

COMPANION VOLUME IMPLEMENTATION GUIDE

UEP ELECTRICITY SUPPLY INDUSTRY –
GENERATION SECTOR TRAINING PACKAGE
TRANSITION PROJECT

Release 3.0



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ABOUT AUSTRALIAN INDUSTRY STANDARDS

Australian Industry Standards (AIS) provides high quality, professional secretariat services to eleven Industry Reference Committees (IRCs), in our role as a Skills Service Organisation (SSO).

The eleven allocated IRCs incorporate Gas, Electricity, Electrotechnology, Corrections, Public Safety (including Police, Fire Services, Defence), Water, Aviation, Rail, Maritime and Transport and Logistics industries. AIS supports these important industry sectors using our world class in-house capability and capacity in technical writing, quality assurance, project management and industry engagement in the production of training packages.

AIS was established in early 2016, 20 years after its predecessor the Transport and Logistics Industry Skills Council (TLISC) was established in 1996. More information about AIS can be found at www.australianindustrystandards.org.au

- We support industry growth and productivity through our modern innovative approach to establishing skills standards
- We provide high quality, professional secretariat services to help our allocated IRCs develop the skills that industry needs
- We partner with industry to shape the workforce of the future

OVERVIEW INFORMATION

This Companion Volume Implementation Guide (CVIG) is designed to assist assessors, trainers, Registered Training Organisations (RTOs) and enterprises in delivering the UEP Electricity Supply Industry – Generation Sector Training Package. It provides advice about the structure of the Training Package; its key features and useful links to more detailed information on a range of related topics.

VERSION CONTROL AND MODIFICATION HISTORY

Training Packages are dynamic documents and are amended periodically to reflect latest industry practice. Training Packages are version controlled so it is essential that the latest release is always used.

In the version control and modification history table below, the latest information is provided first.

Version Number	Release Date	Comments
3.0	13 December 2022	This is the third release of this Training Package. 1 new Qualification: • UEP30322 Certificate III in ESI Generation

		3 New Skill Sets: • UEPSS00013 Co-ordinate Real-Time Offshore Operations Skill Set • UEPSS00014 Managing Network Communications Skill Set • UEPSS00015 Managing Site Outages Skill Set 5 New Units of Competency: • UEPOPS008 Operate and monitor control room site in a multi-control room environment • UEPOPS146 Operate and monitor hydro plant systems • UEPOPS148 Co-ordinate grid operations control centre • UEPOPS150 Operate and monitor multiple facilities from single control room • UEPOPS152 Operate Renewable Wind, Solar and Hydro systems
2.0	22 February 2022	This is the second release of this Training Package. 11 Revised Qualifications: • UEP20122 Certificate II in ESI Generation - Operations Support • UEP20222 Certificate II in Remote Area Essential Service • UEP30122 Certificate III in ESI Generation • UEP40122 Certificate IV in ESI Generation • UEP40322 Certificate IV in ESI Generation Maintenance - Electrical Electronics • UEP40422 Certificate IV in ESI Generation Maintenance (Fabrication) • UEP40522 Certificate IV in ESI Generation Maintenance (Mechanical) • UEP40622 Certificate IV in Wind Power Generation • UEP50122 Diploma of ESI Generation • UEP50322 Diploma of ESI Generation (Maintenance)

