	Unit ID: 595
Domain	**AIR CONDITIONING AND REFRIGERATION**
Title:	**Service evaporative coolers as part of air condition and refrigeration operations**
Level: 4	**Credits: 4**

Purpose

This unit standard specifies the competencies required to service evaporative coolers. It includes testing faults in evaporative coolers, replacing and repairing pumps and bearings .This unit standard is intended for those who work as air conditioning and refrigeration mechanics.

Special Notes

1. Entry information:

   Prerequisite
   - Unit 567 - *Apply health and safety routines in an air conditioning and refrigeration workplace* or demonstrated equivalent knowledge and skills.

2. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which air conditioning and refrigeration operations are carried out.

3. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' specifications and/or company's guidelines and instructions.

4. Glossary of terms:
   - *'ACR'* refers to air conditioning and refrigeration systems
   - *'specifications'* refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements.

5. Regulations and legislation relevant to this unit standard include the following:
   - Labour Act, No. 11, 2007
   - Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.

6. Performance of all elements in this unit standard must comply with industry standards.

7. This unit standard applies to single-phase and three-phase air conditioning and refrigeration systems.

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 and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work.

Range

Tools and equipment may include but are not limited to pulley, grease gun, multimetre, water pump pliers, screw drivers and silicone gun.

Material may include but is not limited to silicone-belts.

Performance Criteria

1.1 Work instructions, including job cards, specifications and operational details are obtained, confirmed and applied.

1.2 Workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements is carried out.

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

1.4 Equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults rectified or reported prior to commencement.

1.5 Material requirements are identified and obtained in line with job card and/or specifications.

1.6 Materials are safely handled and located ready for use in line with workplace procedures.

1.7 Technical and/or calibration requirements for tools and equipment are sourced and implemented in line with workplace procedures.

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

Element 2: Test faults in evaporative coolers.

Range

Different conditions and faults may include but are not limited to open circuit, short circuit, incorrect connections, water connections, insulation failure, unsafe condition, motor component failure, control circuit failure and related mechanical failures.

Visual inspection may include but is not limited to check for driving belts.

Operational tests may include but are not limited to mechanical tests; motor direction and electrical circuit tests.

Performance Criteria

2.1 Visual inspections are carried out in line with workplace procedures.

2.2 Operational tests of the evaporative cooler are conducted.

2.3 Fault(s) are identified and reported to appropriate personnel in line with workplace procedures.

Element 3: Repair and replace pumps and bearings in evaporative coolers.

Range

Repair methods may include but are not limited to disassembling and assembling of motor components, replacing of system components such as driving belts, pumps, bearings and filter bags.

Performance Criteria

3.1 Procedures and information required for repairing and replacing pumps and bearings in evaporative coolers are identified and sourced in line with workplace procedures.

3.2 Evaporative cooler is isolated from power source.

3.3 Repair methods are implemented in line with workplace procedures and legislative requirements.

3.4 Component parts are tagged during the dismantling to help ensure correct and efficient reassembly and stored to protect them against loss or damage.

3.5 Replacement components/parts are obtained in line with workplace procedures.

Element 4: Complete work and clean up.

Range

Work completion details may include but are not limited to job card, sign-out form for equipment, and maintenance form.

Performance Criteria

4.1 Work is completed and appropriate personnel notified in line with workplace procedures.

4.2 Reusable, faulty or worn components are tagged and dispatched for repair to maintain adequate spares inventory.

4.3 Work area is cleared of waste, cleaned, restored and secured in line with workplace procedures.

4.4 Maintenance work activities are documented in line with workplace procedures.

4.6 Equipment used is cleaned, checked, maintained and stored in line with workplace procedures.

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

Registration Data

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