Australian Government

UEEEL0033 Conduct electrical tests on LV electrical machines

Release: 2

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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 conduct electrical safety and functional inspections and tests of electrical machines designed to operate at low voltage (LV).

It includes planning and conducting electrical inspections and tests on induction machines by working safely; setting up and conducting continuity, insulation and short circuit inspections and tests; and interpreting and documenting test results.

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 volt (V) alternating current (a.c.) or 120 V direct current (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

UEEEL0020 Solve problems in low voltage a.c. circuits

UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

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

UEEEL0021 Solve problems in electromagnetic devices

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

and

UEEEL0003 Arrange circuits, control and protection for general electrical installations

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

UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits

or

UEEEL0056 Place and connect electrical coils

UEEEL0068 Rewind three phase low voltage induction machines

UEEEL0074 Wind electrical coils

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 conduct electrical inspections and tests on induction machines	**1.1** WHS/OHS requirements and workplace procedures for a given work area are identified and applied
	1.2 Existing WHS/OHS risk control measures for work preparation are followed

	1.3	Scope of work is determined from job specifications and regulatory requirements
	1.4	Advice is sought from the work supervisor to ensure the work is coordinated effectively with others
	1.5	Winding data is obtained from winding data records or directly from measurements of stator and recorded in accordance with workplace procedures
	1.6	Materials required for the work are obtained in accordance with workplace procedures
	1.7	Tools, equipment and testing devices needed to carry out work are obtained and checked for correct operation and safety
2 Conduct electrical inspections and tests on induction machines	**2.1**	Existing WHS/OHS risk control work measures are followed
	2.2	Machines/equipment are inspected, checked and isolated in accordance with WHS/OHS requirements and workplace procedures
	2.3	Electrical inspection and tests are conducted to establish operational condition of the machine in accordance with workplace procedures and instructions
	2.4	Serviceability status of the machine is determined from inspection and test results and recorded
	2.5	Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
	2.6	Electrical testing is completed within timeframe, environment and workplace conditions
3 Complete workplace reports	**3.1**	WHS/OHS work completion risk controls measures are followed
	3.2	Serviceability status of the machine is documented in accordance with workplace procedures and appropriate person/s notified

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.

Conducting LV electrical machine inspections and tests must include the following:	• inspection and testing of at least one machine prior to routine maintenance, overhaul or repair • inspection and testing of at least one machine after routine maintenance, overhaul or repair

Unit Mapping Information

This unit replaces and is equivalent to UEENEEG157A Conduct electrical tests on LV electrical machines.

Links

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