		• UEP50422 Diploma of ESI Generation Maintenance - Electrical Electronic 4 Revised Skill Sets: • UEPSS00007 High Voltage Operation - H V switching programs • OPUEPSS00009 High Risk Licensing - Licence to operate a reciprocating steam engine • UEPSS00010 High Risk Licensing - Licence to operate a steam turbine • UEPSS00011 High Voltage Operation - Development and coordination of H V switching programs 159 Revised Units of Competency • UEPMNT001 Carry out routine work activities in an electricity supply industry generation environment • UEPMNT002 Carry out routine work activities in an ESI large scale wind generation environment • UEPMNT003 Coordinate maintenance on a wind farm • UEPMNT004 Diagnose and repair faults in large scale wind turbines • UEPMNT005 Diagnose and repair faults in wind turbine control systems • UEPMNT006 Diagnose and repair faults in wind turbine electrical systems • UEPMNT007 Diagnose and repair mechanical systems faults in wind turbines • UEPMNT008 Maintain and monitor wind farm civil assets • UEPMNT009 Maintain large scale wind turbines • UEPMNT010 Maintain wind turbine control systems • UEPMNT011 Maintain wind turbine electrical systems • UEPMNT012 Maintain wind turbine mechanical systems • UEPMNT013 Monitor climatic conditions for renewable electricity generation • UEPMNT014 Test and commission wind turbines
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		• UEPOPL003 Licence to operate a reciprocating steam engine • UEPOPL004 Licence to operate a steam turbine • UEPOPS001 Analyse single protection device operation • UEPOPS002 Apply environmental and sustainable energy procedures • UEPOPS003 Apply quality systems to work • UEPOPS004 Carry out operational checks on in-service electrical plant • UEPOPS005 Clean plant and equipment • UEPOPS006 Collect and analyse hydrological and meteorological data • UEPOPS007 Conduct chemical batching operations • UEPOPS009 Conduct minor electrical maintenance • UEPOPS010 Conduct minor mechanical maintenance • UEPOPS011 Conduct multiple energy source isolation procedures for permit to work • UEPOPS012 Conduct non-routine operational testing • UEPOPS013 Conduct operational checks and carry out corrective action on in-service electrical plant • UEPOPS014 Conduct operational checks on in-service mechanical plant • UEPOPS015 Conduct project management • UEPOPS016 Conduct routine wind turbine maintenance • UEPOPS017 Conduct single energy source isolation procedures for permit to work • UEPOPS018 Conduct water conveyance and control • UEPOPS019 Control electrical energy production • UEPOPS020 Control hydro generation pumping • UEPOPS021 Control permit to work operations • UEPOPS022 Coordinate and direct switching program • UEPOPS023 Coordinate electrical energy production
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		• UEPOPS024 Coordinate first response team operation • UEPOPS025 Coordinate local H V networks • UEPOPS026 Coordinate network system • UEPOPS027 Coordinate operational strategies for power production • UEPOPS028 Coordinate permit to work system • UEPOPS029 Coordinate photovoltaic solar power plant operations • UEPOPS030 Coordinate power generation • UEPOPS031 Coordinate response to critical incidents • UEPOPS032 Coordinate team activities • UEPOPS033 Coordinate the use of contingency plans • UEPOPS034 Coordinate wind farm operations • UEPOPS035 Coordinate workplace communication • UEPOPS036 Develop H V switching programs • UEPOPS037 Ensure compliance with Work, Health and Safety policy and procedures • UEPOPS038 Evaluate cost estimations and initiate appropriate solutions • UEPOPS039 Evaluate scheduling of generation plant • UEPOPS040 Facilitate the use of contingency plans for power generation facilities • UEPOPS041 Facilitate workplace communication • UEPOPS042 Implement dam safety surveillance procedures • UEPOPS043 Interpret and analyse multi-operation protection devices • UEPOPS044 Liaise with stakeholders • UEPOPS045 Maintain and utilise records • UEPOPS046 Maintain battery banks and cells • UEPOPS047 Maintain quality systems within the team • UEPOPS048 Manage commissioning and decommissioning • UEPOPS049 Manage critical incidents • UEPOPS050 Manage environmental management systems
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		• UEPOPS051 Manage first response team • UEPOPS052 Manage high voltage network system • UEPOPS053 Manage operational crisis to maintain or restore power system integrity • UEPOPS054 Manage operational strategies for power production • UEPOPS055 Manage permit to work system • UEPOPS056 Manage quality control procedures • UEPOPS057 Manage system restart • UEPOPS058 Manage Work, Health and Safety policy and procedures • UEPOPS059 Manage, operate and monitor a gas turbine unit • UEPOPS060 Monitor and coordinate the operation of a combined cycle gas turbine unit • UEPOPS061 Monitor and implement environmental site plans and procedures • UEPOPS062 Monitor and maintain civil assets • UEPOPS063 Monitor and maintain wind farm civil assets • UEPOPS064 Monitor climatic conditions for renewable energy production • UEPOPS065 Monitor implementation of quality control for production and maintenance • UEPOPS066 Monitor power generation plant reliability • UEPOPS067 Monitor the implementation of under frequency load shedding • UEPOPS068 Operate a hydro generator synchronous condenser pump unit • UEPOPS069 Operate air conditioning plant • UEPOPS070 Operate and monitor a boiler unit • UEPOPS071 Operate and monitor a heat recovery steam generator unit • UEPOPS072 Operate and monitor a hydro turbine • UEPOPS073 Operate and monitor a steam turbine • UEPOPS075 Operate and monitor A C electrical systems
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		• UEPOPS076 Operate and monitor air conditioning plant and ventilation systems • UEPOPS077 Operate and monitor alkalinity reduction plant • UEPOPS078 Operate and monitor an internal combustion dual fuel reciprocating engine • UEPOPS079 Operate and monitor an internal combustion single fuel reciprocating engine • UEPOPS080 Operate and monitor ash and dust disposal plant • UEPOPS081 Operate and monitor auxiliary steam systems • UEPOPS082 Operate and monitor boiler draught system • UEPOPS083 Operate and monitor boiler steam water cycle • UEPOPS084 Operate and monitor brine concentrator plant • UEPOPS085 Operate and monitor communications system • UEPOPS086 Operate and monitor compressed air systems • UEPOPS087 Operate and monitor compressed gas systems • UEPOPS088 Operate and monitor condenser and auxiliary cooling systems • UEPOPS089 Operate and monitor D C electrical systems • UEPOPS090 Operate and monitor dual fuel firing plant • UEPOPS091 Operate and monitor dust collection plant • UEPOPS092 Operate and monitor fixed fire protection systems • UEPOPS093 Operate and monitor flue gas (NOx) mitigation systems • UEPOPS094 Operate and monitor fuel firing plant (coal) • UEPOPS095 Operate and monitor fuel firing plant (gas or oil) • UEPOPS096 Operate and monitor fuel supply
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		• UEPOPS097 Operate and monitor fuel supply (coal) • UEPOPS098 Operate and monitor gas production plant • UEPOPS099 Operate and monitor generator alternator • UEPOPS100 Operate and monitor heat exchangers and cooling systems • UEPOPS101 Operate and monitor HRSG hot gas control system • UEPOPS102 Operate and monitor hydro plant auxiliary systems • UEPOPS103 Operate and monitor hydro unit control and protection systems • UEPOPS104 Operate and monitor oil systems • UEPOPS105 Operate and monitor reverse osmosis plant • UEPOPS106 Operate and monitor site services water systems • UEPOPS107 Operate and monitor supervisory, control and data acquisition systems • UEPOPS108 Operate and monitor system equipment • UEPOPS109 Operate and monitor water quality monitoring systems • UEPOPS110 Operate and monitor water systems (condensate and feedwater) • UEPOPS111 Operate and monitor water treatment plant • UEPOPS112 Operate bulk coal handling plant • UEPOPS113 Operate fabric filter dust collection plant • UEPOPS114 Operate H V condition changing apparatus • UEPOPS115 Operate hydroelectric generating plant and auxiliary equipment • UEPOPS116 Operate local H V switchgear • UEPOPS117 Operate local L V switchgear • UEPOPS118 Operate manual systems • UEPOPS119 Operate waste and contaminated water plant
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		• UEPOPS120 Undertake commissioning and decommissioning • UEPOPS121 Perform plant lubrication • UEPOPS122 Perform process plant inspections • UEPOPS123 Perform risk analysis of generation plant • UEPOPS124 Perform switching to a switching program • UEPOPS125 Perform tool store duties • UEPOPS126 Plan a scheduled outage • UEPOPS127 Plan and organise work • UEPOPS128 Produce maintenance plans for generation production plant • UEPOPS129 Produce maintenance strategies for generation production plant • UEPOPS130 Respond to a critical incident • UEPOPS131 Run up a steam turbine • UEPOPS132 Schedule generation • UEPOPS133 Shut down a boiler unit • UEPOPS134 Shut down a gas turbine • UEPOPS135 Shut down a heat recovery steam generator unit • UEPOPS136 Shut down a hydro turbine • UEPOPS137 Shut down a steam turbine • UEPOPS138 Start and run up gas turbine • UEPOPS139 Start and run-up a hydro turbine • UEPOPS140 Start up a boiler unit • UEPOPS141 Start up a heat recovery steam generator unit • UEPOPS142 Transport plant and equipment • UEPOPS143 Tune process plant and equipment • UEPOPS144 Undertake dam safety surveillance • UEPOPS145 Undertake local systems operations
1.0	31 October 2018	This is the first release of this Training Package. Supersedes UEP12 - Electricity Supply Industry - Generation Sector Training Package Release 2.1.

TRAINING PACKAGES, THE AUSTRALIAN QUALIFICATIONS FRAMEWORK AND COMPETENCY STANDARDS

Training Packages

Training Packages:

- Specify the qualifications determined by industry groups and when required, by regulatory requirements to be most relevant for employment within the industry
- Are developed by national Industry Reference Committees (IRCs) in consultation with a range of stakeholders
- Are recommended to the Australian Industry and Skills Committee (AISC) for endorsement by the Council of Australian Governments (COAG) Industry and Skills Council
- Enable nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- Encourage the development and delivery of flexible training to suit individual needs and industry requirements
- Support learning, training and assessment in a work-related environment.

The title of each endorsed Training Package is unique and relates to the broad industry coverage of the Training Package.

Each Training Package has a unique national code assigned when the Training Package is endorsed, for example UEP.

Training and assessment using Training Packages must be conducted by a Registered Training Organisations (RTOs) that have the qualification or specific Unit of Competency on its Scope of Registration.

New Standards for Registered Training Organisations (RTOs) 2015 came into effect on 1st April 2015 and are located on the Australian Government ComLaw website.

Information about these standards can be found at the:

DEPARTMENT OF EDUCATION AND TRAINING AUSTRALIAN SKILLS QUALITY AUTHORITY

Standards for Training Packages apply to the design and development of Training Packages for endorsement by the authorising body.

Information about these current standards, including applicable templates, can be found at the Department of Education and Training website (<https://www.education.gov.au/training-packages>).

These templates describe mandatory and optional information that applies to Units of Competency, assessment requirements and qualifications.

Australian Qualifications Framework

The Australian Qualifications Framework (AQF) provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the Vocational Education and Training (VET) sector the AQF enables national recognition of qualifications and Statements of Attainment.

The UEP Electricity Supply Industry - Generation Sector Training Package Release 3.0 provides details of the units of competency that must be achieved to award AQF qualifications.

The rules around which units of competency can be combined to make up a valid AQF qualification are referred to as the packaging rules. The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

The packaging rules are defined within each qualification in a Training Package.

Competency Standards

Competency is the ability to perform tasks and duties to the standard of performance expected in the workplace. Competency standards are determined by industry to meet skill and knowledge needs and to focus on what is expected of a competent individual in the workplace.

Competency standards cover all aspects of workplace performance and involve:

- Performing individual tasks
- Managing a range of different tasks
- Responding to contingencies or breakdowns
- Dealing with the responsibilities of the workplace, including working with others.

Workplace competency is the ability to apply relevant skills and knowledge consistently over time and in the required workplace situations and environments.

Competency standards are determined by industry to meet industry skill needs and focus on what is expected of a competent individual in the workplace.

AUSTRALIAN QUALIFICATIONS FRAMEWORK QUALIFICATIONS, SKILL SETS AND UNITS OF COMPETENCY IN THE UEP TRAINING PACKAGE

Qualifications

The UEP Electricity Supply Industry - Generation Sector Training Package provides details of the Units of Competency that must be achieved to award AQF qualifications.

