



Australian Government

UEP50318 Diploma of ESI Generation (Maintenance)

Release 1

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Modification History

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 manage functions in the electrical supply industry. Functions can include the development of maintenance schedules, operational procedures, systems and the implementation of safe working practices. It also includes the management of projects, 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 1870 weighting points comprising 530 core weighting points, plus 1070 elective weighting points from the general elective units listed below.

Choose a total of 1340 weighting point from the general elective unit list below of which between 0 and 270 weighting points can be taken from Group A. A total of 770 weighting points can be selected from Group B. A total of 120 weighting points can be selected from Group C. Between 180 and 940 weighting points may be taken from Group B, you may select all your elective units from this group.

Up to 270 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

MEM09002B	Interpret technical drawing	40
MEM12023A	Perform engineering measurements	50
MEM18001C	Use hand tools	20
MEM18002B	Use power tools/hand held operations	20
UEPMNT421	Conduct technical inspection of process plant and equipment └ UEPMNT351 Test and commission electrical equipment └ UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits └ UEENEEE101A Apply Occupational Health Safety regulations, codes and practices in the workplace └ UEENEEE102A Fabricate, assemble and dismantle utilities industry components └ UEENEEE104A Solve problems in D.C. circuits └ UEENEEE105A Fix and secure electrotechnology equipment └ UEENEEE107A Use drawings, diagrams, schedules, standards, codes 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 protection for general electrical installations └ UEENEEG101A Solve problems in electromagnetic devices and related circuits └ UEENEEG102A Solve problems in low voltage A.C. circuits └ UEENEEG106A Terminate cables, cords and accessories for low voltage circuit	60
UEPMNT351	Test and commission electrical equipment	40
UEENEEG108A	Troubleshoot and repair faults in low voltage electrical apparatus and circuits	40

UEENEEE102A	Fabricate, assemble and dismantle utilities industry components	40
UEENEEE104A	Solve problems in D.C. circuits	80
UEENEEE105A	Fix and secure electrotechnology equipment	20
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40
UEENEEG006A	Solve problems in single and three phase low voltage machines	80
UEENEEG033A	Solve problems in single and three phase low voltage electrical apparatus and circuits	60
UEENEEG063A	Arrange circuits, control and protection for general electrical installations	40
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	60
UEENEEG102A	Solve problems in low voltage A.C. circuits	80
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuit	80
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
UEPOPS337	Maintain quality systems within the team └ UEPOPS202 Apply quality systems to work	20
UEPOPS202	Apply quality systems to work	20
UEPOPS338	Facilitate workplace communication	20
UEPOPS416	Monitor implementation of quality control for production and maintenance └ UEPOPS337 Maintain quality systems within the team	20
UEPOPS417	Monitor and implement environmental site plans and procedures	20

UEPOPS430	Control permit to work operations	20
UEPOPS439	Plan and organise work	30
UEPOPS440	Coordinate team activities	30
UEPOPS501	Manage Work, Health and Safety policy and procedures └ UEENEEE117A Implement and monitor energy sector OHS policies and procedures	40
UEPOPS505	Produce maintenance strategies for generation production plant └ UEPOPS425 Produce maintenance plans for generation production plant	40
UEPOPS425	Produce maintenance plans for generation production plant	40
UEPOPS507	Conduct project management	60

Group A elective units**Weighting points**

BSBCUS501	Manage quality customer service	40
BSBINM501	Manage an information or knowledge management system	50
BSBINN502	Build and sustain an innovative work environment	50
BSBLED501	Develop a workplace learning environment	60
BSBMGT502	Manage people performance	70
BSBMGT517	Manage operational plan	60
BSBMGT516	Facilitate continuous improvement	60
BSBWHS501	Ensure a safe workplace	60
BSBWOR501	Manage personal work priorities and professional development	60
BSBWOR502	Lead and manage team effectiveness	60

