



## PROCESS AND CHEMICAL ENGINEERING

# Cathodic Protection Design, Monitoring and Maintenance

5 day course

Classroom, online or in-house

## Course overview

Cathodic protection defends buried and immersed steel that cannot be inspected, which means it is judged entirely on measurement rather than on appearance. This course covers designing and proving it. Delegates work through the electrochemical principle, sacrificial anode and impressed current systems and where each belongs, and current demand calculation against coating quality and soil resistivity. Anode selection, groundbed design and rectifier sizing follow. Monitoring is the heart of the course, covering potential measurement, the interpretation of instant off readings, and the interference effects that arise where several protected structures share ground.

## What you will learn

- Explain the electrochemical basis of cathodic protection
- Choose between sacrificial anode and impressed current systems
- Calculate current demand against coating quality and soil resistivity
- Select anodes and design a groundbed
- Size and commission a transformer rectifier
- Measure potentials and interpret instant off readings correctly
- Diagnose and mitigate stray current and interference effects

## Who should attend

- Corrosion and integrity engineers
- Pipeline and facilities engineers
- Cathodic protection technicians
- Maintenance and inspection staff
- Contractors installing and surveying systems

## Course outline

- 01 The electrochemical basis and protection criteria
- 02 Sacrificial anode systems
- 03 Impressed current systems
- 04 Current demand, coating quality and soil resistivity
- 05 Anode selection and groundbed design
- 06 Transformer rectifiers and commissioning
- 07 Potential measurement and instant off interpretation
- 08 Interference, stray current and shared ground

## Upcoming dates

| Dates                  | Venue              | Format    | Fee per delegate |
|------------------------|--------------------|-----------|------------------|
| 2 to 6 November 2026   | Kigali, Rwanda     | Classroom | USD 1,325        |
| 23 to 27 November 2026 | Maputo, Mozambique | Classroom | USD 1,325        |
| 1 to 5 February 2027   | Online             | Online    | R8,500           |

## 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](http://www.afrisciencegroup.com), email [info@afriScience.co.za](mailto:info@afriScience.co.za), or WhatsApp us on **+27 63 479 1136**.

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