The rules around which Units of Competency can be combined to make up a valid AQF qualification are referred to as the packaging rules. The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

Codes and titles

There are mandatory conventions specified in the Standards for Training Packages for the titles and codes used in Training Packages and their components.

QUALIFICATION CODE MANDATORY FIELD	The qualification code contains the three alpha characters identifying the Training Package, a numeric character identifying the AQF level, a two numeric character sequence identifier, and two numeric characters identifying the year the qualification was endorsed. It must comply with the length specified in the AVETMIS Standard.
QUALIFICATION TITLE MANDATORY FIELD	A unique title that reflects the qualification outcome. It must comply with the length specified in the AVETMIS Standard (no more than 100 characters).

Extract from Standards for Training Packages

Extract from Training Package Products Policy

The title of each endorsed Training Package qualification is unique. Qualification titles use the following sequence:

- First, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma, Advanced Diploma, Graduate Certificate, or Graduate Diploma
- This is followed by the words 'in' for Certificates I to IV and Graduate Certificate and 'of' for Diploma, Advanced Diploma and Graduate Diploma
- Then the industry descriptor for example, warehousing
- Then, if applicable, the occupational or functional stream for example, track work

Each qualification has an eight-character code where the:

- First three characters identify the Training Package
- First number identifies the AQF qualification level
- Second and third numbers identify a qualification's position in the sequence of qualifications at that AQF qualification level
- Fourth and fifth numbers identify the year in which the qualification was endorsed

For example: UEP30218 Certificate III in ESI Generation - Operations

AQF Qualifications in the UEP - Electricity Supply Industry - Generation Sector Training Package

The following AQF qualifications are in the UEP Electricity Supply Industry - Generation Sector Training Package Release 3.0:

Code	Qualification Title
AQF 2	
UEP20122	Certificate II in ESI Generation - Operations Support
UEP20222	Certificate II in Remote Area Essential Service

Code	Qualification Title
AQF 3	
UEP30322	Certificate III in ESI Generation
AQF 4	
UEP40122	Certificate IV in ESI Generation
UEP40322	Certificate IV in ESI Generation Maintenance - Electrical Electronics
UEP40422	Certificate IV in ESI Generation Maintenance (Fabrication)
UEP40522	Certificate IV in ESI Generation Maintenance (Mechanical)
UEP40622	Certificate IV in Wind Power Generation
AQF 5	
UEP50122	Diploma of ESI Generation

Skill Sets

Codes

Skill Sets are composed of single or a combination of Units of Competency from an endorsed Training Package that links to a licensing or regulatory requirement or a defined industry need.

Source: Training Package Products Policy

A Skill Set is awarded with the issuing of a Statement of Attainment.

Each Skill Set has a code that is issued by Australian Industry Standards (AIS) where the:

- First three characters identify the Training Package
- The next two characters indicate that it is a Skill Set
- The numbers identify the Skill Set's position in the sequence of Skill Sets

For example: UEPSS00006 High Risk Licensing - Licence to operate a steam turbine

Skill Sets in the UEP Electricity Supply Industry - Generation Sector Training Package

The following Skill Sets are in the UEP Electricity Supply Industry - Generation Sector Training Package Release 3.0:

Code	Title
UEPSS00009	High Risk Licensing - Licence to operate a reciprocating steam engine
UEPSS00010	High Risk Licensing - Licence to operate a steam turbine

UEPSS00011	High Voltage Operation - Development and coordination of H.V. switching programs
UEPSS00012	High Voltage Operation - H.V. switching programs
UEPSS00013	Co-ordinate real-time offshore operations skills
UEPSS00014	Managing network communications
UEPSS00015	Managing site outages

Units of Competency

Codes and titles

Units of Competency are nationally agreed statements about the skills and knowledge required for effective performance in the workplace. They outline work outcomes as defined by regulatory requirements and agreed by industry.

As such, they identify the skills and knowledge as outcomes that contribute to the whole job function – they do not describe how to perform a role.

Each Unit of Competency covers a specific work activity, the range of conditions under which the activity is conducted and the foundation skills essential to performance.

The same Unit of Competency i.e. specific work activity can be relevant across a range of AQF qualification levels. It is important to check the packaging rules in qualifications to establish how units can apply.

UNIT CODE MANDATORY FIELD	The unit code contains the three alpha characters identifying the Training Package, followed by alpha and/or numeric characters. It must comply with the length specified in the AVETMIS Standard (no more than 12 characters).
UNIT TITLE MANDATORY FIELD	The title concisely describes the unit outcome. It must comply with the length specified in the AVETMIS Standard (no more than 100 characters)

Extract from Standards for Training Packages

Extract from Training Package Products Policy

There are mandatory conventions specified in the Standards for Training Packages for the titles and codes used in Training Packages and their components.

The codes are assigned to Units of Competency when the Training Package is endorsed or when new Units of Competency are added to an existing endorsed Training Package.

Each Unit of Competency has a specific character code where the:

- First three characters identify the Training Package
- The next characters indicate the competency field. In the ESI Generation training package the characters MNT and OPS categorise maintenance and operations units.
- The numbers identify a unit's position in the sequence of units in the competency field in the Training Package.

For example: UEPMNT320 Inspect and repair faults in mechanical equipment and components

Assessment Requirements Managing Network Communications Skills

Each Unit of Competency has its own assessment requirements that identify the:

- Performance evidence
- Knowledge evidence
- Assessment conditions

TITLE MANDATORY FIELD	Assessment Requirements for [insert Unit of Competency Code and Title]
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The same code is used for the Unit of Competency and its associated assessment requirements.

Units of Competency in the UEP Electricity Supply Industry - Generation Sector Training Package

The following Units of Competency are in the UEP Electricity Supply Industry - Generation Sector Training Package Release 3.0:

Code	Unit of Competency
UEPMNT001	Carry out routine work activities in an electricity supply industry generation environment └ There are no prerequisite units
UEPMNT002	Carry out routine work activities in an ESI large scale wind generation environment
UEPMNT003	Coordinate maintenance on a wind farm └ UEPMNT009 Maintain large scale wind turbines └ UEPMNT010 Maintain wind turbine control systems └ UEPMNT012 Maintain wind turbine mechanical systems
UEPMNT004	Diagnose and repair faults in large scale wind turbines └ UEPMNT009 Maintain large scale wind turbines
UEPMNT005	Diagnose and repair faults in wind turbine control systems └ UEPOPS347 Operate and monitor supervisory control and data acquisition systems └ UEPMNT010 Maintain wind turbine control systems
UEPMNT006	Diagnose and repair faults in wind turbine electrical systems └ UEPMNT011 Maintain wind turbine electrical system
UEPMNT007	Diagnose and repair mechanical systems faults in wind turbines └ UEPMNT012 Maintain wind turbine mechanical systems
UEPMNT008	Maintain and monitor wind farm civil assets
UEPMNT009	Maintain large scale wind turbines
UEPMNT010	Maintain wind turbine control systems
UEPMNT011	Maintain wind turbine electrical systems

UEPMNT012	Maintain wind turbine mechanical systems
UEPMNT013	Monitor climatic conditions for renewable electricity generation
UEPMNT014	Test and commission wind turbines
UEPMNT302	Install and maintain industrial pipe work L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT303	Maintain mechanical valves L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT304	Maintain mechanical pumps L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT305	Maintain industrial fans L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT307	Maintain industrial screens, strainers and filters L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components

UEPMNT308	Maintain conveyors and associated equipment L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT309	Maintain material feeders L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT310	Maintain material crushers L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT312	Maintain industrial pressure vessels L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT314	Maintain hydro turbines.
UEPMNT317	Diagnose and repair faults in mechanical equipment L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components
UEPMNT318	Conduct generator mechanical maintenance L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations

