

Domain**ELECTRICAL INSTALLATION****Title:****Maintain portable and fixed electrical equipment****Level: 3****Credits: 8****Purpose**

This unit standard is intended for those who maintain portable and fixed electrical equipment. People credited with this unit standard are able to plan and prepare for work; assess condition of appliance or equipment; replace faulty components; and clean-up work area.

This unit standard is intended for those who work as electricians.

Special Notes

1. Entry information:

Prerequisite

- *Unit 1157 - Demonstrate basic knowledge of workplace health and safety*

2. This unit standard is to be delivered and assessed in the context of electrical operations and should be assessed in conjunction with other relevant technical units selected from this domain.

3. To demonstrate competence, at a minimum, evidence is required of the correct interpretation of signs and successful rectification of faults.

4. Assessment evidence may be collected from a real workplace or a simulated workplace environment in which electrical operations are carried out.

5. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers and company guidelines, instructions, and reasonable flat rate time.

6. Glossary of terms

- '*Isolation and lockout procedures*' refer to isolating an electrical circuit from the source of supply
- '*Specifications*' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements, national and international standards and legislations
- '*ISO*' refers to International Organization for Standards
- '*SANS*' refers to South African National Standards
- '*TT system*' refers to *terra* and *terra* where *terra* is a direct connection point to earth
- '*TN-S system*' refers to *terra* and neutral separate
- '*TN-C-S system*' refers to *terra* and neutral combined from the supply and then separated in an installation

- ‘TN-C system’ refers to *terra* and *neutral combined*.
7. Regulations and legislation relevant to this unit standard include the following:
- Labour Act No. 11 of 2007
 - Petroleum Products and Energy Amendment Act No. 2 of 2005
 - National Energy Fund Act of 2000
 - Gas Act (Draft 2b)
 - Regulations relating to the health & safety of employees at work under Schedule 1 (2) of the Labour Act No.11 of 2007
 - ISO 14001 (Environmental Management Standard)
 - Electricity Act No.4 of 2007
 - SANS 10142-1 and SANS 10142-2 Electrical Wiring Code and all subsequent amendments to any of the above.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Performance Criteria

- 1.1 Work instructions, including plans, specifications, job cards, quality requirements and operational details are obtained, confirmed and interpreted.
- 1.1 Safety requirements are followed in line with safety plans and policies.
- 1.3 Personal Protective Equipment are selected in line job and safety requirements.
- 1.4 Tools and equipment selected to carry out tasks are consistent with job requirements, checked for serviceability, and any faults are rectified or reported prior to commencement.
- 1.2 Signage and barricade requirements are identified and implemented, where necessary.
- 1.3 Material quantity requirements are calculated in line with plans, specifications and quality requirements.
- 1.4 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Assess condition of appliance or equipment

Range

Assessment on appliance or equipment condition includes functional testing, measurements, visual, sound and functional assessment (including damage, corrosion, leakage, wear) in line with manufacturers' requirements and specifications.

Performance Criteria

- 2.1 Portable appliance and equipment condition assessment is conducted in accordance with legislative requirements, workplace procedures and manufacturers' specification.
- 2.2 Measurement results are compared with manufacturers' specifications.
- 2.3 Results of portable appliance and equipment condition assessment are documented with evidence and supporting information and recommendation(s) is made in line with workplace procedures.
- 2.4 Report on portable appliance and equipment condition assessment is compiled and administered according to workplace procedures.

Element 3: Replace faulty components

Performance Criteria

- 3.1 Faulty components are identified according to manufacturer's procedures.
- 3.2 Serviceability of components is determined in line with manufacturers' specifications and workplace procedures.
- 3.3 Faulty components are replaced and tested according to manufacturer's procedures.
- 3.4 Portable appliance or fixed equipment is commissioned according to workplace procedures.

Element 4: Clean-up work area

Performance Criteria

- 4.1 Work area is cleared, cleaned, restored and secured in line with workplace procedures.
- 4.2 Tools and equipment are cleaned, checked and stored in line with manufacturer specifications and workplace procedures.
- 4.3 Materials and wastes are disposed of, reused, or recycled in accordance with legislation, regulations, codes of practice and job specifications.

Registration Data

Subfield:	Electrical Engineering
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