Australian Government

UEEAS0007 Assemble, mount and connect control gear and switchgear

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to assemble, mount and connect control gear and switchgear, including the interconnections within a switchboard enclosure intended to operate at voltages up to 1,000 volts (V) alternating current (a.c.) or 1,500 V direct current (d.c.).

It includes working safely; following standards, specifications and component manufacturer requirements; matching equipment with that specified; terminating cables; connecting wiring and completing necessary documentation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEEEL0003 Arrange circuits, control and protection for general electrical installations

UEEEL0020 Solve problems in low voltage a.c. circuits

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

UEEEL0005 Develop and connect electrical control circuits

UEEEL0019 Solve problems in direct current (d.c.) machines

UEEEL0021 Solve problems in magnetic and electromagnetic devices

UEEEL0024 Solve problems in alternating current (a.c.) rotating machines

UEEEL0025 Test and connect transformers

and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

Competency Field

Assembly

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan to assemble, mount and connect control gear and switchgear	**1.1** Switchgear and control gear assembly installation is determined and planned in accordance with job specifications, wiring and schematic diagrams
	1.2 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified and applied
	1.3 Work instructions, including layout and wiring diagrams, are applied in accordance with workplace procedures
	1.4 Advice is sought from supervisor to ensure work is coordinated effectively with relevant person/s
	1.5 Materials required for the control gear and switchgear installation work are obtained in accordance with workplace procedures
	1.6 Tools, equipment and measuring devices required to carry out work are obtained and checked for correct operation and safety
2 Assemble, mount and connect control gear and switchgear	**2.1** Switchgear and control gear assembly hazards are identified, risks assessed and control measures are implemented in accordance with workplace procedures
	2.2 Circuits are checked and isolated in accordance with WHS/OHS workplace requirements and procedures

	2.3	Component layout is in accordance with job specifications, wiring and schematic diagrams
	2.4	Switchgear/control gear is fitted in accordance with work instructions, industry standards, manufacturer specifications and workplace procedures
	2.5	Interconnections are made in accordance with work instructions, industry standards and workplace procedures
	2.6	Regular quality checks are carried out in accordance with workplace procedures
	2.7	Completed switchboard function is tested in accordance with workplace procedures, industry standards and manufacturer specifications
	2.8	Labelling and numbering cable are undertaken in accordance with industry standards, wiring and schematic diagrams
	2.9	Unplanned events are referred to supervisor for directions in accordance with workplace procedures
	2.10	Assembly work is carried out without waste of materials or damage to apparatus, the surrounding environment or services and using sustainable energy practices
3 Finalise and inspect assembled control gear and switchgear installation	**3.1**	Assembled switchboard panel is visually inspected and checked against work instructions, industry standards and manufacturer specifications in accordance with workplace procedures
	3.2	Problem-solving techniques are used where corrective actions to assembled components are required in accordance with regulatory requirements and industry standards
	3.3	Work completion is documented and relevant person/s notified in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Assembling at least two different control panels must include:

- general supply main switches
- multiple supplies
- safety services

Unit Mapping Information

This unit replaces and is equivalent to UEENEEA110A Assemble, mount and connect control gear and switchgear.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6