	└ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18055 Dismantle, replace and assemble engineering components
UEPMNT340	Fabricate metal structures and components └ MEM09002 Interpret technical drawing └ MEM12023 Perform engineering measurements └ MEM18001 Use hand tools └ MEM18002 Use power tools/hand held operations └ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18055 Dismantle, replace and assemble engineering components
UEPMNT346	Maintain electrical equipment └ 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 └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT347	Maintain complex electrical equipment └ UEPMNT346 Maintain electrical equipment
UEPMNT348	Maintain electrical electronic equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT350	Modify electrical equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical

	installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT351	Test and commission electrical equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT355	Install complex electronic instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEIC0022 Install instrumentation and control apparatus and associated equipment
UEPMNT356	Maintain instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEPMNT357	Diagnose and repair faults in instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEPMNT358	Modify instrumentation equipment L UEECD0019 Fabricate, assemble and dismantle utilities industry components L UEECD0020 Fix and secure electrotechnology equipment L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEPMNT359	Test and commission instrumentation equipment L UEECD0019 Fabricate, assemble and dismantle utilities industry components L UEECD0020 Fix and secure electrotechnology equipment L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEPMNT366	Maintain power plant inverter systems L UEECD0019 Fabricate, assemble and dismantle utilities industry components L UEECD0020 Fix and secure electrotechnology equipment L UEECD0043 Solve problems in direct current circuits L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications L UEEEL0003 Arrange circuits, control and protection for general electrical installations L UEEEL0011 Evaluate performance of low voltage electrical apparatus L UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits L UEEEL0020 Solve problems in low voltage A.C. circuits L UEEEL0021 Solve problems in magnetic and electromagnetic devices L UEEEL0023 Terminate cables, cords and accessories for low voltage circuits L UEEEL0024 Test and connect alternating current (a.c.) rotating machines L UEEEL0025 Test and connect transformers
UEPMNT367	Install and commission stationary gas fuelled reciprocating engines L CPCCWHS1001 Work safely in the construction industry L HLTAID009 Provide cardiopulmonary resuscitation
UEPMNT368	Repair and maintain stationary gas fuelled reciprocating engines L CPCCWHS1001 Work safely in the construction industry L HLTAID009 Provide cardiopulmonary resuscitation
UEPMNT401	Install and maintain complex mechanical seals L MEM09002 Interpret technical drawing L MEM12023 Perform engineering measurements L MEM18001 Use hand tools L MEM18002 Use power tools/hand held operations L MEM18003 Use tools for precision work L MEM18006 Perform precision fitting of engineering components L MEM18055 Dismantle, replace and assemble engineering components L UEPMNT304 Maintain mechanical pumps

UEPMNT402	Conduct complex levelling and alignment └ MEM09002 Interpret technical drawing └ MEM12023 Perform engineering measurements └ MEM18001 Use hand tools └ MEM18002 Use power tools/hand held operations └ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18009 Perform levelling and alignment of machines and engineering components └ MEM18055 Dismantle, replace and assemble engineering components
UEPMNT403	Maintain complex mechanical valves └ MEM09002 Interpret technical drawing └ MEM12023 Perform engineering measurements └ MEM18001 Use hand tools └ MEM18002 Use power tools/hand held operations └ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18055 Dismantle, replace and assemble engineering components └ UEPMNT303 Maintain mechanical valves
UEPMNT404	Maintain complex mechanical pumps └ MEM09002 Interpret technical drawing └ MEM12023 Perform engineering measurements └ MEM18001 Use hand tools └ MEM18002 Use power tools/hand held operations └ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18055 Dismantle, replace and assemble engineering components └ UEPMNT304 Maintain mechanical pumps
UEPMNT408	Install hydro turbines └ MEM09002 Interpret technical drawing └ MEM12023 Perform engineering measurements └ MEM18001 Use hand tools └ MEM18002 Use power tools/hand held operations └ MEM18003 Use tools for precision work └ MEM18006 Perform precision fitting of engineering components └ MEM18009 Perform levelling and alignment of machines and engineering components └ MEM18055 Dismantle, replace and assemble engineering components └ UEPMNT402 Conduct complex levelling and alignment
UEPMNT410	Diagnose and repair faults in electronic equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

	└ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT411	Diagnose and repair faults in complex electrical equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers
UEPMNT412	Modify complex electrical equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers └ UEPMNT350 Modify electrical equipment
UEPMNT414	Test and commission complex electrical equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry

	components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers └ UEPMNT351 Test and commission electrical equipment
UEPMNT417	Inspect electrical generators and diagnose faults └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers └ UEPMNT351 Test and commission electrical equipment
UEPMNT419	Perform civil drafting └ MEM09002 Interpret technical drawing └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEPMNT421	Conduct technical inspection of process plant and equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations

	└ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers └ UEPMNT351 Test and commission electrical equipment
UEPMNT422	Conduct performance testing on process plant and equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0011 Evaluate performance of low voltage electrical apparatus └ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits └ UEEEL0020 Solve problems in low voltage A.C. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits └ UEEEL0024 Test and connect alternating current (a.c.) rotating machines └ UEEEL0025 Test and connect transformers └ UEPMNT351 Test and commission electrical equipment
UEPMNT425	Maintain complex instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEPMNT356 Maintain instrumentation equipment
UEPMNT427	Diagnose and repair faults in complex instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEPMNT356 Maintain instrumentation equipment
UEPMNT428	Modify complex instrumentation equipment └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and

	specifications ↳ UEPMNT356 Maintain instrumentation equipment
UEPMNT430	Test and commission complex instrumentation equipment ↳ UEECD0019 Fabricate, assemble and dismantle utilities industry components ↳ UEECD0020 Fix and secure electrotechnology equipment ↳ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications ↳ UEPMNT359 Test and commission instrumentation systems
UEPMNT433	Conduct routine generator electrical maintenance ↳ UEECD0019 Fabricate, assemble and dismantle utilities industry components ↳ UEECD0020 Fix and secure electrotechnology equipment ↳ UEECD0043 Solve problems in direct current circuits ↳ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications ↳ UEEEL0003 Arrange circuits, control and protection for general electrical installations ↳ UEEEL0011 Evaluate performance of low voltage electrical apparatus ↳ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits ↳ UEEEL0020 Solve problems in low voltage A.C. circuits ↳ UEEEL0021 Solve problems in magnetic and electromagnetic devices ↳ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits ↳ UEEEL0024 Test and connect alternating current (a.c.) rotating machines ↳ UEEEL0025 Test and connect transformers ↳ UEPMNT346 Maintain electrical equipment
UEPMNT440	Diagnose and repair faults in power plant inverter systems ↳ UEECD0019 Fabricate, assemble and dismantle utilities industry components ↳ UEECD0020 Fix and secure electrotechnology equipment ↳ UEECD0043 Solve problems in direct current circuits ↳ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications ↳ UEEEL0003 Arrange circuits, control and protection for general electrical installations ↳ UEEEL0011 Evaluate performance of low voltage electrical apparatus ↳ UEEEL0014 Isolate, test and troubleshoot low voltage electrical circuits ↳ UEEEL0020 Solve problems in low voltage A.C. circuits ↳ UEEEL0021 Solve problems in magnetic and electromagnetic devices ↳ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits ↳ UEEEL0024 Test and connect alternating current (a.c.) rotating machines ↳ UEEEL0025 Test and connect transformers ↳ UEPMNT366 Maintain power plant inverter systems
UEPOPL003	Licence to operate a reciprocating steam engine

