Australian Government

UEEEL0069 Select and arrange equipment for special LV electrical installations

Release: 2

UEEEL0069 Select and arrange equipment for special LV electrical installations

Modification History

Release 2. Minor change. Typographic error in prerequisites corrected.

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 select and arrange electrical equipment into distribution circuits for installations associated with construction and demolition sites, transportable structures and vehicles, including their site supplies, marinas, electromedical treatment areas (patient areas), and shows and carnivals operating up to 1,000 volt (V) alternating current (a.c.) or 1,500 V direct current (d.c.).

It includes arranging the installation for correct functioning and safe connection to supply by the selection of switchgear, control gear, protection devices and wiring based on calculated and deemed-to-comply solutions. It also includes completing electrical installation documentation.

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V a.c or 120 V d.c.

Competency development activities in this unit are subject to regulations directly related to licensing. Where a licence or permit to practice is not held, a relevant contract of training, such as an Australian Apprenticeship, may be required.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to work health and safety (WHS)/occupational health and safety (OHS) regulations.

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

UEEEL0018 Select wiring systems and cables for low voltage general electrical installations

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

UEEEL0021 Solve problems in electromagnetic devices

UEEEL0008 Evaluate and modify low voltage heating equipment and controls

UEEEL0009 Evaluate and modify low voltage lighting circuits, equipment, and controls

UEEEL0010 Evaluate and modify low voltage socket outlets circuits

UEEEL0024 Test and connect 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

Electrical

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 Prepare to select equipment	**1.1** Scope and nature of the electrical installation is determined from job specifications
	1.2 Safety and relevant regulatory electrical installation requirements are identified and applied
2 Arrange installation into circuits	**2.1** Circuits are arranged to ensure safe and functional operation of the installation
	2.2 Circuits are arranged to comply with applicable technical industry standards and job specification

		requirements
	2.3	Earthing is arranged to comply with the multiple earthed neutral (MEN) system requirements
3 Select cables, protection and switchgear	**3.1**	Wiring is selected for suitability for the environments in which they are installed
	3.2	Cable conductor sizes are selected to meet current-carrying capacity requirements and voltage-drop and fault-loop impedance limitations
	3.3	Protection methods and devices are selected to meet coordination requirements for overload and short circuit protection
	3.4	Switchgear and control gear are selected to meet current, voltage and ingress protection (IP) ratings and functional requirements
	3.5	Earthing system components are selected to meet requirements of the MEN system
	3.6	Evidence is obtained that electrical equipment selected complies with safety requirements
4 Document electrical installation	**4.1**	Electrical installation equipment selections and calculations are documented in accordance with workplace procedures
	4.2	Electrical installation arrangement and specifications for items are documented in accordance with workplace procedures and forwarded to appropriate person/s

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.

Selecting and arranging low voltage (LV)	• caravan parks

electrical equipment must include at least two of the following types of special installations:	• construction and demolition sites • marinas • medical treatment areas • moveable premises • shows and carnivals
Special LV electrical installations must include the following:	• consumer mains • main earthing system and main switchboard • sub-mains • earthing system and distribution boards • final sub-circuits and requirements particular to the installation type

Unit Mapping Information

This unit replaces and is equivalent to UEENEEG120A Select and arrange equipment for special LV electrical installations.

Links

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