



POWER AND ELECTRICAL TRAINING

Power System Control and Stability

5 day course

Classroom, online or in-house

Course overview

A power system is stable until it is not, and the transition takes seconds. This course covers the behaviour behind that. Delegates work through frequency and voltage control and the hierarchy from primary response through to tertiary dispatch, rotor angle stability and the mechanisms of transient and small signal instability, and voltage stability and collapse. Excitation systems, governors and power system stabilisers are covered as the controls that decide the outcome. Substantial attention goes to declining system inertia as conventional plant is displaced, which is changing the stability picture across the region, and the course closes on studies, defence plans and the analysis of actual system events.

What you will learn

- Explain frequency and voltage control across the response hierarchy
- Distinguish transient, small signal and voltage stability
- Describe excitation systems, governors and power system stabilisers
- Assess the effect of declining inertia on frequency response
- Specify and interpret stability studies
- Design defence plans including load shedding and islanding
- Analyse a system event and identify what determined the outcome

Who should attend

- System operations and control engineers
- Utility planning engineers
- Protection and control engineers
- Power system analysts and consultants
- Regulators and grid code authorities

Course outline

- 01 Frequency control and the response hierarchy
- 02 Voltage control and reactive power
- 03 Rotor angle stability: transient and small signal
- 04 Voltage stability and collapse
- 05 Excitation, governors and power system stabilisers
- 06 Inertia decline and its consequences
- 07 Stability studies and their assumptions
- 08 Defence plans, load shedding and islanding
- 09 Event analysis

Upcoming dates

Dates	Venue	Format	Fee per delegate
12 to 16 October 2026	Dar es Salaam, Tanzania	Classroom	R11,995
15 to 19 October 2026	London, United Kingdom	Classroom	R11,995
25 to 29 October 2026	London, United Kingdom	Classroom	R11,995
28 November to 2 December 2026	Kampala, Uganda	Classroom	R11,995



Fees and how to register

Online **from R6,500** per delegate, classroom **from R11,995** per delegate, 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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