Group B elective units		Weighting points
MEM05007C	Perform manual heating and thermal cutting	20
MEM05012C	Perform routine manual metal arc welding	20
MEM05015D	Weld using manual metal arc welding process	40
	└ MEM05012C Perform routine manual metal arc welding	
	└ MEM05051A Select welding processes	
	└ MEM05052A Apply safe welding practices	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operations	
MEM05017D	Weld using gas metal arc welding process	40
	└ MEM05050B Perform routine gas metal arc welding	
	└ MEM05051A Select welding processes	
	└ MEM05052A Apply safe welding practices	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
	└ MEM18002B Use power tools/hand held operation	
MEM05026C	Apply welding principles	40
MEM05050B	Perform routine gas metal arc welding	20
MEM05051A	Select welding processes	20
MEM05052A	Apply safe welding practices	40
MEM07005C	Perform general machining	80
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
MEM07006C	Perform lathe operations	40
	└ MEM07005C Perform general machining	
	└ MEM09002B Interpret technical drawing	

	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
MEM07007C	Perform milling operations	40
	└ MEM07005C Perform general machining	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
MEM07008D	Perform grinding operations	40
	└ MEM07005C Perform general machining	
	└ MEM09002B Interpret technical drawing	
	└ MEM12023A Perform engineering measurements	
	└ MEM18001C Use hand tools	
MEM12003B	Perform precision mechanical measurement	20
	└ MEM12023A Perform engineering measurements	
MEM12024A	Perform computations	30
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	

	<ul style="list-style-type: none"> └ 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 <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 	40
MEM18010C	Perform equipment condition monitoring and recording <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 	40
MEM18055B	Dismantle, replace and assemble engineering components <ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operation 	30
UEPMNT302	Install and maintain industrial pipe work <ul style="list-style-type: none"> └ MEM18006C Repair and fit engineering components └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements 	40

	<ul style="list-style-type: none"> └ 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 component 	
UEPMNT305	Maintain industrial fans	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 	
UEPMNT307	Maintain industrial screens, strainers and filters	20

	<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 	
UEPMNT308	Maintain conveyors and associated 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 tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT309	Maintain material feeders	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 	
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 	

UEPMNT311	Maintain fuel transport equipment	80
	└ 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
	└ 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 component	
UEPMNT313	Maintain internal combustion engines	100
	└ 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
UEPMNT315	Maintain wind turbines	100
UEPMNT317	Diagnose and repair faults in mechanical equipment	40
	└ 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 	
UEPMNT318	Conduct generator mechanical maintenance	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 	
UEPOPS301	Conduct single energy source isolation procedures for permit to work	40
Group C elective units		Weighting points
MEM05016C	Perform advanced welding using manual metal arc welding process	40
	<ul style="list-style-type: none"> └ MEM05007C Perform manual heating and thermal cutting └ MEM05012C Perform routine manual metal arc welding └ MEM05015D Weld using manual metal arc welding process └ MEM05051A Select welding processes └ MEM05052A Apply safe welding practices └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations 	
MEM05018C	Perform advanced welding using gas metal arc welding process	40

	<ul style="list-style-type: none"> └ MEM05007C Perform manual heating and thermal cutting └ MEM05017D Weld using gas metal arc welding process └ MEM05050B Perform routine gas metal arc welding └ MEM05051A Select welding processes └ MEM05052A Apply safe welding practices └ MEM09002B Interpret technical drawing └ MEM12023A Perform engineering measurements └ MEM18001C Use hand tools └ MEM18002B Use power tools/hand held operations 	
MEM05024B	Perform welding supervision <ul style="list-style-type: none"> └ MEM05026C Apply welding principles 	120
MEM07011B	Perform complex milling operations <ul style="list-style-type: none"> └ MEM07005C Perform general machining └ MEM07007C Perform milling operations └ MEM09002B Interpret technical drawing └ MEM12003B Perform precision mechanical measurement └ MEM12023A Perform engineering measurements └ MEM12024A Perform computations └ MEM18001C Use hand tools 	40
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 	40

	<ul style="list-style-type: none"> └ MEM09002B Interpret technical drawing └ MEM12003B Perform precision mechanical measurement └ MEM12023A Perform engineering measurements └ MEM12024A Perform computations └ MEM18001C Use hand tools 	
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 └ MEM18002B Use power tools/hand held operations └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	40
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 	40

	<ul style="list-style-type: none"> └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components 	
UEPMNT404	Maintain complex mechanical pumps	40
	<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 engineering components 	
UEPMNT406	Install and maintain a steam turbine	100
	<ul style="list-style-type: none"> └ 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 	
UEPMNT407	Repair a gas turbine unit	100
	<ul style="list-style-type: none"> └ 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 	

