



MU299: Certification in Boiler Operations

Training Description:

Boilers are an important asset used for various purposes in different industrial plants. It's one of the main applications to produce high-pressure steam for process applications and power generation. Operation and maintenance of Boiler are critical to ensure a safe and efficient plant environment.

This intensive training course will ensure participants gain a comprehensive understanding of commercial, industrial and utility boiler systems. This training course covers the principle of operation of steam boilers, types and the main components of steam boilers. It will also focus on the study of correct operation and routine maintenance and safety. Participants will also learn how to improve boiler efficiency, energy cost saving methods and maximize safety.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Combustion process and draft system for steam boilers
- ✓ Boilers types, feed water pump, components and functions
- ✓ Understand the importance of the draft system for proper operation
- ✓ Improve understanding of control and protection system
- ✓ Understand the best practice operation procedures
- ✓ Safety valve & burner management System
- ✓ Routine operation and emergency procedures

Training Designed for:

This course is intended for Utilities and Offsite Production Department personnel ie; Mechanical engineers and mechanical supervisors, Inspection engineers and inspectors, Mechanical technicians, Field Operators and Technicians, Facilities and process engineers, Anyone involved in steam generation and water treatment and Process Engineers who are new to the profession.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

FIVE DAYS:

- ❖ **Combustion Process and Heat Transfer Fundamentals**
 - Basics of Thermodynamics
 - Heat Transfer and Combustion
 - Introduction to Steam Boilers
 - Latent Heat & Sensible Heat
 - Steam Properties

- Purity of Steam
- Mass and Energy Balance
- Conduction, Convection, and Radiation
- Combustion Fundamentals
- Excess Air & Flue Gases Relation
- ❖ **Boiler Types & Operational Overview**
 - Classifications of Steam Boilers
 - Boiler Functional Overview
 - Main Pressure Parts Components of Steam Boilers
 - Burners Types & Operational Controls
 - Low NOx Burners
 - Draft System of Steam Boilers
 - Field Start Operations, Boiler start up and shutdown procedures
 - Pre checks of boiler start up
 - Water filling
 - Water chemistry control
 - Steam drum & Accessories
 - design and level
 - Boiler Operation and Process Control, Process Interlock
 - Fuel gas firing system
 - Routine Operation during Boiler Service
 - Emergency Procedures
- ❖ **Boiler Control Systems & Protection Mechanisms**
 - Boiler Control and Protection
 - Safety Valves and Flame Safeguard
 - Burner Management System
 - BFW Treatment and Continuous Blow down Control
 - Drum Level Control
 - Boiler efficiency
 - Problems of Steam Boilers
 - Preventive Maintenance Program
 - Steam Boiler Repair
 - Case studies and troubleshooting
- ❖ Course Conclusion
- ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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