UEPOPL004	Licence to operate a steam turbine
UEPOPS001	Analyse single protection device operation
UEPOPS002	Apply environmental and sustainable energy procedures
UEPOPS003	Apply quality systems to work
UEPOPS004	Carry out operational checks on in-service electrical plant └ There are no prerequisite units.
UEPOPS005	Clean plant and equipment
UEPOPS006	Collect and analyse hydrological and meteorological data
UEPOPS007	Conduct chemical batching operations
UEPOPS008	Operate and monitor control room site in a multi-control room environment
UEPOPS009	Conduct minor electrical maintenance
UEPOPS010	Conduct minor mechanical maintenance
UEPOPS011	Conduct multiple energy source isolation procedures for permit to work └ UEPOPS017 Conduct single energy source isolation procedures for permit to work
UEPOPS012	Conduct non-routine operational testing
UEPOPS013	Conduct operational checks and carry out corrective action on in-service electrical plant
UEPOPS014	Conduct operational checks on in-service mechanical plant
UEPOPS015	Conduct project management
UEPOPS016	Conduct routine wind turbine maintenance
UEPOPS017	Conduct single energy source isolation procedures for permit to work
UEPOPS018	Conduct water conveyance and control
UEPOPS019	Control electrical energy production
UEPOPS020	Control hydro generation pumping
UEPOPS021	Control permit to work operations
UEPOPS022	Coordinate and direct switching program └ UEPOPS124 Perform switching to a switching program
UEPOPS023	Coordinate electrical energy production └ UEPOPS019 Control electrical energy production
UEPOPS024	Coordinate first response team operation
UEPOPS025	Coordinate local H.V. networks
UEPOPS026	Coordinate network/system
UEPOPS027	Coordinate operational strategies for power production

UEPOPS028	Coordinate permit to work system └ UEPOPS011 Conduct multiple energy source isolation procedures for permit to work
UEPOPS029	Coordinate photovoltaic solar power plant operations
UEPOPS030	Coordinate power generation.
UEPOPS031	Coordinate response to critical incidents └ UEPOPS130 Respond to a critical incident
UEPOPS032	Coordinate team activities
UEPOPS033	Coordinate the use of contingency plans └ UEPOPS040 Facilitate the use of contingency plans
UEPOPS034	Coordinate wind farm operations
UEPOPS035	Coordinate workplace communication └ UEPOPS041 Facilitate effective workplace communication
UEPOPS036	Develop H.V. switching programs
UEPOPS037	Ensure compliance with work health and safety policy and procedures
UEPOPS038	Evaluate cost estimations and initiate appropriate solutions └ UEECO0001 Estimate electrotechnology projects
UEPOPS039	Evaluate scheduling of generation plant └ UEPOPS132 Schedule generation
UEPOPS040	Facilitate the use of contingency plans for power generation facilities
UEPOPS041	Facilitate workplace communication
UEPOPS042	Implement dam safety surveillance procedures
UEPOPS043	Interpret and analyse multi-operation protection devices └ UEPOPS001 Analyse single operation protection devices
UEPOPS044	Liaise with stakeholders
UEPOPS045	Maintain and utilise records
UEPOPS046	Maintain battery banks and cells.
UEPOPS047	Maintain quality systems within the team └ UEPOPS003 Apply quality systems to work
UEPOPS048	Manage commissioning and decommissioning
UEPOPS049	Manage critical incidents └ UEPOPS130 Respond to a critical incident └ UEPOPS031 Coordinate response to critical incidents
UEPOPS050	Manage environmental management systems.
UEPOPS051	Manage first response team └ UEPOPS024 Coordinate first response team operation

UEPOPS052	Manage high voltage network system └ UEPOPS026 Coordinate the network system.
UEPOPS053	Manage operational crisis to maintain or restore power system integrity
UEPOPS054	Manage operational strategies for power production.
UEPOPS055	Manage permit to work system └ UEPOPS028 Coordinate permit to work system └ UEPOPS011 Conduct multiple energy source isolation procedures for permit to work
UEPOPS056	Manage quality control procedures.
UEPOPS057	Manage system restart
UEPOPS058	Manage work health and safety policy and procedures └ UEECD0024 Implement and monitor energy sector WHS policies and procedures
UEPOPS059	Manage, operate and monitor a gas turbine unit
UEPOPS060	Monitor and coordinate the operation of a combined cycle gas turbine unit └ UEPOPS095 Operate and monitor fuel firing plant - gas or oil └ UEPOPS101 Operate and monitor HRSG hot gas control system └ UEPOPS059 Operate and monitor gas turbine unit └ UEPOPS073 Operate and monitor a steam turbine
UEPOPS061	Monitor and implement environmental site plans and procedures
UEPOPS062	Monitor and maintain civil assets
UEPOPS063	Monitor and maintain wind farm civil assets
UEPOPS064	Monitor climatic conditions for renewable energy production
UEPOPS065	Monitor implementation of quality control for production and maintenance └ UEPOPS047 Maintain quality systems within the team
UEPOPS066	Monitor power generation plant reliability
UEPOPS067	Monitor the implementation of under frequency load shedding
UEPOPS068	Operate a hydro generator synchronous condenser pump unit
UEPOPS069	Operate air conditioning plant
UEPOPS070	Operate and monitor a boiler unit
UEPOPS071	Operate and monitor a heat recovery steam generator unit └ UEPOPS101 Operate and monitor HRSG hot gas control system └ UEPOPS138 Start and run up a gas turbine └ UEPOPS141 Start up a heat recovery steam generator unit
UEPOPS072	Operate and monitor a hydro turbine
UEPOPS073	Operate and monitor a steam turbine
UEPOPS075	Operate and monitor a.c. electrical systems

UEPOPS076	Operate and monitor air conditioning plant and ventilation systems
UEPOPS077	Operate and monitor alkalinity reduction plant
UEPOPS078	Operate and monitor an internal combustion dual fuel reciprocating engine
UEPOPS079	Operate and monitor an internal combustion single fuel reciprocating engine
UEPOPS080	Operate and monitor ash and dust disposal plant
UEPOPS081	Operate and monitor auxiliary steam systems
UEPOPS082	Operate and monitor boiler draught system
UEPOPS083	Operate and monitor boiler steam/water cycle
UEPOPS084	Operate and monitor brine concentrator plant
UEPOPS085	Operate and monitor communications system
UEPOPS086	Operate and monitor compressed air systems
UEPOPS087	Operate and monitor compressed gas systems
UEPOPS088	Operate and monitor condenser and auxiliary cooling systems
UEPOPS089	Operate and monitor d.c. electrical systems
UEPOPS090	Operate and monitor dual fuel firing plant
UEPOPS091	Operate and monitor dust collection plant
UEPOPS092	Operate and monitor fixed fire protection systems
UEPOPS093	Operate and monitor flue gas (NOx) mitigation systems
UEPOPS094	Operate and monitor fuel firing plant - coal
UEPOPS095	Operate and monitor fuel firing plant - gas/oil
UEPOPS096	Operate and monitor fuel supply
UEPOPS097	Operate and monitor fuel supply - coal
UEPOPS098	Operate and monitor gas production plant
UEPOPS099	Operate and monitor generator/alternator
UEPOPS100	Operate and monitor heat exchangers and cooling systems
UEPOPS101	Operate and monitor HRSG hot gas control system
UEPOPS102	Operate and monitor hydro plant auxiliary systems
UEPOPS103	Operate and monitor hydro unit control and protection systems
UEPOPS104	Operate and monitor oil systems
UEPOPS105	Operate and monitor reverse osmosis plant
UEPOPS106	Operate and monitor site services water systems
UEPOPS107	Operate and monitor supervisory control and data acquisition systems
UEPOPS108	Operate and monitor system equipment

