

MAINTAIN ELECTRICAL INSTALLATION SYSTEMS

UNIT CODE: ENG/OS/EI/CR/06/6

UNIT DESCRIPTION

This unit covers the competencies required to carry out maintenance in electrical installation systems. The maintenance includes scheduling, inspection of electrical system, preparation of list of tools, material and equipment, system maintenance and tests.

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

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 <i>May include but is not limited to:</i>
1. System	1.1 Security 1.2 Wind 1.3 Power generator 1.4 Domestic installations 1.5 Industrial installations 1.6 Water heating 1.7 CCTV 1.8 Power transmission and distribution 1.9 Horticulture 1.10 IBMS
2. Maintenance type	2.1 Periodic 2.2 Preventive 2.3 Breakdown 2.4 Ad-hoc
3. Relevant parties	3.1 Service providers 3.2 Client/representatives 3.3 Other service providers

Variable	Range <i>May include but is not limited to:</i>
	3.4 Security
4. Waste material	1.1 Old batteries 1.2 Oil 1.3 Cable lugs 1.4 Tapes 1.5 Cable sheaths 1.6 Offcuts 1.7 Recovered faulty parts 1.8 Cable armouries

REQUIRED KNOWLEDGE AND UNDERSTANDING

The individual needs to demonstrate knowledge and understanding of:

1. Organisational and legislative requirements including:	
1.1	The manufacturer's warranty requirements relating to maintenance activities for the electrical installation systems and related components.
1.2	The legal requirements relating to system maintenance
1.3	Legislation and workplace procedures relevant to: 1.3.1 Health and safety; 1.3.2 The environment (including waste disposal); 1.3.3 Appropriate PPE 1.3.4 Appropriate bylaws
1.4	Workplace procedures for: 1.4.1 recording system maintenance work and any variations from the original specification; 1.4.2 Accidents and incidents reporting 1.4.3 Reporting of challenges
1.5	The importance of documenting maintenance information.
1.6	The importance of working within agreed timelines and sharing progress reports
1.7	The relationship between time and costs.
1.8	The importance of reporting anticipated delays to relevant parties promptly.
2. The use of technical information including:	
2.1	How to find, interpret and use sources of technical information for scheduled maintenance activities, including on-board diagnostic displays.
2.2	The importance of using the correct sources of technical information.

1. Organisational and legislative requirements including:	
3. The operation of installed systems including:	
3.1	How the system operates.
3.2	The operating specifications and tolerances for the different type(s) of systems
3.3	The hazards associated with maintaining electrical Systems
4. Routine maintenance requirements including:	
4.1	How to conduct scheduled, routine system maintenance activities using prescribed checklist
4.2	How to record failures and faults
5. Conducting system tests	

FOUNDATION SKILLS

<i>The individual needs to demonstrate the following foundation skills:</i>	
<ul style="list-style-type: none"> • Communications (verbal and written); • Proficient in ICT; • Time management; • Analytical • Faults troubleshooting; • Problem solving; • Planning; 	<ul style="list-style-type: none"> • Decision making; • First aid; • Report writing;

EVIDENCE GUIDE

This provides advice on assessment and must be 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 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	The following resources must be provided: <ul style="list-style-type: none"> 2.1 Stationery 2.2 Test equipment and tools 2.3 Communication equipment

	2.4 Service manuals
3. Methods of Assessment	Competency may be assessed through: 3.1 Oral questioning 3.2 Practical demonstration 3.3 Observation
4. Context of Assessment	Competency may be assessed individually in the actual workplace or through a simulated work place environment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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