PERFORM ELECTRICAL SYSTEM BREAKDOWN MAINTENANCE

UNIT CODE: ENG/OS/EIT/CR/07/6/A

UNIT DESCRIPTION

This unit covers the competencies required to perform breakdown maintenance in an electrical installation system. Competencies include fault identification, repairing, testing and generating maintenance report.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function.	**PERFORMANCE CRITERIA** These are assessable statements which specify the required level of performance for each of the elements. ***(Bold and italicised terms are elaborated in the Range)***
1. Identify system failure	1.1 The necessary information about the failure is obtained from the user, as per set procedures. 1.2 Manuals for the system are referred to identify test points and measured parameters where applicable.
2. Troubleshoot cause of failure	2.1 Safety procedures are applied in accordance with the safety standards 2.2 System trouble shooting is conducted in accordance with the set procedure 2.3 System is diagnosed for failure using the appropriate procedure 2.4 System failure results are recorded as per established procedure. 2.5 Parameters are compared against the standards values 2.6 Decision is made and recommendations are recorded
3. Prepare list of tools, equipment & materials	3.1 Maintenance tools, equipment and materials are identified 3.2 Specifications and functionality of tools, equipment and materials are checked in accordance with the applicable technical and safety standards
4. Repair the system	4.1 Safety precautions are observed 4.2 System is repaired in accordance with maintenance manual where applicable 4.3 Repair activities are recorded according to the established procedure

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. ***(Bold and italicised terms are elaborated in the Range)***
5. Test the system	5.1 Appropriate tests and test points are identified Safety procedures are adhered to 5.2 System is tested as per test procedure 5.3 Test results are recorded according to the established procedures 5.4 Parameters are compared against the standard values 5.5 Maintenance report is prepared according to approved format

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
Failure may include but is not limited to:	• Partial • Total
Manual may include but is not limited to:	• Maintenance • Operational • Installation • Commissioning • Technical specification /data sheet
Parameters may include but is not limited to:	• Light intensity • Sound • Speed • Efficiency • Temperature • Electrical quantities e.g. Voltage, current and resistance levels • Expected output

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

• The manufacturer's warranty requirements relating to inspection and testing activities for the electrical installations and related components. • The manufacturer's warranty requirements relating to inspection and testing activities for the electrical installations and related components. • Legislation and workplace procedures relevant to ➢ Health and safety; ➢ The environment (including waste disposal); ➢ Appropriate personal protection equipment (PPE). • How the system operates • The operating specifications and tolerances for different types of installed systems • The hazards associated with operating the system. • Identification of users to be trained	• Workplace procedures for ➢ Using test tools and instruments ➢ Work place communication; ➢ Time management ➢ Tools and equipment management • The importance of documentation and keeping records • The relationship between time and costs. • Performing tests including ➢ Connection of testing equipment ➢ Operation of testing equipment ➢ Recording and interpretation of test results ➢ Making recommendations based on test results ➢ Compiling test report

FOUNDATION SKILLS

The individual needs to demonstrate the following additional skills:	
• Proficient in using test equipment • Time management • Analytical • Faults troubleshooting • Problem solving	• Planning • Decision making • First aid • Report writing

EVIDENCE GUIDE

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

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Safely used testing equipment and tools 1.2 Obtained, recorded and interpreted test results 1.3 Repaired and maintained a system
2. Resource Implications	Resources the same as that of workplace are advised to be applied. Include: Electrical installation tool kit Testing equipment, Measuring equipment
3. Methods of	Competency may be assessed through:

Assessment	3.1 Observation 3.2 Oral questioning 3.3 Written test 3.4 Portfolio of Evidence 3.5 Interview 3.6 Third party report
4. Context of Assessment	Competency may be assessed individually in the actual workplace or through simulated work environment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.