

Domain

Title:

Level: 1

Unit ID: 1643

SOLAR INSTALLATION
Demonstrate basic knowledge of
environmental issues relating to solar
energy installations

Credits: 4

Purpose

This unit standard specifies the competencies required to demonstrate basic knowledge of negative environmental impact of solar systems. It includes the following elements: demonstrate knowledge of renewable energy and energy efficiency concepts; demonstrate knowledge of water use and conservation, demonstrate knowledge of land use and ecology, and demonstrate knowledge of waste management. This unit standard is intended for those who work in a solar energy installation environment.

Special Notes

1. Entry information:

Prerequisite:

- *1641: Apply safety rules and regulations in a solar energy installation environment or demonstrated equivalent knowledge and skills.*

2. This unit standard is to be delivered and assessed in the context of solar system operations and should be assessed in conjunction with other relevant technical unit standards selected from this domain.
3. To demonstrate competence at minimum, evidence is required of correctly identifying requirements, finishing of the tasks, correctly selecting and using appropriate processes, tools and equipment and completing all work to specification.
4. Assessment evidence may be collected at a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which Solar home system 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's guidelines and instructions.
6. '*Specifications*' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements.
7. Regulations and legislation relevant to this unit standard include the following:
 - Labour Amendment Act, 2012 (Act No. 2 of 2012)
 - Occupational Health and Safety Act No 18 of 1997
 - SANS 10142-1 and SANS 10142-2 electrical wiring codes
 - ISO 140019 (Environmental Management Standards)

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: Demonstrate knowledge of renewable energy and energy efficiency concepts

Performance criteria

- 1.1 Energy efficiency appliances are discussed.
- 1.2 The use of thermal heating system is explained.
- 1.3 Reduction of greenhouse gasses emission is discussed.
- 1.4 Renewable energy technologies are discussed.

Element 2: Demonstrate knowledge of water use and conservation

Performance criteria

- 2.1 Prevention of water pollution is discussed.
- 2.2 Water harvesting methods are discussed.
- 2.3 Sustainability and management of water are explained.

Element 3: Demonstrate knowledge of land use and ecology

Performance criteria

- 3.1 Land degradation is discussed.
- 3.2 Protection of flora and fauna is discussed.
- 3.3 Land management is explained.

Element 4: Demonstrate knowledge of waste management

Range:

Knowledge of waste management procedures may also include avoidance, minimising, separating, treating and processing of waste material.

Performance criteria

- 4.1 Disposal of hazardous material is discussed.
- 4.2 Recycling of used material is explained.
- 4.3 Reuse of the material is explained.
- 4.4 Reduction of waste products is explained.

Registration Data

Subfield:	Electrical Engineering
Date first registered:	28 March 2018
Date this version registered:	28 March 2018
Anticipated review:	2023
Body responsible for review:	Namibia Training Authority