



POWER AND ELECTRICAL TRAINING

Power Grid Operation and Load Frequency Control

5 day course

Classroom, online or in-house

Course overview

System frequency is the continuous measure of whether generation matches demand, and controlling it is the central task of a control room. This course covers that task. Delegates work through the generation and demand balance, governor response and the primary control that arrests a frequency excursion, and automatic generation control as the secondary layer that restores it. Reserve categories and their procurement are covered, along with tie line control and area interchange in an interconnected system. Load shedding schemes, both under frequency and manual, are treated as the last line of defence, and the course closes on restoration after a partial or total collapse.

What you will learn

- Explain the generation and demand balance and its effect on frequency
- Describe governor response and primary frequency control
- Operate automatic generation control as the secondary layer
- Classify and procure reserve appropriate to a system
- Manage tie line control and area interchange
- Design and operate under frequency load shedding schemes
- Execute a restoration sequence after a collapse

Who should attend

- System operators and control room engineers
- Generation dispatchers
- Utility planning and operations engineers
- Power pool and interconnection staff
- Regulators and grid code authorities

Course outline

- 01 Frequency as the balance indicator
- 02 Governor response and primary control
- 03 Automatic generation control
- 04 Reserve categories and procurement
- 05 Tie line control and area interchange
- 06 Under frequency load shedding
- 07 Manual load shedding and rationing
- 08 Restoration after collapse

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Online	Online	R8,500
2 to 6 November 2026	Lusaka, Zambia	Classroom	USD 1,325
4 to 8 January 2027	Johannesburg, South Africa	Classroom	R19,950
8 to 12 February 2027	Durban, South Africa	Classroom	R19,950



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@afri-science.co.za, or WhatsApp us on **+27 63 479 1136**.

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