



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Electrical Substation Maintenance

Custom Courses / Energy, Oil and Gas

Unit Standard AATICD-0513 · NQF Level 5 · 4 Credits · 2 Days

COURSE OVERVIEW

This course equips electrical maintenance personnel with the knowledge and skills required to safely and effectively maintain electrical substations. It covers substation components, maintenance procedures, safety regulations, and fault diagnosis to ensure reliable power supply and operational safety.

Category	Custom Courses
Subfield	Energy, Oil and Gas
Unit Standard	AATICD-0513
Accreditation	SAQA Accredited · NQF Level 5 · 4 Credits
Duration	2 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply relevant safety regulations and procedures to ensure personal and plant safety during substation maintenance.
- Analyze substation components and their functions to identify maintenance requirements.
- Implement routine and preventive maintenance procedures on transformers, switchgear, and protection systems.
- Evaluate maintenance records and test results to determine equipment condition and predict failures.
- Design a maintenance schedule that optimizes equipment reliability and minimizes downtime.
- Demonstrate correct use of testing and diagnostic equipment to verify substation performance.

WHO SHOULD ATTEND

- This course is designed for electricians, electrical technicians, maintenance supervisors, and engineers involved in the operation, maintenance, or management of electrical substations in industrial, utility, or commercial settings.

COURSE OUTLINE

Day 1: Fundamentals of Substation Maintenance

- Overview of substation types and configurations
- Key components: transformers, circuit breakers, disconnectors, busbars, insulators
- Maintenance philosophies: preventive, predictive, corrective
- Safety standards: OHS Act, SANS 1020, and safe working procedures
- Introduction to maintenance documentation and records
- Common failure modes and their indicators
- Basics of protection relays and control systems
- Environmental considerations in substation maintenance

Day 2: Advanced Maintenance Practices and Implementation

- Condition monitoring: thermography, oil analysis, partial discharge testing
- Testing of transformers, circuit breakers, and protection systems
- Maintenance planning: job cards, spare parts management, and shutdown planning
- Root cause analysis and failure investigation
- Maintenance optimization using reliability-centered maintenance (RCM)
- Emerging technologies: smart grids, digital substations, and remote monitoring
- Case studies of substation failures and corrective actions
- Legal and regulatory compliance in maintenance operations

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **4 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 11,900.00	R 11,900.00
1	In-House	R 15,400.00	R 15,400.00
1	On-Campus (Pretoria)	R 17,800.00	R 17,800.00

UPCOMING SESSIONS

Start	End	Method	Venue
30 Sep 2026	01 Oct 2026	In-House	—
30 Sep 2026	01 Oct 2026	On-Campus	Shenzhen, China
01 Oct 2026	02 Oct 2026	On-Campus	Blantyre, Malawi
05 Oct 2026	06 Oct 2026	On-Campus	Windhoek, Namibia
06 Oct 2026	07 Oct 2026	On-Campus	Kigali, Rwanda
06 Oct 2026	07 Oct 2026	Online	—
07 Oct 2026	08 Oct 2026	On-Campus	Lusaka, Zambia
07 Oct 2026	08 Oct 2026	On-Campus	Mbabane, Eswatini

Contact us if no suitable date is listed — on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard AATICD-0513) and click **Get A Quote / Apply**. Select your training method and number of delegates — your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za — our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically — the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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