: Commissioning Planning (09:45 – 11:15)
- Developing commissioning strategies and schedules
- Identifying critical systems and prioritizing activities
- Resource allocation and interface management
- Module 3: Safety in Commissioning (11:30 – 01:00)
- Safety procedures and risk assessments
- Hazard identification and mitigation during start-up
- Compliance with regulatory and environmental standards

Day 2: Pre-Commissioning and Mechanical Completion

- Module 4: Pre-Commissioning Activities (07:30 – 09:30)
- Inspection, cleaning, and testing of equipment
- System checks and verification of mechanical completion
- Documentation and acceptance criteria
- Module 5: Control Systems and Instrumentation (09:45 – 11:15)
- Loop checks and calibration of instruments
- Testing control logic and interlocks
- Integration of automation systems
- Module 6: Utilities and Ancillary Systems (11:30 – 01:00)
- Preparing utilities for commissioning
- Supporting systems and their readiness checks
- Ensuring energy, water, and compressed air supply

Day 3: Start-up and Performance Testing

- Module 7: Start-up Procedures (07:30 – 09:30)
- Initial start-up and system energization
- Gradual loading and ramp-up strategies
- Monitoring system performance
- Module 8: Performance Testing (09:45 – 11:15)
- Conducting functional and performance tests
- Measuring key performance indicators (KPIs)
- Troubleshooting during performance deviations
- Module 9: Handover and Operational Readiness (11:30 – 01:00)
- Documentation and certification for handover
- Operator training and readiness assessment
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Transitioning to steady-state operations

Day 4: Troubleshooting and Problem Resolution

- Module 10: Troubleshooting Techniques (07:30 – 09:30)
- Systematic approaches to problem diagnosis
- Root cause analysis methods
- Using monitoring tools and diagnostic software
- Module 11: Common Start-up Issues (09:45 – 11:15)
- Mechanical, electrical, and process-related problems
- Addressing instrumentation and control failures
- Managing unplanned shutdowns
- Module 12: Case Studies and Lessons Learned (11:30 – 01:00)
- Real-world examples of start-up challenges
- Identifying improvement opportunities
- Developing action plans for future projects

Day 5: Review and Advanced Topics

- Module 13: Advanced Troubleshooting (07:30 – 09:30)
- Troubleshooting complex system interactions
- Managing cascading failures and systemic risks
- Advanced diagnostic tools and techniques
- Module 14: Continuous Improvement Strategies (09:45 – 11:15)
- Post-commissioning reviews and audits
- Capturing lessons learned and best practices
- Building a culture of continuous improvement
- Module 15: Group Project and Wrap-Up (11:30 – 01:00)
- Group exercise on commissioning planning and troubleshooting
- Presentation of key takeaways and solutions
- Certificate ceremony and course closure

Certification

Participants will receive a Certificate of Completion in Process Plant Commissioning, Start-up & Troubleshooting, validating their mastery of commissioning principles, start-up execution, and advanced troubleshooting techniques for process plants.

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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