UEPOPS109	Operate and monitor water quality monitoring systems
UEPOPS110	Operate and monitor water systems condensate and feedwater
UEPOPS111	Operate and monitor water treatment plant
UEPOPS112	Operate bulk coal handling plant
UEPOPS113	Operate fabric filter dust collection plant
UEPOPS114	Operate H.V. condition changing apparatus
UEPOPS115	Operate hydroelectric generating plant and auxiliary equipment
UEPOPS116	Operate local H.V. switchgear
UEPOPS117	Operate local L.V. switchgear
UEPOPS118	Operate manual systems └ UEPOPS145 Undertake local systems operations
UEPOPS119	Operate waste and contaminated water plant
UEPOPS120	Undertake operational commissioning and decommissioning
UEPOPS121	Perform plant lubrication
UEPOPS122	Perform process plant inspections
UEPOPS123	Perform risk analysis of generation plant
UEPOPS124	Perform switching to a switching program
UEPOPS125	Perform tool store duties
UEPOPS126	Plan a scheduled outage
UEPOPS127	Plan and organise work
UEPOPS128	Produce maintenance plans for generation production plant
UEPOPS129	Produce maintenance strategies for generation production plant └ UEPOPS128 Produce maintenance plans for generation production plant
UEPOPS130	Respond to a critical incident
UEPOPS131	Run up a steam turbine
UEPOPS132	Schedule generation
UEPOPS133	Shut down a boiler unit
UEPOPS134	Shut down a gas turbine
UEPOPS135	Shut down a heat recovery steam generator unit └ UEPOPS101 Operate and monitor HRSG hot gas control system └ UEPOPS134 Shut down a gas turbine
UEPOPS136	Shut down a hydro turbine
UEPOPS137	Shut down a steam turbine
UEPOPS138	Start and run up gas turbine

UEPOPS139	Start and run up a hydro turbine
UEPOPS140	Start up a boiler unit
UEPOPS141	Start up a heat recovery steam generator unit └ UEPOPS101 Operate and monitor HRSG hot gas control system
UEPOPS142	Transport plant and equipment.
UEPOPS143	Tune process plant and equipment
UEPOPS144	Undertake dam safety surveillance
UEPOPS145	Undertake local systems operations
UEPOPS146	Operate and monitor hydro plant systems
UEPOPS148	Co-ordinate grid operations control centre
UEPOPS150	Operate and monitor multiple facilities from a single control room
UEPOPS152	Operate renewable wind, solar and hydro systems

Qualification mapping

Mapping information for Qualifications can be found in the ESI Generation CVIG Mapping Information Attachments [A–C spreadsheet](#).

Skill Sets mapping

Mapping information for Skill Sets can be found in the ESI Generation CVIG Mapping Information Attachments [A–C spreadsheet](#).

Units of competency mapping

Mapping information for Units of Competency can be found in the ESI Generation CVIG Mapping Information Attachments [A–C spreadsheet](#).

PREREQUISITE UNITS OF COMPETENCY

*It should be noted that many of the prerequisite units listed have their own prerequisites

Code	Title
BSB - Business Services Training Package	
BSBHRM413	Support the learning and development of teams and individuals
BSBHRM523	Coordinate the learning and development of teams and individuals
BSBINS402	Coordinate workplace information systems
BSBINS501	Implement information and knowledge management systems
BSBLDR301	Support effective workplace relationships
BSBLDR413	Lead effective workplace relationships
BSBLDR414	Lead team effectiveness
BSBLDR522	Manage people performance
BSBOPS203	Deliver a service to customers
BSBOPS301	Maintain business resources
BSBOPS402	Coordinate business operational plans
BSBOPS404	Implement customer service strategies
BSBOPS502	Manage business operational plans
BSBOPS505	Manage organisational customer service
BSBPEF301	Organise personal work priorities
BSBPEF402	Develop personal work priorities
BSBPEF501	Manage personal and professional development
BSBSTR301	Contribute to continuous improvement
BSBSTR401	Promote innovation in team environments
BSBSTR402	Implement continuous improvement
BSBSTR501	Establish innovative work environments
BSBSTR502	Facilitate continuous improvement
BSBTWK201	Work effectively with others
BSBTWK502	Manage team effectiveness
BSBWHS521	Ensure a safe workplace for a work area
CPC - Construction, Plumbing and Services Training Package	
CPCCCM2007	Use explosive power tools └ CPCCWHS2001 Apply WHS requirements, policies and procedures in the construction industry.

CPCCLDG3001	Licence to perform dogging
CPCCLHS3001	Licence to operate a personnel and materials hoist
CPCCLHS3002	Licence to operate a materials hoist
CPCCLRG3001	Licence to perform rigging basic level └ CPCCLDG3001 Licence to perform dogging
CPCCLRG3002	Licence to perform rigging intermediate level └ CPCCLRG3001 Licence to perform rigging basic level
CPCCLRG4001	Licence to perform rigging advanced level └ CPCCLRG3002 Licence to perform rigging intermediate level
CPCCLSF2001	Licence to erect, alter and dismantle scaffolding basic level
CPCCLSF3001	Licence to erect, alter and dismantle scaffolding intermediate level └ CPCCLSF2001 Licence to erect, alter and dismantle scaffolding basic level
CPCCLSF4001	Licence to erect, alter and dismantle scaffolding advanced level └ CPCCLSF3001 Licence to erect, alter and dismantle scaffolding intermediate level
CPCCWHS2001	Apply WHS requirements, policies and procedures in the construction industry
FBP - Food, Beverage and Pharmaceutical	
FBPSUG2022	Operate a waste water treatment system
HLT - Health	
HLTAID009	Provide cardiopulmonary resuscitation
HLTAID011	Provide First Aid
HLTWHS005	Conduct manual tasks safely
ICT - Information and Communications Technology	
ICTICT214	Operate application software packages
ICTICT215	Operate digital media technology packages
MEM - Manufacturing and Engineering	
MEM05004	Perform routine oxy fuel gas welding └ MEM11011 └ Undertake manual handling └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05005	Carry out mechanical cutting └ MEM11011 └ Undertake manual handling └ MEM12023

	└ Perform engineering measurements └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM05007	└ Perform manual heating and thermal cutting └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05011	└ Assemble fabricated components └ MEM05005 └ Carry out mechanical cutting └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ Plus, one or more of the following, including their prerequisites: └ MEM05015

	└ Weld using manual metal arc welding process └ MEM05017 └ Weld using gas metal arc welding process └ MEM05019 └ Weld using gas tungsten arc welding process └ MEM05055 └ Weld using oxy fuel gas welding process
MEM05012	- Perform routine manual metal arc welding └ MEM11011 └ Undertake manual handling └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05015	- Weld using manual metal arc welding process └ MEM05012 └ Perform routine manual metal arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05016	- Perform advanced welding using manual metal arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05012 └ Perform routine manual metal arc welding └ MEM05015 └ Weld using manual metal arc welding process └ MEM05051

	└ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05017	- Weld using gas metal arc welding process └ MEM05050 └ Perform routine gas metal arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations

MEM05018	Perform advanced welding using gas metal arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05017 └ Weld using gas metal arc welding process └ MEM05050 └ Perform routine gas metal arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05019	Weld using gas tungsten arc welding process └ MEM05049 └ Perform routine gas tungsten arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006

	└ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05020	- Perform advanced welding using gas tungsten arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05019 └ Weld using gas tungsten arc welding process └ MEM05049 └ Perform routine gas tungsten arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05022	- Perform advanced welding using oxy acetylene welding process └ MEM05004 └ Perform routine oxy fuel gas welding └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM05055 └ Weld using oxy fuel gas welding process

	└ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05024	- Perform welding supervision └ MEM05026 └ Apply welding principles └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information
MEM05026	- Apply welding principles └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities

	└ MEM16006 └ Organise and communicate information
MEM5036	- Repair, replace and/or modify fabrications └ MEM05005 └ Carry out mechanical cutting └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05011 └ Assemble fabricated components └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05043	- Perform welds to code standards using gas metal arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05017 └ Weld using gas metal arc welding process └ MEM05018 └ Perform advanced welding using gas metal arc welding process └ MEM05026 └ Apply welding principles └ MEM05050 └ Perform routine gas metal arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011

	└ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05044	- Perform welds to code standards using gas tungsten arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05019 └ Weld using gas tungsten arc welding process └ MEM05020 └ Perform advanced welding using gas tungsten arc welding process └ MEM05026 └ Apply welding principles └ MEM05049 └ Perform routine gas tungsten arc welding └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations

