



## POWER AND ELECTRICAL TRAINING

# Power System Planning and Grid Reliability Management

3 day course

Classroom, online or in-house

## Course overview

A three day course covering both halves of keeping a grid supplied: the long term planning of generation and transmission, and the daily practice of managing reliability on a constrained system. Delegates work through load forecasting and generation expansion planning, transmission network planning and the evaluation of interconnection options against reliability standards, and the grid codes and stability requirements that govern what may connect. Reliability indices including SAIDI and SAIFI are used to prioritise investment rather than merely to report performance. The course closes on demand side management and load shedding mitigation, using regional power pool interconnection and load shedding experience as its reference points, for planners and regulators working with constrained grids.

## What you will learn

- Apply load forecasting techniques to long term generation and network planning
- Evaluate transmission and interconnection options against reliability standards
- Interpret grid codes and system stability requirements
- Assess reliability indices such as system average interruption duration to prioritise investment
- Develop demand side and load management strategies for constrained grids
- Test a plan against contingency and reserve margin criteria
- Weigh the cost of investment against the cost of unserved energy

## Who should attend

- Utility planning engineers
- Transmission engineers
- Regulators
- Power system analysts
- Energy ministry technical staff

## Course outline

- 01 Fundamentals of power system planning
- 02 Load forecasting and generation expansion planning
- 03 Transmission network planning and interconnections
- 04 Contingency analysis and reserve margins
- 05 Grid codes, stability and reliability standards
- 06 Reliability indices and outage management
- 07 Cost of investment against cost of unserved energy
- 08 Demand side management and load shedding mitigation strategies

## Upcoming dates

| Dates                   | Venue                      | Format    | Fee per delegate |
|-------------------------|----------------------------|-----------|------------------|
| 21 to 23 September 2026 | Johannesburg, South Africa | Classroom | R14,950          |
| 14 to 16 October 2026   | Lusaka, Zambia             | Classroom | USD 995          |
| 25 to 27 November 2026  | Online                     | Online    | R6,500           |



## Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** 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](http://www.afrisciencegroup.com), email [info@afriscience.co.za](mailto:info@afriscience.co.za), or WhatsApp us on **+27 63 479 1136**.

AfriScience Group | +27 61 536 6531 | [info@afriscience.co.za](mailto:info@afriscience.co.za) | Pretoria, Gauteng, South Africa