



Australian Government

UEP40518 Certificate IV in ESI Generation Maintenance (Mechanical)

Release 2

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Modification History

Release 2. This is the second release of this qualification in the Electricity Supply Industry - Generation Sector Training Package. The following modification has been made:

- UEPMNT320 Inspect and repair faults in mechanical equipment and components and UEPMNT406 Install and maintain a steam turbine and UEPMNT311 Maintain fuel transport equipment and UEPMNT313 Maintain internal combustion engines and UEPMNT315 Maintain wind turbines and UEPMNT424 Monitor efficiency of thermal steam cycle power plant and UEPMNT339 Perform sheet metal work and UEPMNT407 Repair a gas turbine unit deleted due to zero enrolment.

Release 1. This is the first release of this qualification in the UEP - Electricity Supply Industry - Generation Sector Training Package.

Qualification Description

Participants gaining this qualification will be able to complete power generation work functions in the electrical supply industry. Functions can include the installation, repair, maintenance of plant and mechanical systems, maintenance planning and scheduling. It also includes observation of safe working practices, supervision of others and the coordination of work activities.

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

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

A total 1280 weighting points comprising 770 core weighting points, plus 510 elective weighting points from the general elective units listed below.

Choose a total of 730 weighting point from the general elective units list below of which between 0 and 220 weighting points can be taken from Group A. A total of 310 weighting points may be taken from Group B. Between 200 and 510 weighting points may be taken from Group C, you may select all your elective units from this group.

Up to 220 weighting points of the general elective units Group A, may be selected, with appropriate contextualisation, from any relevant nationally endorsed Training Package or accredited course, provided that selected units contribute to the vocational outcome of the qualification. Previously assigned weighting points are listed in UEP CVIG, if not listed

weighting points will be 10 points unless directed from the ESI Generation Industry Reference Committee (IRC). The general elective units must contribute to the vocational outcomes of the qualification.

Where imported units are selected, care must be taken to ensure that all prerequisite units specified are complied with.

Where a prerequisite unit is attached to a unit, it is identified by this symbol ⊥.

Core units		Weighting points
MEM07005C	Perform general machining ⊥ MEM09002 Interpret technical drawing ⊥ MEM12023A Perform engineering measurements ⊥ MEM18001C Use hand tools	80
MEM07006C	Perform lathe operations ⊥ MEM07005C Perform general machining ⊥ MEM09002B Interpret technical drawing ⊥ MEM12023A Perform engineering measurements ⊥ MEM18001C Use hand tools	40
MEM07007C	Perform milling operations ⊥ MEM07005C Perform general machining ⊥ MEM09002B Interpret technical drawing ⊥ MEM12023A Perform engineering measurements ⊥ MEM18001C Use hand tools	40
MEM07008D	Perform grinding operations ⊥ MEM07005C Perform general machining ⊥ MEM09002B Interpret technical drawing ⊥ MEM12023A Perform engineering measurements ⊥ MEM18001C Use hand tools	40
MEM09002B	Interpret technical drawing	40
MEM12003B	Perform precision mechanical measurement ⊥ MEM12023A Perform engineering measurements	20
MEM12023A	Perform engineering measurements	50
MEM12024A	Perform computations	30

MEM18001C	Use hand tools	20
MEM18002B	Use power tools/hand held operations	20
MEM18003C	Use tools for precision work	40
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
MEM18006C	Repair and fit engineering components	60
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	
	└ MEM18055B Dismantle, replace and assemble engineering components	
MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies	40
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	
	└ MEM18006C Repair and fit engineering components	
	└ MEM18009B Perform levelling and alignment of machines and engineering components	
	└ MEM18055B Dismantle, replace and assemble engineering components	
MEM18009B	Perform levelling and alignment of machines and engineering components	40
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	

	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM18055B Dismantle, replace and assemble engineering components 	
MEM18055B	Dismantle, replace and assemble engineering components	30
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations 	
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20
UEENEEE101A	Apply Occupational, Health and Safety regulations, codes and practices in the workplace	20
UEPOPS202	Apply quality systems to work	20
UEPOPS337	Maintain quality systems within the team	20
	└ UEPOPS202 Apply quality systems to work	
UEPOPS338	Facilitate workplace communication	20
UEPOPS417	Monitor and implement environmental site plans and procedures	20
UEPOPS430	Control permit to work operations	30
UEPOPS439	Plan and organise work	30
Group A elective units		Weighting points
BSBCUS401	Coordinate implementation of customer service strategies	40
BSBINM401	Implement workplace information system	40
BSBINN301	Promote innovation in a team environment	40
BSBLED401	Develop teams and individuals	40
BSBMGT402	Implement operational plan	40

