



Boiler Operation, Maintenance and Water Treatment Technology

DURATION

5 days

CONTACT HOURS

30

LEVEL

Intermediate

FEE PER DELEGATE

R15,000

Running a boiler safely and efficiently, where the water treatment decides how long the plant lasts.

A boiler fails through its water long before it fails through its firing. Scale from hardness, corrosion from dissolved oxygen, caustic attack under deposits and carryover from poor steam separation all originate in treatment and show up as tube failures, efficiency loss and contaminated steam. The firing side has its own discipline, and the safety side is not negotiable. This week covers all three, with water treatment given the weight it actually deserves rather than treated as a chemistry appendix.

Available as classroom, live online, in house.

Who it is for

Boiler operators and shift engineers, utilities and maintenance engineers, water treatment and laboratory staff, and HSE staff with responsibility for steam plant.

What you will be able to do

- Explain how feedwater quality determines boiler life, with the mechanisms named.
- Set and control a treatment regime, and interpret the test results.
- Operate the firing side for efficiency without losing combustion safety.
- Carry out the statutory and routine safety checks, and know what each proves.
- Diagnose carryover, scale and corrosion failures to their cause.

The outline

DAY 1

The boiler and its circuit

Firetube and watertube, and the duty each suits · The steam and condensate circuit as one system · Feedwater, deaeration and make up · Blowdown, and what it is actually controlling

DAY 2

Water treatment

Hardness, scale, and the heat transfer it destroys · Dissolved oxygen, corrosion and oxygen scavenging · Alkalinity, caustic attack and deposit related failure · Testing, dosing control, and reading a trend

DAY 3

Combustion and efficiency

Excess air, and the loss on either side of optimum · Flue gas temperature, and what it indicates · Burner condition, turndown and cycling losses · Heat recovery, and where it is worth the capital

DAY 4

Safety

Level control, and the devices that must be independent · Safety valves, testing and the proof it gives · Burner management, flame failure and purge · Statutory inspection, and preparing for it

DAY 5

Failures and troubleshooting

Carryover, foaming and steam contamination · Tube failure, read for its mechanism · Condensate return contamination · Layup, both wet and dry, and the corrosion it prevents

What you leave with

- A water treatment and testing regime for the delegate's own boiler.
- An efficiency assessment identifying the two largest losses.
- A safety check routine mapped to what each check actually verifies.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Maseru, Lesotho	R15,000
30 November 2026 to 4 December 2026	Cairo, Egypt	US\$1,500
7 to 11 December 2026	Nairobi, Kenya	US\$1,500
14 to 18 December 2026	Dar es Salaam, Tanzania	US\$1,500

Fees are per delegate and cover all costs arranged by the delegate. Reg

Register or ask a question

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