MAWA EVENTS

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

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

BOILER DESIGN, OPERATION & MAINTENANCE OPTIMIZATION

"Achieve peak boiler performance through optimized design, operation, and maintenance practices."

Schedule

Date	Venue	Fees (Face-to-Face)
20 – 24 Jul 2026	Singapore	USD 3495 per delegate

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

Introduction

Boilers are critical components in industrial operations, and optimizing their design, operation, and maintenance is essential for efficiency, safety, and cost-effectiveness. This intensive 5-day course equips engineers and maintenance professionals with the latest knowledge and techniques for achieving superior boiler performance and reliability.

Participants will explore best practices, innovations, and case studies on boiler systems, helping them reduce downtime, extend equipment lifespan, and ensure compliance with safety and environmental standards.

Objectives

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

- Understand the principles of boiler design and selection.
- Apply best practices for efficient and safe boiler operation.
- Develop effective maintenance and inspection programs.
- Troubleshoot common boiler issues and optimize performance.
- Ensure compliance with regulatory and safety standards.

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Why Attend

- Learn from industry experts with real-world boiler experience.
- Gain practical tools for improving boiler efficiency and lifespan.
- Enhance workplace safety and reduce operational risks.
- Stay updated on environmental and regulatory requirements.
- Build confidence in managing boiler systems and teams.

Target Audience

This program is designed for:

- Boiler engineers and operators.
- Maintenance and reliability engineers.
- Plant and facility managers.
- Energy managers and technical supervisors.
- Health, safety, and environment (HSE) officers involved with boiler operations.

Individual Benefits

Key competencies that will be developed include:

- Advanced understanding of boiler systems and components.
- Practical maintenance and troubleshooting techniques.
- Skills to optimize operational efficiency and energy use.
- Knowledge of safety protocols and regulatory compliance.
- Ability to design and implement effective maintenance plans.

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved boiler performance and reduced operational costs.
- Enhanced equipment reliability and minimized downtime.
- Stronger compliance with health, safety, and environmental standards.
- Better-informed decision-making regarding boiler investments.
- Increased team capacity to handle boiler-related challenges

Instructional Methodology

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

- Strategy Briefings – In-depth exploration of boiler design, operations, and innovations.
- Case Studies – Real-world examples of boiler optimization and maintenance success.
- Workshops – Hands-on exercises in maintenance planning, troubleshooting, and performance analysis.
- Peer Exchange – Group discussions on operational challenges and shared solutions.
- Tools – Templates for maintenance schedules, inspection checklists, and performance tracking.

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Course Outline

Training Hours: 8:30 AM – 4:30 PM **Daily Format**: 3–4 Learning Modules | Coffee Breaks: 10:00 & 3:00 | Lunch Buffet: 12:30 – 1:30

Day 1: Boiler Design Fundamentals

- Module 1: Boiler Types and Applications (08:30 – 10:30)
- Overview of industrial boiler systems.
- Selection criteria for various applications.
- Module 2: Design Considerations (10:45 – 12:45)
- Heat transfer, combustion, and efficiency principles.
- Materials and construction standards.

Day 2: Boiler Operation Essentials

- Module 3: Safe Boiler Operation (08:30 – 10:30)
- Operating procedures and controls.
- Safety devices and emergency handling.
- Module 4: Performance Optimization (10:45 – 12:45)
- Efficiency improvements and fuel management.
- Emission control techniques.

Day 3: Maintenance Strategies

- Module 5: Maintenance Planning (08:30 – 10:30)
- Preventive and predictive maintenance programs.
- Scheduling and resource management.
- Module 6: Inspection Techniques (10:45 – 12:45)
- Key inspection points and condition monitoring.
- Using diagnostic tools and technologies.

Day 4: Troubleshooting and Repairs

- Module 7: Common Boiler Problems (08:30 – 10:30)
- Identifying and diagnosing performance issues.
- Root cause analysis and corrective actions.
- Module 8: Repair and Retrofitting (10:45 – 12:45)
- Repair strategies and upgrade options.
- Cost-benefit analysis of retrofits.

Day 5: Compliance and Best Practices

- Module 9: Regulatory Requirements (08:30 – 10:30)
- Understanding local and international standards.
- Documentation and reporting.
- Module 10: Best Practice Case Studies (10:45 – 12:45)
- Reviewing success stories and lessons learned.
- Developing a boiler optimization action plan.

Certification

Participants will receive a Certificate of Completion in Boiler Design, Operation & Maintenance Optimization, validating their expertise in maximizing boiler efficiency, safety, and reliability.

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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**