

MAINTAIN ELECTRICAL INSTALLATION SYSTEMS

UNIT CODE: ENG/OS/EIT/CR/06/6/A

UNIT DESCRIPTION

This unit covers the competencies required to carry out maintenance in electrical installation systems. The maintenance includes scheduling maintenance, visual inspection, testing, system servicing and documentation of test results

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. <i>(Bold and italicised terms are elaborated in the Range)</i>
1. Prepare maintenance schedule	1.1 Type of the system to be maintained is identified 1.2 The maintenance type and scope are defined 1.3 Relevant manual/service instruction is referred to 1.4 Maintenance schedule is developed in accordance with the service checklist 1.5 Relevant maintenance procedures are referred to where applicable
2. Inspect electrical system	2.1 System is inspected according to the established procedure 2.2 Instances where the maintenance activities cannot be fully met or where there are defects outside the planned schedule are identified and recorded
3. Prepare list of materials, tools and equipment	3.1 Tools, equipment and materials relevant for maintenance are identified and documented 3.2 Specifications of identified tools, materials and equipment are checked against safety standards where applicable
4. Perform system maintenance	4.1 Maintenance check list is prepared based on service manual where applicable 4.2 Service points and parameters are defined 4.3 Maintenance activities are carried out in consultation with relevant parties 4.4 Maintenance activities are carried out in the specified sequence and within agreed timelines Maintenance is done in accordance with health and safety and other relevant regulations and standards 4.5 Maintenance activities are recorded according to

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	<p>the checklist</p> <p>4.6 Waste materials are disposed in accordance with safe working practices and approved procedures</p>
<p>5. Conduct system tests</p>	<p>5.1 Test points are identified as per system manual</p> <p>5.2 System tests are conducted and results recorded according to established procedure</p> <p>5.3 Test result is recorded as per the established company rule</p> <p>5.4 Test results are documented and shared with the relevant parties</p>

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
<p>System may include but is not limited to:</p>	<ul style="list-style-type: none"> • Security • Wind • Power generator • Domestic installations • Industrial installations • Water heating • CCTV • Power transmission and distribution • Horticulture • IBMS •
<p>Maintenance type may include but is not limited to:</p>	<ul style="list-style-type: none"> • Periodic • Preventive • Breakdown • Ad-hoc •
<p>Relevant parties may include but is not limited</p>	<ul style="list-style-type: none"> • Service providers • Client/representatives • Other service providers

Variable	Range
to:	<ul style="list-style-type: none"> • Security
Waste material may include but is not limited to:	<ul style="list-style-type: none"> • Old batteries • Oil • Cable lugs • • Tapes • Cable sheaths • Offcuts • Recovered faulty parts • Cable armouries

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ➢ 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 	<ul style="list-style-type: none"> • Workplace procedures for <ul style="list-style-type: none"> ➢ 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 <ul style="list-style-type: none"> ➢ Connection of testing equipment ➢ Operation of testing equipment ➢ Recording and interpretation of test results ➢ Making recommendations based on test results ➢ Compiling test report
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FOUNDATION SKILLS

The individual needs to demonstrate the following additional skills:	
<ul style="list-style-type: none"> • Proficient in using test equipment • Time management 	<ul style="list-style-type: none"> • Planning • Decision making

<ul style="list-style-type: none"> Analytical Faults troubleshooting Problem solving 	<ul style="list-style-type: none"> First aid Report writing
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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	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Applied safety standards 1.2 Used appropriate maintenance tools and equipment safely 1.3 Safely conducted system tests 1.4 Demonstrated techniques of maintenance work
2. Resource Implications	<p>Resources the same as that of workplace are advised to be applied. Include: Stationery, Test equipment and tool, Communication equipment, Service manuals</p>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 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	<p>Competency may be assessed individually in the actual workplace or through simulated work environment</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>