



POWER AND ELECTRICAL TRAINING

Evolving Power Generation: Gas, Combined Cycle, Wind and Solar

5 day course

Classroom, online or in-house

Course overview

Generation mixes across Africa are shifting quickly, and the technologies now being added behave very differently from the plant they supplement. This course covers gas turbines and combined cycle plant, wind and solar generation, and the system consequences of a mix that includes a large variable component. Delegates work through the operating characteristics and economics of each technology, plant performance and degradation, the flexibility requirements that variable generation imposes on the rest of the fleet, and the integration issues of inertia, ramping and curtailment. The course closes on storage and the role it now plays in making a variable fleet operable.

What you will learn

- Describe gas turbine and combined cycle operation, performance and degradation
- Explain wind and solar generation characteristics and resource assessment
- Compare the economics of each technology on a consistent basis
- Analyse the flexibility requirements variable generation imposes on a fleet
- Assess inertia, ramping, curtailment and grid integration issues
- Evaluate the role of storage in a mixed generation fleet

Who should attend

- Power generation engineers and plant managers
- Utility planning and system operations staff
- Independent power producer staff
- Energy analysts and regulators
- Project developers and financiers in power

Course outline

- 01 Gas turbines: cycle, performance and degradation
- 02 Combined cycle configuration and heat recovery
- 03 Wind generation and resource assessment
- 04 Solar generation, yield and degradation
- 05 Comparing technology economics on a consistent basis
- 06 Flexibility requirements imposed on the rest of the fleet
- 07 Inertia, ramping, curtailment and grid integration
- 08 Storage and its role in a variable fleet

Upcoming dates

Dates	Venue	Format	Fee per delegate
19 to 23 October 2026	Mbabane, Eswatini	Classroom	R19,950
7 to 11 December 2026	Pretoria, South Africa	Classroom	R19,950
15 to 19 February 2027	Online	Online	R8,500
15 to 19 March 2027	Kampala, Uganda	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@afiscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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