MEM05045	Perform pipe welds to code standards using manual metal arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05012 └ Perform routine manual metal arc welding └ MEM05015 └ Weld using manual metal arc welding process └ MEM05016 └ Perform advanced welding using manual metal arc welding process └ MEM05026 └ Apply welding principles └ MEM05051 └ Select welding processes └ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05046	Perform welds to code standards using manual metal arc welding process └ MEM05007 └ Perform manual heating and thermal cutting └ MEM05012 └ Perform routine manual metal arc welding └ MEM05015 └ Weld using manual metal arc welding process └ MEM05016 └ Perform advanced welding using manual metal arc welding process └ MEM05026 └ Apply welding principles └ MEM05051 └ Select welding processes

	└ MEM05052 └ Apply safe welding practices └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MEM05049	Perform routine gas tungsten arc welding └ MEM11011 └ Undertake manual handling └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05050	Perform routine gas metal arc welding └ MEM11011 └ Undertake manual handling └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05051	Select welding processes └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM05052	Apply safe welding practices └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM07005	Perform general machining └ MEM09002

	└ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM07006	- Perform lathe operations └ MEM07005 └ Perform general machining └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM07007	- Perform milling operations └ MEM07005 └ Perform general machining └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering

	└ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM07008	- Perform grinding operations └ MEM07005 └ Perform general machining └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM07011	- Perform complex milling operations └ MEM07005 └ Perform general machining └ MEM07007 └ Perform milling operations └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12003 └ Perform precision mechanical measurement └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information

	└ MEM18001 └ Use hand tools
MEM07012	- Perform complex grinding operations └ MEM07005 └ Perform general machining └ MEM07008 └ Perform grinding operations └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12003 └ Perform precision mechanical measurement └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools
MEM07021	- Perform complex lathe operations └ MEM07005 └ Perform general machining └ MEM07006 └ Perform lathe operations └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12003 └ Perform precision mechanical measurement └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information

	└ MEM18001 └ Use hand tools
MEM09002	- Interpret technical drawing └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM09003	- Prepare basic engineering drawing └ MEM09002 └ Interpret technical drawing └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM09004	- Perform electrical or electronic detail drafting └ MEM09002 └ Interpret technical drawing └ MEM09003 └ Prepare basic engineering drawing └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM09005	- Perform basic engineering detail drafting └ MEM09002 └ Interpret technical drawing └ MEM09003 └ Prepare basic engineering drawing └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering

	└ MEM16006 └ Organise and communicate information
MEM09006	- Perform advanced engineering detail drafting └ MEM09002 └ Interpret technical drawing └ MEM09003 └ Prepare basic engineering drawing └ MEM09005 └ Perform basic engineering detail drafting └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM11011	- Undertake manual handling └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM12003	- Perform precision mechanical measurement └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information
MEM12007	- Mark off/out structural fabrications and shapes └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information

MEM12023	Perform engineering measurements L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information
MEM12024	Perform computations L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan Work Activities L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information
MEM16006	Organise and communicate information L MEM13015 L Work safely and effectively in manufacturing and engineering
MEM18001	Use hand tools L MEM11011 L Undertake manual handling L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information
MEM18002	Use power tools/hand held operations L MEM11011 L Undertake manual handling L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information
MEM18003	Use tools for precision work L MEM11011 L Undertake manual handling L MEM12023 L Perform engineering measurements L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM16006 L Organise and communicate information L MEM18001 L Use hand tools

	└ MEM18002 └ Use power tools/hand held operations
MEM18006	Perform precision fitting of engineering components └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18007	Maintain and repair mechanical drives and mechanical transmission assemblies └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work

	└ MEM18006 └ Perform precision fitting of engineering components └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18009	Perform precision levelling and alignment of machines and engineering components └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work └ MEM18006 └ Perform precision fitting of engineering components └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18010	Perform equipment condition monitoring and recording └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18055 └ Dismantle, replace and assemble engineering components

MEM18018	Maintain pneumatic system components L MEM09002 L Interpret technical drawing L MEM11011 L Undertake manual handling L MEM12023 L Perform engineering measurements L MEM12024 L Perform computations L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM14006 L Plan work activities L MEM16006 L Organise and communicate information L MEM18001 L Use hand tools L MEM18002 L Use power tools/hand held operations L MEM18003 L Use tools for precision work L MEM18006 L Perform precision fitting of engineering components L MEM18055 L Dismantle, replace and assemble engineering components
MEM18019	Maintain pneumatic systems L MEM09002 L Interpret technical drawing L MEM11011 L Undertake manual handling L MEM12023 L Perform engineering measurements L MEM12024 L Perform computations L MEM13015 L Work safely and effectively in manufacturing and engineering L MEM14006 L Plan work activities L MEM16006 L Organise and communicate information L MEM18001 L Use hand tools L MEM18002 L Use power tools/hand held operations L MEM18003 L Use tools for precision work L MEM18006

	└ Perform precision fitting of engineering components └ MEM18018 └ Maintain pneumatic system components └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18020	- Maintain hydraulic system components └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work └ MEM18006 └ Perform precision fitting of engineering components └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18021	- Maintain hydraulic systems └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools

	└ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work └ MEM18006 └ Perform precision fitting of engineering components └ MEM18020 └ Maintain hydraulic system components └ MEM18055 └ Dismantle, replace and assemble engineering components
MEM18022	- Maintain fluid power controls └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements └ MEM12024 └ Perform computations └ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM14006 └ Plan work activities └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations └ MEM18003 └ Use tools for precision work └ MEM18006 └ Perform precision fitting of engineering components └ MEM18055 └ Dismantle, replace and assemble engineering components └ Plus, one or more of the following, including their prerequisites: └ MEM18019 └ Maintain pneumatic systems └ MEM18021 └ Maintain hydraulic systems
MEM18055	- Dismantle, replace and assemble engineering components └ MEM09002 └ Interpret technical drawing └ MEM11011 └ Undertake manual handling └ MEM12023 └ Perform engineering measurements

	└ MEM13015 └ Work safely and effectively in manufacturing and engineering └ MEM16006 └ Organise and communicate information └ MEM18001 └ Use hand tools └ MEM18002 └ Use power tools/hand held operations
MSM - Manufacturing Training Package	
MSMPER200	Work in accordance with an issued permit
MSMPER205	Enter confined space └ MSMPER200 └ Work in accordance with an issued permit
NWP - National Water Training Package	
NWPCAD002	Control vegetation on a site
NWPCAD004	Maintain catchment and surrounding areas
NWPCAD008	Monitor and control dam operations
NWPCAD009	Monitor and implement dam maintenance
NWPCAD012	Route floods through storages
NWPCAD019	Monitor and operate groundwater extraction
NWPGEN020	Sample and test source or drinking water
NWPGEN021	Sample and test wastewater
NWPGEN023	Use maps, plans, drawings and details
NWPGEN027	Monitor and operate pump stations
NWPNET019	Prepare and restore worksite
NWPNET040	Maintain and repair network assets for wastewater
NWPNET051	Monitor and operate water distribution systems
NWPTRT005	Monitor and operate water treatment processes
NWPTRT006	Monitor and operate fluoride addition processes
NWPTRT022	Monitor and operate hypochlorite disinfection processes
NWPTRT027	Monitor and operate wastewater treatment processes
NWPTRT047	Monitor, operate and control lagoon processes
PUA - Public Safety	
PUAFER008	Confine small emergencies in a facility
PUASAR022	Participate in a rescue operation └ The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional

