

BOILER CONTROL AND BURNER MANAGEMENT SYSTEMS

"Ensure Safe, Efficient, and Reliable Boiler Operation with Advanced Control and Burner Management Techniques."

Schedule

Venue (In-house)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

Boilers are critical assets in power generation, industrial, and process plants, where safe and efficient operation is paramount. Modern boiler systems rely on advanced control strategies and burner management systems (BMS) to optimize performance, prevent accidents, and reduce emissions.

The Boiler Control and Burner Management Systems course provides participants with in-depth knowledge of boiler operation, control loops, safety systems, and burner management protocols. Through practical exercises and real-world case studies, participants will learn to design, troubleshoot, and optimize boiler control systems and implement BMS in compliance with industry standards.

Objectives

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

- Understand the principles of boiler operation and combustion processes.
- Design and implement boiler control loops and systems.
- Apply burner management system (BMS) strategies for safe operation.
- Troubleshoot boiler control and burner system faults.
- Monitor and optimize boiler performance for efficiency and reliability.
- Ensure compliance with safety standards and regulatory requirements.
- Integrate advanced control and automation techniques into boiler systems.
- Reduce operational risks and enhance overall plant safety.

Why Attend

This course is essential for engineers, operators, and maintenance personnel responsible for boiler operation and safety. Participants will gain practical skills in controlling combustion, managing burners, and implementing safety systems. By attending, professionals will enhance plant safety, reduce downtime, and optimize boiler efficiency.

Target Audience

This course is suitable for:

- Boiler and Combustion Engineers
- Plant Operators and Technicians
- Maintenance and Reliability Engineers
- Instrumentation and Control Engineers
- Safety and Compliance Officers in Industrial Facilities
- Graduate Students in Mechanical, Electrical, or Process Engineering

Individual Benefits

- Develop expertise in boiler control and burner management systems.
- Gain confidence in troubleshooting and optimizing boiler operations.
- Enhance knowledge of safety protocols and regulatory compliance.
- Improve problem-solving skills in combustion and control challenges.
- Increase professional value and career advancement opportunities.
- Learn to implement modern control strategies and BMS effectively.

Organizational Benefits

- Enhance boiler safety and prevent accidents.
- Improve operational efficiency and reduce fuel consumption.
- Minimize unplanned downtime and maintenance costs.
- Ensure compliance with international safety and operational standards.
- Build in-house expertise in boiler control and burner management.
- Optimize plant performance and energy efficiency.

Instructional Methodology

The training employs a practical, hands-on approach through:

- Interactive lectures and system demonstrations
- Real-world case studies of boiler and burner management systems
- Step-by-step exercises on control loop design and BMS implementation
- Group workshops and collaborative problem-solving sessions
- Assignments focused on troubleshooting and optimization
- Continuous feedback and Q&A sessions for skill reinforcement

Course Outline

- Module 1: Introduction to Boiler Systems – Types, Components, and Operation
- Module 2: Fundamentals of Combustion and Burner Technology
- Module 3: Boiler Control Loops – Temperature, Pressure, and Flow Control
- Module 4: Burner Management System (BMS) – Principles and Implementation
- Module 5: Safety Interlocks and Emergency Shutdown Systems
- Module 6: Instrumentation and Sensors for Boiler Control
- Module 7: Troubleshooting Boiler and Burner Systems
- Module 8: Optimization of Boiler Performance and Efficiency
- Module 9: Regulatory Compliance and Safety Standards
- Module 10: Capstone Exercise – Comprehensive Boiler Control and Burner Management Design

Certification

Upon successful completion, participants will receive a Certificate in Boiler Control and Burner Management Systems, recognizing their expertise in safe, efficient, and reliable boiler operation and burner management practices.

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?

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