

Domain

SOLAR INSTALLATION

Title:

Repair Solar Home Systems

Level: 3

Credits: 3

Purpose

This unit standard specifies the competencies required to repair Solar Home Systems. It includes the following elements: inspect systems; determine faulty units and components; replace or repair units and component and maintain units and components. This unit is intended for those who work as solar technicians.

Special Notes

1. Entry information:

Prerequisite:

- *1641: Apply safety rules and regulations in a solar energy installation environment or demonstrated equivalent knowledge and skills*
- *1642: Demonstrate basic knowledge of electricity*
- *1647: Draw and interpret basic technical drawings*
- *1650: Use and maintain electrical and mechanical tools for solar equipment installation*
- *1643: Demonstrate basic knowledge of environmental issues relating to solar energy installations.*
- *1657: Install Solar Home Systems*

2. To demonstrate competency, at a minimum, evidence is required of using removing and fixing tools; administering user questionnaires and following manufacturers' manuals and knowledge of working functions of the components, units and the entire system.

3. Tools, equipment, accessories and materials may include but are not limited to removing/fixing tools; cutting, drilling and grinding tools; folding and bending tools; welding and soldering tools; digital or analogue multi-meter (clamp meter), compass, angle meter, calculators; manufacturers' manuals and guides.

4. Assessment evidence may be collected from drawings, real workplace or an appropriate simulated realistic environment in which system designs are carried out.

5. Performance of all elements in this unit standard must comply with all relevant workplace requirements and manufacturers' specifications.

6. Glossary of terms:

- 'SHS' refer to Solar Home System.
- 'AC' refers to Alternating Current.
- 'DC' refers to Direct Current.

7. Regulations and legislation relevant to this unit standard include the following:

- Labour Act No. 11 of 2007.
- National Energy Fund Act of 2000.

- Gas Act (Draft 2b).
- Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.
- ISO 14001 (Environmental Management Standard) 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.

Element 1: Inspect systems

Performance criteria

- 1.1. User questionnaire is developed according to workplace procedures.
- 1.2. User is interviewed according to workplace procedures
- 1.3. System installation is checked according to workplace procedures.
- 1.4. System operation is checked according to workplace procedures.

Element 2: Determine faulty units and components

Performance criteria

- 2.1. Performance of the system is observed.
- 2.2. Troubleshooting steps and methods are explained and demonstrated.
- 2.3. Units and components that are faulty are identified according to workplace procedures.

Element 3: Replace or repair units and components

Performance criteria

- 3.1. Tools and equipment are selected according to workplace procedures.
- 3.2. Units and components are selected for replacement or repair according to workplace procedures.
- 3.3. Housekeeping is performed.

Registration Data

Subfield:	Electrical Engineering
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