BSBMGT403	Implement continuous improvement	40
BSBLDR402	Lead effective workplace relationships	50
BSBLDR403	Lead team effectiveness	50
BSBWOR404	Develop work priorities	40
CPCCCM2007B	Use explosive power tools	15
	└ CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry	
CPCCLDG3001 A	Licence to perform dogging	30
CPCCLRG3001 A	Licence to perform rigging basic level	40
	└ CPCCLDG3001A Licence to perform dogging	
CPCCLRG3002 A	Licence to perform rigging intermediate level	40
	└ CPCCLRG3001A Licence to perform rigging basic level	
CPCCLSF2001A	Licence to erect, alter and dismantle scaffolding basic level	40
MEM09003B	Prepare basic engineering drawing	80
	└ MEM09002B Interpret technical drawing	
MEM09004B	Perform electrical/electronic detail drafting	80
	└ MEM09002B Interpret technical drawing	
	└ MEM09003B Prepare basic engineering drawing	
MEM09005B	Perform basic engineering detail drafting	80
	└ MEM09002B Interpret technical drawing	
	└ MEM09003B Prepare basic engineering drawing	
MEM09006B	Perform advanced engineering detail drafting	40
	└ MEM09002B Interpret technical drawing	
	└ MEM09003B Prepare basic engineering drawing	
	└ MEM09005B Basic engineering detail drafting	
RIIHAN309E	Conduct telescopic materials handler operations	80

TADEL301	Provide work skill instruction	40
TLILIC0002	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	40
TLILIC0003	Licence to operate a forklift truck	40
TLILIC0005	Licence to operate a boom type elevating work platform (boom length 11 metres or more)	30
TLILIC0008	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60

Group B elective units	Weighting points
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MEM05004C	Perform routine oxy acetylene welding	20
MEM05007C	Perform manual heating and thermal cutting	20
MEM05012C	Perform routine manual metal arc welding	20
MEM18010C	Perform equipment condition monitoring and recording	40
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18055B Dismantle, replace and assemble engineering components 	
MEM18018C	Maintain pneumatic system components	40
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18006C Repair and fit engineering components └ MEM18055B Dismantle, replace and assemble engineering components 	
MEM18020B	Maintain hydraulic system components	40
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing 	

	<ul style="list-style-type: none"> └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18006C Repair and fit engineering components └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT302	Install and maintain industrial pipe work	40
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT303	Maintain mechanical valves	40
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use power tools/hand held operations └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT304	Maintain mechanical pumps	40
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	

UEPMNT305	Maintain industrial fans	40
	└ MEM18006C Repair and fit engineering components	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	
	└ MEM18055B Dismantle, replace and assemble engineering components	
UEPMNT307	Maintain industrial screens, strainers and filters	20
	└ MEM18006C Repair and fit engineering components	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	
	└ MEM18055B Dismantle, replace and assemble engineering components	
UEPMNT308	Maintain conveyors and associated equipment	40
	└ MEM18006C Repair and fit engineering components	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use tools for precision work	
	└ MEM18055B Dismantle, replace and assemble engineering components	
UEPMNT309	Maintain material feeders	40
	└ MEM18006C Repair and fit engineering components	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
	└ MEM18003C Use tools for precision work	

	<ul style="list-style-type: none"> └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT310	Maintain material crushers	40
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT312	Maintain industrial pressure vessels	80
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT314	Maintain hydro turbines	100
UEPMNT317	Diagnose and repair faults in mechanical equipment	40
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT318	Conduct generator mechanical maintenance	80
	<ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing 	

	<ul style="list-style-type: none"> └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT340	Fabricate metal structures and components <ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	40
UEPMNT367	Install and commission stationary gas fuelled reciprocating engines <ul style="list-style-type: none"> └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation 	60
UEPMNT368	Repair and maintain stationary gas fuelled reciprocating engines <ul style="list-style-type: none"> └ CPCCWHS1001 Prepare to work safely in the construction industry └ HLTAID001 Provide cardiopulmonary resuscitation 	60
UEPOPS301	Conduct single energy source isolation procedures for permit to work	40
Group C elective units		Weighting points
UEPMNT401	Install and maintain complex mechanical seals <ul style="list-style-type: none"> └ UEPMNT304 Maintain mechanical pumps └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools 	40