	<ul style="list-style-type: none"> └ MEM18003C Use tools for precision work └ MEM18055B Dismantle, replace and assemble engineering components └ MEM18006C Repair and fit engineering components 	
UEPMNT408	Install hydro turbines <ul style="list-style-type: none"> └ 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 	100
UEPMNT419	Perform civil drafting <ul style="list-style-type: none"> └ UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications └ MEM09002B Interpret technical drawing 	60
UEPMNT422	Conduct performance testing on process plant and equipment <ul style="list-style-type: none"> └ UEPMNT351 Test and commission electrical equipment └ UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits └ UEENEEE102A Fabricate, assemble and dismantle utilities industry components └ UEENEEE104A Solve problems in D.C. circuits └ UEENEEE105A Fix and secure electrotechnology equipment └ UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications └ UEENEEG006A Solve problems in single and three phase low voltage machines 	60

	<ul style="list-style-type: none"> └ UEENEEG033A Solve problems in single and three phase low voltage electrical apparatus and circuits └ UEENEEG063A Arrange circuits, control and protection for general electrical installations └ UEENEEG101A Solve problems in electromagnetic devices and related circuits └ UEENEEG102A Solve problems in low voltage A.C. circuits └ UEENEEG106A Terminate cables, cords and accessories for low voltage circuits 	
UEPMNT424	<p>Monitor efficiency of thermal steam cycle power plant</p> <ul style="list-style-type: none"> └ UEENEEG108A Troubleshoot and repair faults in low voltage electrical apparatus and circuits └ UEENEEE102A Fabricate, assemble and dismantle utilities industry components └ UEENEEE104A Solve problems in D.C. circuits └ UEENEEE105A Fix and secure electrotechnology equipment └ UEENEEE107A Use drawings, diagrams, schedules, standards, codes 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 protection for general electrical installations └ UEENEEG101A Solve problems in electromagnetic devices and related circuits └ UEENEEG102A Solve problems in low voltage A.C. circuits └ UEENEEG106A Terminate cables, cords and accessories for low voltage circuits 	60
UEPMNT435	<p>Diagnose and repair faults in wind turbine mechanical systems</p> <ul style="list-style-type: none"> └ UEPMNT361 Maintain wind turbine mechanical systems 	80
UEPOPS402	<p>Conduct multiple energy source isolation procedures for permit to work</p>	40

└ UEPOPS301 Conduct single energy source isolation procedures for permit to work.

Group D elective units		Weighting points
UEPOPS502	Manage permit to work system └ UEPOPS403 Coordinate permit to work system └ UEPOPS402 Conduct multiple energy source isolation procedures for permit to work	40
UEPOPS508	Manage commissioning and decommissioning	60
UEPOPS509	Manage quality control procedures	40
UEPOPS510	Monitor power generation plant reliability	60
UEPOPS511	Tune process plant and equipment	60
UEPOPS512	Manage high voltage network system └ UEPOPS420 Coordinate network/system	80
UEPOPS513	Manage operational crisis to maintain or restore power system integrity	60
UEPOPS515	Coordinate power generation	40
UEPOPS520	Evaluate cost estimations and initiate appropriate solutions └ UEENEEC005B Estimate electrotechnology projects	40
UEPOPS523	Manage critical incidents └ UEPOPS369 Respond to a critical incident └ UEPOPS454 Coordinate response to critical incidents	60
UEPOPS524	Evaluate scheduling of generation plant └ UEPOPS422 Schedule generation	60
UEPOPS525	Coordinate and direct switching program └ UEPOPS456 Perform switching to a switching program	60
UEPOPS526	Coordinate electrical energy production └ UEPOPS457 Control electrical energy production	60

UEPOPS527	Manage first response team	40
	└ UEPOPS404 Coordinate first response team operation	
	└ UEPOPS210 Conduct first response within a workplace team	
UEPOPS528	Manage environmental management systems	40
UEPOPS529	Manage operational strategies for power production	80

Qualification Mapping Information

This qualification replaces and is equivalent to UEP50312 Diploma of ESI Generation (Maintenance)

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>