

**PD769**  
**Boiler Operation and Maintenance**

**Day 1**

- Module 1: Boiler Fundamentals
  - Definitions, boiler classifications
  - Power boilers, heating boilers
  - Water tube boilers, fire tube boilers
  - Boiler codes and standards
  - Jurisdictional requirements
  
- Module 2: Boiler Auxiliaries and Appurtenances
  - Air system
  - Fuel system
  - Steam system
  - Feedwater system
  - Draft system
  - Blowdown system
  
- Module 3: Controls and Safety Devices
  - Steam and waterside controls
  - Combustion side controls
  - Typical fuel trains
  - Installation reports
  - Control checklists
  
- Module 4: Boiler Rooms
  - Safety
  - Lighting
  - Ventilation
  - Drains
  - Fire protection
  - Exit
  - Ladders and runways
  
- Module 5: Power Boiler Operation
  - General guidelines
  - Operating personnel
  - Preparation for operation
  - Starting-up
  - On-line operation
  - Out-of-service Operation
  - Operation logsheet

## Day 2

- Module 6: Heating Boiler Operation
  - Starting a new boiler
  - Condensation
  - Cutting in an additional boiler
  - Normal operation
  - Removal of boiler from service
  - Operation logsheet
  
- Module 7: Power Boiler Maintenance
  - Maintenance program
  - Boiler cleaning
  - Tube expansion
  - Maintenance checks
  - Preparing for inspection
  - Maintenance logsheet
  - Power boiler repairs
  
- Module 8: Heating Boiler Maintenance
  - Maintenance program
  - Burner maintenance
  - Cast iron boiler maintenance
  - Maintenance schedule
  - Maintenance logsheet
  - Heating boiler repairs
  
- Module 9: Water Treatment
  - Boiler water troubles
  - Deposits, corrosion
  - Water analysis
  - Chemical used
  - Water treatment methods
  - Laying up of boilers
  
- Module 10: Boiler Failures
  - Overpressure
  - Weakening of structures
  - Furnace explosions
  - Furnace implosions