	Unit ID: 1231
Domain	**ELECTRICAL INSTALLATION**
Title:	**Install standby power systems**
Level: 4	**Credits: 4**

Purpose

This unit standard is intended for those who install standby power systems. People credited with this unit standards are able to plan and prepare for work; install uninterruptable power systems; install standby generators; 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. To demonstrate competence, at a minimum, evidence is required of installing standby power systems, interpretation of drawings. In performing these tasks ensure identification of requirements, selection and use of tools and equipment and completing all work to specification.

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

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

5. 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*.

6. 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 and all subsequent amendments.
   - ISO 14001 (Environmental Management Standard)
   - Electricity Act No.4 of 2007
   - SANS 10142-1 and SANS 10142-2 electrical wiring codes 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.

1.2 Safety requirements are followed in line with safety plans and policies.

1.3 Personal protective equipment is 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.

1.5 Signage and barricade requirements are identified and implemented, where necessary.

1.6 Material quantity requirements are calculated in line with plans, specifications and quality requirements.

1.7 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Install uninterruptable power systems

Performance Criteria

2.1 Operating principles of uninterruptable power systems are described.

2.2 Mounting positions are identified and mounting procedures confirmed according to organisational procedures.

2.3 Accessories are mounted according to organisational procedures.

2.4 Uninterruptable power supply is checked for correct operation and final adjustments made according to manufacturer's requirements.

2.5 Work completion details are finalised in line with workplace procedures.

Element 3: Install standby generators

Performance Criteria

3.1 Principle of standby power plants is explained.

3.2 Calculations for standby power system ratings are conducted according to workplace procedures.

3.3 Mounting position for generator is identified and mounting procedures confirmed.

3.4 Accessories are mounted according to organisational procedures.

3.5 Generator is checked for correct operation and final adjustments made according to manufacturer's requirements.

3.6 Work completion details are finalised in line with 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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