	<ul style="list-style-type: none"> └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT402	Conduct complex levelling and alignment <ul style="list-style-type: none"> └ MEM18009B Perform levelling and alignment of machines and engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components └ MEM18006C Repair and fit engineering components 	40
UEPMNT403	Maintain complex mechanical valves <ul style="list-style-type: none"> └ UEPMNT303 Maintain mechanical valves └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	40
UEPMNT404	Maintain complex mechanical pumps <ul style="list-style-type: none"> └ UEPMNT304 Maintain mechanical pumps └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble 	40

engineering components

UEPMNT408	Install hydro turbines 100 └ UEPMNT402 Conduct complex levelling and alignment └ MEM18009B Perform levelling and alignment of machines and engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components └ MEM18006C Repair and fit engineering components
UEPMNT419	Perform civil drafting 60 └ UEENEEE107A Use drawings, diagrams, schedules, standards, cords and specifications └ MEM09002B Interpret technical drawing
UEPMNT421	Conduct technical inspection of process plant and equipment 60 └ UEPMNT351 Test and commission electrical equipment └ UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits └ UEENEEE102A Fabricate, dismantle, assemble of utilities industry components └ UEENEEE104A Solve problems in D.C. circuits └ UEENEEE105A Fix and secure electrotechnology equipment └ UEENEEE107A Use drawings, diagrams, schedules, standards, cords and specifications └ UEENEEG006A Solve problems in single and three phase low voltage machines └ UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits └ UEENEEG063A Arrange circuits, control and

	<p>protection for general electrical installations</p> <p>└ UEENEEG101A Solve problems in electromagnetic devices and related circuits</p> <p>└ UEENEEG102A Solve problems in low voltage A.C. circuits</p> <p>└ UEENEEG106A Terminate cables, cords and accessories for low voltage circuits</p>	
UEPMNT422	<p>Conduct performance testing on process plant and equipment</p> <p>└ UEPMNT351 Test and commission electrical equipment</p> <p>└ UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits</p> <p>└ UEENEEE102A Fabricate, dismantle, assemble of utilities industry components</p> <p>└ UEENEEE104A Solve problems in D.C. circuits</p> <p>└ UEENEEE105A Fix and secure electrotechnology equipment</p> <p>└ UEENEEE107A Use drawings, diagrams, schedules, standards, cords and specifications</p> <p>└ UEENEEG006A Solve problems in single and three phase low voltage machines</p> <p>└ UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits</p> <p>└ UEENEEG063A Arrange circuits, control and protection for general electrical installations</p> <p>└ UEENEEG101A Solve problems in electromagnetic devices and related circuits</p> <p>└ UEENEEG102A Solve problems in low voltage A.C. circuits</p> <p>└ UEENEEG106A Terminate cables, cords and accessories for low voltage circuits</p>	60
UEPOPS402	<p>Conduct multiple energy source isolation procedures for permit to work</p> <p>└ UEPOPS301 Conduct single energy source isolation procedures for permit to work.</p>	40
MEM07011B	<p>Perform complex milling operations</p> <p>└ MEM07005C Perform general machining</p>	40

	<ul style="list-style-type: none"> └ MEM07007C Perform milling operations └ MEM09002B Interpret technical drawing └ MEM12003B Perform precision mechanical measurement └ MEM12023A Perform engineering measurements └ MEM12024A Perform computations └ MEM18001C Use hand tools 	
MEM07012B	Perform complex grinding operations <ul style="list-style-type: none"> └ MEM07005C Perform general machining └ MEM07008D Perform grinding operations └ MEM09002B Interpret technical drawing └ MEM12003B Perform precision mechanical measurement └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools 	40
MEM07021B	Perform complex lathe operations <ul style="list-style-type: none"> └ MEM07005C Perform general machining └ MEM07006C Perform lathe operations └ MEM09002B Interpret technical drawing └ MEM12003B Perform precision mechanical measurement └ MEM12023A Perform engineering measurements └ MEM12024A Perform computations └ MEM18001C Use hand tools 	40
MEM18019B	Maintain pneumatic systems <ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18006C Repair and fit engineering components └ MEM18018C Maintain pneumatic system components └ MEM18055B Dismantle, replace and assemble engineering components 	40

MEM18021B	Maintain hydraulic systems	40
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18006C Repair and fit engineering components └ MEM18020B Maintain hydraulic system components └ MEM18055B Dismantle, replace and assemble engineering components 	
MEM18022B	Maintain fluid power controls	80
	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18006C Repair and fit engineering components └ MEM18018C Maintain pneumatic system components └ MEM18019B Maintain pneumatic systems └ MEM18055B Dismantle, replace and assemble engineering components └ MEM18020B Maintain hydraulic system components └ MEM18021B Maintain hydraulic systems └ MEM18055B Dismantle, replace and assemble engineering components 	

Qualification Mapping Information

This qualification replaces and is equivalent to UEP40312 Certificate IV in ESI Generation Maintenance (Mechanical)

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>