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COURSE BROCHURE

Boiler Inspection, Overhaul and Maintenance Planning Training Course

8 – 12 February 2027
Singapore

Boiler Inspection, Overhaul and Maintenance Planning Training Course

Ref: 1392_52119 **Date:** 8 – 12 February 2027 **Location:** Singapore **Fees:** 9300 GBP

Boiler Inspection, Overhaul and Maintenance Planning is a 1-week training course for maintenance planners and boiler technicians who prepare, inspect and repair steam boilers during outages, and it ends with a boiler overhaul work pack for their own unit. Shorter outage windows and ageing pressure parts mean that what is inspected, repaired and deferred now decides how long a boiler runs before its next forced stop. The course is delivered by Jupiter Prime Training.

Why Boiler Inspection, Overhaul and Maintenance Planning Matters Now

Plants want boilers to run longer between shutdowns, yet many outages are still planned from last time's job list rather than from inspection evidence. Skilled boilermakers, refractory installers and welders are scarce, so poorly sequenced work overruns quickly. Insurers expect statutory inspections to be prepared properly and defects closed with traceable records. A site that plans overhauls from condition findings shortens outages and avoids repeat tube leaks. The course applies EN 13306 for maintenance terminology and ISO 55001 for asset management decisions on repair, deferral and replacement.

Who Gains Most from Boiler Inspection, Overhaul and Maintenance Planning

- Maintenance planners who build boiler outage scopes, schedules and material lists
- Boiler technicians who open, clean, inspect and box up drums, furnaces and flues
- Inspection coordinators who prepare boilers for insurer and statutory examinations
- Welding and refractory supervisors who carry out tube and lining repairs
- Reliability technicians who track defects and recurring findings between outages

The greatest return comes when the planners and technicians who share one boiler house attend together and agree one outage preparation sequence.

Boiler Inspection, Overhaul and Maintenance Planning Capabilities

Participants turn inspection findings into a sequenced overhaul with the right permits, materials and hold points.

- Build a boiler outage scope from condition findings — prioritising work that protects availability
- Apply visual, thickness and dye penetrant checks to drums and tubes — confirming fitness for service
- Specify refractory repair, dry-out and cure steps — preventing early lining failure
- Assess tube repair options by window, pad or section replacement — choosing the durable fix
- Calculate outage duration from a critical path schedule — informing the production plan

- Communicate deferred defects with risk ranking — keeping operations aware until the next outage

Key Boiler Inspection, Overhaul and Maintenance Planning Terms

- Box-up — closing and securing every manhole and handhole after internal inspection, before refilling the boiler.
- Refractory dry-out — controlled heating of new lining to remove moisture without spalling or cracking.
- Hydrostatic test — pressurising a boiler with water above working pressure to prove tightness after repair.
- Window weld repair — removing a small section of tube wall and welding in a matching insert.
- Hold point — a step in a repair procedure that must be inspected and signed before work continues.
- Deferred defect — a known fault accepted for continued service until a planned repair date.

Boiler Inspection, Overhaul and Maintenance Planning Day by Day

Day 1: Boiler Condition and Maintenance Strategy

- Boiler Component Map — Linking Drums, Tubes, Burners and Refractory to Failures
- Preventive and Condition-Based Tasks — Setting Inspection Intervals
- EN 13306 Maintenance Types — Classifying Boiler Work Orders
- Defect History Review — Spotting Recurring Outage Findings
- ISO 55001 Criticality Ranking — Prioritising Boiler Spares and Tasks

Day 2: Internal and External Inspection

- Isolation, Draining and Confined Space Entry — Preparing a Safe Boiler
- Waterside Inspection of Drums and Headers — Finding Scale, Pitting and Cracks
- Fireside Inspection of Furnace and Convection Tubes — Spotting Erosion and Bulging
- Ultrasonic Thickness and Dye Penetrant Testing — Recording Measurable Evidence
- Insurer and Statutory Inspection Preparation — Presenting Records and Access

Day 3: Refractory, Tube and Valve Repair

- Castable, Brick and Ceramic Fibre Linings — Selecting Repair Materials
- Refractory Installation, Dry-Out and Cure — Avoiding Spalling at Start-Up
- Tube Window, Pad and Section Replacement — Choosing the Repair Method
- Safety Valve and Gauge Glass Overhaul — Restoring Protective Functions
- Hydrostatic Testing and Box-Up — Proving Repairs Before Firing

Day 4: Overhaul Planning and Scheduling

- Outage Scope Freeze and Change Control — Containing Late Additions
- Critical Path Scheduling of Boiler Work — Sequencing Scaffold, Cleaning and Repair
- Material and Spare Parts Kitting — Avoiding Waiting Time
- Contractor Coordination and Hold Points — Controlling Quality During Repairs
- Case Studies From Sugar Mills and Power Stations — Lessons From Overrun Outages

Day 5: Practising the Boiler Overhaul Work Pack

- Inspection Finding Ranking Exercise — Applying Day 2 Evidence to Scope
- Repair Method Selection Exercise — Applying Day 3 Refractory and Tube Options
- Outage Schedule Exercise — Applying Day 4 Critical Path Sequencing
- Deferred Defect Register — Tracking Risk Until the Next Outage
- Boiler Overhaul Work Pack — Completing Scope, Schedule, Materials and Hold Points

Applying Boiler Inspection, Overhaul and Maintenance Planning After the Course

- Review the findings from the last boiler outage and rank them into a draft scope for the next one.
- Set up a deferred defect register for one boiler with risk ranking and target repair dates.

Boiler Inspection, Overhaul and Maintenance Planning Questions FAQ

What is boiler inspection, overhaul and maintenance planning and why does it matter now?

It is the preparation, inspection, repair and scheduling of boiler outages from condition evidence. Shorter outage windows, scarce trades and ageing pressure parts make evidence-based planning essential.

Which roles gain most from boiler inspection, overhaul and maintenance planning?

Maintenance planners and boiler technicians gain most. Inspection coordinators and welding or refractory supervisors also benefit.

How does boiler inspection, overhaul and maintenance planning differ from a boiler engineering course?

This course concentrates on outage preparation, inspection methods, repairs and scheduling. An engineering course focuses on heat transfer calculations and failure metallurgy.

What do you bring back from boiler inspection, overhaul and maintenance planning?

You bring back an overhaul work pack for your own boiler, with scope, schedule, materials and hold points. You also leave with a deferred defect register.

Boiler Inspection, Overhaul and Maintenance Planning: The Way Forward

The boiler overhaul work pack first informs the scope freeze for the next outage: what is repaired, what is inspected and what waits. Planners own it, and technicians and contractors work from it. After the outage, revisit durations and findings against the plan, because actual repair times show where the next work pack needs more allowance.