



POWER AND ELECTRICAL TRAINING

Power Plant Performance, Efficiency and Optimisation

5 day course

Classroom, online or in-house

Course overview

A percentage point of heat rate on a generating unit is worth more each year than most maintenance budgets, and it is usually lost gradually to causes nobody is measuring. This course covers finding and recovering it. Delegates work through thermodynamic cycle performance and the calculation of heat rate, performance testing to a recognised standard, and the component level assessment of boiler, turbine, condenser and feedwater heating that locates a loss. Degradation mechanisms are covered alongside the operating decisions that affect efficiency in daily practice. The course closes on the economics: valuing a recoverable loss, building the case for the work, and monitoring so the recovery holds.

What you will learn

- Calculate heat rate and assess thermodynamic cycle performance
- Conduct a performance test to a recognised standard
- Locate a loss through component level assessment
- Assess boiler, turbine, condenser and feedwater heater performance
- Identify degradation mechanisms and their rate
- Recognise the operating decisions that move efficiency daily
- Value a recoverable loss and build the case for the work

Who should attend

- Power plant performance and process engineers
- Operations and shift engineers
- Maintenance and reliability engineers in generation
- Plant managers and technical directors
- Independent power producer technical staff

Course outline

- 01 Cycle performance and heat rate
- 02 Performance testing to a recognised standard
- 03 Component level loss location
- 04 Boiler and combustion performance
- 05 Turbine performance and degradation
- 06 Condenser and feedwater heater performance
- 07 Operating decisions that affect efficiency daily
- 08 Valuing a loss, funding the work and monitoring the recovery

Upcoming dates

Dates	Venue	Format	Fee per delegate
5 to 9 October 2026	Casablanca, Morocco	Classroom	USD 1,325
12 to 16 October 2026	Cape Town, South Africa	Classroom	R19,950
26 to 30 October 2026	Online	Online	R8,500
7 to 11 December 2026	Kigali, Rwanda	Classroom	USD 1,325



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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