

REPUBLIC OF



KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

ELECTRICAL OPERATOR (POWER OPTION)

KNQF LEVEL 5

ISCED CODE: 07130554 B



TVET CDACC
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NAIROBI

PERFORM ELECTRICAL BREAKDOWN MAINTENANCE

UNIT CODE: ENG/OS/PO/CR/07/5/B

UNIT DESCRIPTION

This unit covers the competencies required to perform Electrical breakdown maintenance. Competencies includes; identifying system failure, preparing list of tools, equipment and materials, troubleshooting cause of failure, repairing the system, testing the system and documenting maintenance report.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function	These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicised terms are elaborated in the Range)</i>
1. Identify system failure	1.1 Information about the failure is obtained from the user, as per set procedures. 1.2 System manuals are referred to in identifying test points and measured parameters as per standard operating procedure.
2. Prepare list of tools, equipment & materials	2.1 Maintenance tools, equipment and materials are identified 2.2 Specifications and functionality of tools, equipment and materials are checked in accordance with the applicable technical and safety standards
3. Troubleshoot cause of failure	3.1 Safety procedures are applied in accordance with the safety standards 3.2 System trouble shooting is conducted in accordance with the set procedure 3.3 System failure results are recorded as per established procedure. 3.4 Parameters are compared against the standard values 3.5 Decision is made and recommendations are recorded as per the system functionality
4. Repair the system	4.1 Safety precautions are adhered to in line with standard operating procedures.

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These describe the key outcomes which make up workplace function	These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicised terms are elaborated in the Range)</i>
	4.2 System is repaired or replaced in accordance with maintenance manual. 4.3 Repair activities are recorded according to the established procedure 4.4 Waste materials are disposed in line with the EHS
5. Test the system	5.1 Appropriate tests and test points are identified 5.2 Safety procedures are adhered to 5.3 System is tested as per standard operating procedures 5.4 Test results are recorded according to the established procedures 5.5 Parameters are compared against the standard values
6. Document maintenance report	6.1 Maintenance report is prepared according to approved format 6.2 Maintenance report is shared with the relevant parties 6.3 Filing of maintenance report is performed as per the standard operating procedure

RANGE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

Variable	Range
1. Failure may include but is not limited to:	<ul style="list-style-type: none"> • Partial • Total
2. Manual may include but is not limited to:	<ul style="list-style-type: none"> • Maintenance • Operational • Installation • Commissioning • Technical specification /data sheet

Variable	Range
3. Parameters may include but is not limited to:	<ul style="list-style-type: none"> • Currents • Voltage • Resistance • Temperature • Capacitance • Light intensity • Sound • Speed • Efficiency

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Communications (verbal and written);
- Proficient in ICT;
- Time management;
- Analytical
- Faults troubleshooting;
- Problem solving;
- Planning;
- Decision making;
- First aid;
- Report writing;

Required knowledge

- The individual needs to demonstrate the following knowledge:
- The manufacturer's warranty requirements relating to maintenance activities for the electrical installation systems and related components.
- The legal and statutory requirements relating to electrical maintenance activities.
- workplace procedures relevant to:
 - health and safety;
 - the environment (including waste disposal);
 - appropriate personal and protective equipment;
- Appropriate use of service and maintenance manuals

- Workplace procedures for:
 - Fault identification and diagnosis
 - Appropriate use of tools and equipment;
- Repairing, modifying or replacing defective parts or components
- The importance of documenting maintenance information.
- The importance of working within agreed timelines and sharing progress reports.
- The relationship between time and costs.
 - Recording electrical maintenance activities
- Reporting of technical challenges
- The importance of reporting anticipated delays to relevant parties promptly.

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: <ul style="list-style-type: none"> 1.1 Identified the cause of failure 1.2 Repaired the fault on the system 1.3 Tested the system functionality 1.4 Identified and used appropriate maintenance tools and materials 1.5 Obtained, recorded and interpreted test results 1.6 Maintenance report was prepared and filed 1.7 Adhered to EHS in waste disposal
2. Resource Implications	<i>The following resources must be provided:</i> <ul style="list-style-type: none"> 2.1 Electrical toolkit 2.2 Testing equipment 2.3 Measuring equipment <p>Resources the same as that of workplace are advised to be applied</p>
3. Methods of Assessment	Competency may be assessed through: <ul style="list-style-type: none"> 3.1 Written test 3.2 Oral test 3.3 Observation 3.4 Practical demonstration
4. Context of Assessment	Competency may be assessed individually in the actual workplace or through a simulated work place setting

5. Guidance information assessment	for	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.
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