



Australian Government

UEP50118 Diploma of ESI Generation - Systems Operations

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 perform systems operations functions in the electrical supply industry. Functions may include the remote operation of network systems, the isolating of power generation plant systems for work, the development of operational procedures and systems, the start-up and shut down of boilers and turbines, the oversight of hydro plant and gas turbines and the implementation of safe working practices. It may also include the management 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 1600 weighting points comprising 640 core weighting points, plus 960 elective weighting points from the general elective units listed below.

Choose a total of 960 weighting points from the elective unit list below of which between 0 and 270 weighting points can be taken from Group A. A total of 660 weighting points may be taken from Group B. A total of 100 weighting points may be selected from Group C. Between 200 and 920 weighting points may be selected from Group D. At least 200 weighting points must be selected from Group D.

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 L.

Core units		Weighting points
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 └ UEPOPS202 Apply quality systems to work	20
UEPOPS369	Respond to a critical incident	40
UEPOPS370	Facilitate the use of contingency plans for power generation facilities	60
UEPOPS417	Monitor and implement environmental site plans and procedures	20
UEPOPS420	Coordinate network/system	40
UEPOPS426	Interpret and analyse multi-operation protection devices └ UEPOPS342 Analyse single protection device operation	40
UEPOPS342	Interpret and analyse single operation protection devices	60
UEPOPS428	Develop H.V. switching programs	20
UEPOPS440	Coordinate team activities	30
UEPOPS441	Operate and monitor system equipment	30
UEPOPS454	Coordinate response to critical incidents └ UEPOPS369 Respond to a critical incident	30
UEPOPS456	Perform switching to a switching program	30
UEPOPS501	Manage Work, Health and Safety policy and procedures └ UEENEEE117A Implement and monitor energy sector OHS policies and procedures	40
UEPOPS512	Manage high voltage network system └ UEPOPS420 Coordinate network/system	80

UEPOPS513	Manage operational crisis to maintain or restore power system integrity	60
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UEPOPS515	Coordinate power generation	40
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Group A elective units**Weighting points**

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

UEPOPS301	Conduct single energy source isolation procedures for permit to work	40
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UEPOPS309	Operate and monitor air conditioning plant and ventilation systems	20
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UEPOPS310	Operate bulk coal handling plant	40
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UEPOPS311	Operate fabric filter dust collection plant	20
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UEPOPS312	Operate and monitor fuel supply	20
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UEPOPS313	Operate and monitor boiler draught system	40
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UEPOPS314	Operate and monitor fuel firing plant (gas or oil)	40
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UEPOPS315	Operate and monitor fuel firing plant (coal)	40
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UEPOPS316	Operate and monitor boiler steam/water cycle	40
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UEPOPS317	Operate and monitor fixed fire protection systems	30
UEPOPS318	Operate and monitor compressed gas systems	30
UEPOPS319	Operate and monitor gas production plant	30
UEPOPS320	Operate and monitor compressed air systems	30
UEPOPS321	Operate and monitor water treatment plant	30
UEPOPS322	Operate and monitor alkalinity reduction plant	30
UEPOPS323	Operate and monitor reverse osmosis plant	30
UEPOPS324	Operate and monitor brine concentrator plant	30
UEPOPS325	Operate and monitor water quality monitoring systems	30
UEPOPS326	Operate and monitor oil systems	30
UEPOPS327	Monitor and maintain civil assets	30
UEPOPS328	Undertake dam safety surveillance	30
UEPOPS329	Operate and monitor auxiliary steam systems	40
UEPOPS330	Operate and monitor heat exchangers and cooling systems	40
UEPOPS331	Operate and monitor water systems (condensate and feedwater)	40
UEPOPS332	Operate and monitor condenser and auxiliary cooling systems	40
UEPOPS333	Operate and monitor HRSG hot gas control system	40
UEPOPS334	Operate and monitor a wind generator	60
UEPOPS335	Operate a hydro generator synchronous condenser pump unit	60
UEPOPS336	Manage, operate and monitor a gas turbine unit	60
UEPOPS338	Facilitate workplace communication	20
UEPOPS339	Operate and monitor a boiler unit	60
UEPOPS340	Operate and monitor a steam turbine	60

UEPOPS342	Analyse single protection device operation	60
UEPOPS343	Operate hydroelectric generating plant and auxiliary equipment	60
UEPOPS344	Conduct water conveyance and control	30
UEPOPS345	Implement dam safety surveillance procedures	30
UEPOPS346	Conduct non-routine operational testing	60
UEPOPS347	Operate and monitor supervisory, control and data acquisition systems	40
UEPOPS349	Operate local H.V. switchgear	40
UEPOPS351	Operate H.V. condition changing apparatus	60
UEPOPS352	Conduct operational checks on in-service mechanical plant	40
UEPOPS354	Operate and monitor dual fuel firing plant	80
UEPOPS355	Monitor the implementation of under frequency load shedding	60
UEPOPS356	Apply environmental and sustainable energy procedures	20
UEPOPS357	Operate local L.V. switchgear	40
UEPOPS358	Monitor and maintain wind farm civil assets	40
UEPOPS359	Monitor climatic conditions for renewable energy production	40
UEPOPS360	Operate and monitor a hydro turbine	60
UEPOPS361	Operate and monitor hydro plant auxiliary systems	60
UEPOPS362	Operate and monitor generator/alternator	60
UEPOPS364	Ensure compliance with Work, Health and Safety policy and procedures	20
UEPOPS368	Operate manual systems	30
	└ UEPOPS252 Undertake local systems operations	
UEPOPS371	Carry out operational checks on in-service electrical plant	40

Group C elective units		Weighting points
UEENEEC005B	Estimate electrotechnology projects	40
UEPOPS402	Conduct multiple energy source isolation procedures for permit to work └ UEPOPS301 Conduct single energy source isolation procedures for permit to work	40
UEPOPS403	Coordinate permit to work system └ UEPOPS402 Conduct multiple energy source isolation procedures for permit to work	40
UEPOPS404	Coordinate first response team operation └ UEPOPS210 Conduct first response within a workplace team	20
UEPOPS405	Operate and monitor A.C. electrical systems	30
UEPOPS406	Operate and monitor D.C. electrical systems	30
UEPOPS407	Start and run up gas turbine	60
UEPOPS408	Shut down a gas turbine	60
UEPOPS409	Start up a boiler unit	60
UEPOPS410	Shut down a boiler unit	60
UEPOPS411	Run up a steam turbine	60
UEPOPS412	Undertake commissioning and decommissioning	30
UEPOPS413	Coordinate operational strategies for power production	20
UEPOPS414	Perform risk analysis of generation plant	20
UEPOPS416	Monitor implementation of quality control for production and maintenance └ UEPOPS337 Maintain quality systems within the team	20
UEPOPS419	Shut down a steam turbine	60
UEPOPS422	Schedule generation	40
UEPOPS423	Plan a scheduled outage	40

UEPOPS424	Coordinate local H.V. networks	40
UEPOPS425	Produce maintenance plans for generation production plant	40
UEPOPS430	Control permit to work operations	30
UEPOPS431	Collect and analyse hydrological and meteorological data └ UEPOPS209 Perform process plant inspections	20
UEPOPS432	Start up a heat recovery steam generator unit └ UEPOPS209 Perform process plant inspections	30
UEPOPS433	Operate and monitor a heat recovery steam generator unit └ UEPOPS333 Operate and monitor HRSG hot gas control system └ UEPOPS407 Start and run up gas turbine └ UEPOPS433 Start up a heat recovery steam generator unit	20
UEPOPS434	Shut down a heat recovery steam generator unit └ UEPOPS333 Operate and monitor HRSG hot gas control system └ UEPOPS408 Shut down a gas turbine	30
UEPOPS435	Operate and monitor flue gas (NOx) mitigation systems	30
UEPOPS437	Manage system restart	40
UEPOPS439	Plan and organise work	30
UEPOPS442	Monitor and coordinate the operation of a combined cycle gas turbine unit └ UEPOPS314 Operate and monitor fuel firing plant (gas or oil) └ UEPOPS333 Operate and monitor HRSG hot gas control system └ UEPOPS336 Operate and monitor gas turbine unit └ UEPOPS340 Operate and monitor a steam turbine	60
UEPOPS443	Coordinate wind farm operations	40
UEPOPS444	Start and run up a hydro turbine	60

UEPOPS445	Shut down a hydro turbine	60
UEPOPS446	Operate and monitor hydro unit control and protection systems	80
UEPOPS447	Coordinate photovoltaic solar power plant operations	60
UEPOPS450	Coordinate workplace communication └ UEPOPS338 Facilitate workplace communication	40
UEPOPS451	Coordinate the use of contingency plans └ UEPOPS370 Facilitate the use of contingency plans for power generation facilities	40
UEPOPS452	Conduct operational checks and carry out corrective action on in-service electrical plant	40
UEPOPS457	Control electrical energy production	40
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
UEPOPS505	Produce maintenance strategies for generation production plant └ UEPOPS425 Produce maintenance plans for generation production plant.	80
UEPOPS507	Conduct project management	60
UEPOPS508	Manage commissioning and decommissioning	80
UEPOPS509	Manage quality control procedures	40
UEPOPS510	Monitor power generation plant reliability	60
UEPOPS511	Tune process plant and equipment	60
UEPOPS514	Control hydro generation pumping	60
UEPOPS520	Evaluate cost estimations and initiate appropriate solutions └ UEENEEC005B Estimate electrotechnology projects	40

UEPOPS523	Manage critical incidents	60
	└ UEPOPS369 Respond to a critical incident	
	└ UEPOPS454 Coordinate response to critical incidents	
UEPOPS524	Evaluate scheduling of generation plant	60
	└ UEPOPS422 Schedule generation	
UEPOPS525	Coordinate and direct switching program	60
	└ UEPOPS456 Perform switching to a switching program	
UEPOPS526	Coordinate electrical energy production	60
	└ UEPOPS457 Control electrical energy production	
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 UEP50112 Diploma of ESI Generation - Systems Operations

Links

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