	arrangements for the delivery of firefighting and fire management services. └ It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification. └ HLTAID011 Provide First Aid
PUASAR032	Undertake vertical rescue └ PUASAR022 Participate in a rescue operation
RII - Resources and Infrastructure Industry Training Package	
RIIHAN309F	Conduct telescopic materials handler operations
RIIMPO304E	Conduct wheel loader operations
RIIMPO308F	Conduct tracked dozer operations
RIIMPO309F	Conduct wheeled dozer operations
RIIMPO318F	Conduct civil construction skid steer loader operations
RIIMPO319E	Conduct backhoe/loader operations
RIIWHS202E	Enter and work in confined spaces
RIIWHS204E	Work safely at heights
TAE - Training and Education Training Package	
TAEDEL311	Provide work skill instruction
TLI - Transport and Logistics Training Package	
TLILIC0003	Licence to operate a forklift truck
TLILIC0005	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)
TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
TLILIC0040	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)
UEE - Electrotechnology Training Package	
UEECD0007	Apply work health and safety regulations, codes and practices in the workplace
UEECD0008	Carry out preparatory energy sector work activities └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0010	Compile and produce an energy sector detailed report
UEECD0016	Document and apply measures to control WHS risks associated with electrotechnology work └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019	Fabricate, assemble and dismantle utilities industry components └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0020	Fix and secure electrotechnology equipment └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0024	Implement and monitor energy sector WHS policies and procedures
UEECD0025	Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0020 Fix and secure electrotechnology equipment └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEECD0035	Provide basic instruction in the use of electrotechnology apparatus
UEECD0043	Solve problems in direct current circuits └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0044	Solve problems in multiple path circuits └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0046 Solve problems in single path circuits
UEECD0046	Solve problems in single path circuits └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECD0051	Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEECO0001	Estimate electrotechnology projects
UEECO0002	Maintain documentation
UEECO0016	Receive and store materials and equipment for electrotechnology work
UEECO0017	Source and purchase material/parts for installation or service jobs
UEECS0033	Use engineering applications software on personal computers
UEEDV0005	Install and maintain cabling for multiple access to telecommunication services └ 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 AND └ UEECD0043 Solve problems in direct current circuits OR └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEEDV0006	Install and modify optical fibre performance data communication cabling └ 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 └ UEEDV0005 Install and maintain cabling for multiple access to telecommunication services
UEEEL0003	Arrange circuits, control and protection for electrical installations └ 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 └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0019 Solve problems in direct current (d.c.) circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
UEEEL0005	Develop and connect electrical control circuits └ 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 └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0003 Arrange circuits, control and protection for general electrical installations └ UEEEL0019 Solve problems in direct current (d.c.) machine └ UEEEL0020 Solve problems in low voltage a.c. circuits └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits

	_ UEEEL0024 Test and connect alternating current (a.c.) rotating machines _ UEEEL0025 Test and connect transformers
UEEEL0011	Evaluate performance of low voltage electrical apparatus _ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEEEL0014	Isolate, test and troubleshoot low voltage electrical circuits _ 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 _ UEECD0043 Solve problems in direct current circuits _ UEEEL0003 Arrange circuits, control and protection for general electrical installations _ UEEEL0020 Solve problems in low voltage a.c. circuits _ UEEEL0021 Solve problems in magnetic and electromagnetic devices _ UEEEL0024 Test and connect alternating current (a.c.) rotating machines _ UEEEL0025 Test and Connect Transformers _ UEEEL0047 Identify, shutdown and restart systems with alternate supplies
UEEEL0020	Solve problems in low voltage a.c. circuits _ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace _ UEECD0043 Solve problems in direct current circuits _ UEEEL0021 Solve problems in magnetic and electromagnetic devices
UEEEL0021	Solve problems in magnetic and electromagnetic devices _ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace and _ UEECD0043 Solve problems in direct current circuits
UEEEL0023	Terminate cables, cords and accessories for low voltage circuits _ 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 _ UEECD0043 Solve problems in direct current circuits _ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEEEL0024	Test and connect alternating current (a.c.) rotating machines _ 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 _ UEECD0043 Solve problems in direct current circuits

	└ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0019 Solve problems in direct current (d.c.) machines └ UEEEL0020 Solve problems in low voltage a.c. circuits └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
UEEEL0025	Test and connect transformers └ 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 └ UEECD0043 Solve problems in direct current circuits └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEEL0019 Solve problems in direct current (d.c.) machines └ UEEEL0021 Solve problems in magnetic and electromagnetic devices └ UEEEL0020 Solve problems in low voltage a.c. circuits └ UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
UEEEL0047	Identify, shut down and restart systems with alternate supplies └ 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 └ UEECD0043 Solve problems in direct current circuits └ 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 └ UEEEL0019 Solve problems in direct current (d.c.) machines └ UEEEL0021 Solve problems in magnetic and electromagnetic devices
UEEIC0022	Install instrumentation and control apparatus and associated equipment └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEIC0047 Use instrumentation drawings, specifications, standards and equipment manuals
UEEIC0023	Install instrumentation and control cabling and tubing └ UEECD0007 Apply work health and safety regulations, codes and practices

	in the workplace └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEIC0047 Use instrumentation drawings, specifications, standards and equipment manuals
UEEIC0047	Use instrumentation drawings, specifications, standards and equipment manuals └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications
UEERE0001	Apply environmentally and sustainable procedures in the energy sector
UEERE0002	Assemble and connect remote area power supplies └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits and └ UEECD0043 Solve problems in direct current circuits or └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEERE0006	Conduct periodic maintenance of remote area power supply battery banks └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEEERE0019 Maintain safety and tidiness of remote area power supply systems └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEEERE0023 Work safely with remote area power supply systems and └ UEECD0043 Solve problems in direct current circuits or └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEERE0007	Conduct periodic maintenance of remote area power supply generator sets └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry components

	└ UEERE0019 Maintain safety and tidiness of remote area power supply systems └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEERE0023 Work safely with remote area power supply systems and └ UEECD0043 Solve problems in direct current circuits or └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEERE0008	Conduct periodic maintenance of remote area power supply photovoltaic arrays └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEERE0019 Maintain safety and tidiness of remote area power supply systems └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEERE0023 Work safely with remote area power supply systems and └ UEECD0043 Solve problems in direct current circuits or └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEERE0009	Conduct periodic maintenance of remote area power supply wind generators └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry components └ UEERE0019 Maintain safety and tidiness of remote area power supply systems └ UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications └ UEERE0023 Work safely with remote area power supply systems and └ UEECD0043 Solve problems in direct current circuits or └ UEECD0044 Solve problems in multiple path circuits └ UEECD0046 Solve problems in single path circuits
UEERE0017	Maintain and repair facilities associated with remote area essential service operations └ UEECD0007 Apply work health and safety regulations, codes and practices in the workplace └ UEECD0019 Fabricate, assemble and dismantle utilities industry

	components and L UEECD0043 Solve problems in direct current circuits or L UEECD0044 Solve problems in multiple path circuits L UEECD0046 Solve problems in single path circuits or L UEECD0042 Solve problems in ELV single path circuits L UEECD0044 Solve problems in multiple path circuits
UEERE0018	Maintain and repair remote area power generation facilities L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace L UEECD0019 Fabricate, assemble and dismantle utilities industry components L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications L UEERE0019 Maintain safety and tidiness of remote area power supply systems L UEERE0023 Work safely with remote area power supply systems L UEERE0007 Conduct periodic maintenance of remote area power supply generator sets and L UEECD0043 Solve problems in direct current circuits or L UEECD0044 Solve problems in multiple path circuits L UEECD0046 Solve problems in single path circuits
UEERE0019	Maintain safety and tidiness of remote area power supply systems L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace L UEERE0023 Work safely with remote area power supply systems
UEERE0020	Promote sustainable energy practices in the community
UEERE0021	Provide basic sustainable energy solutions for energy reduction in residential premises
UEERE0023	Work safely with remote area power supply systems L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEERE0025	Carry out basic repairs to renewable energy (RE) apparatus L UEECD0043 Solve problems in direct current circuits or L UEECD0044 Solve problems in multiple path circuits L UEECD0046 Solve problems in single path circuits and L UEECD0025 Lay wiring/cabling and terminate accessories for extra-low voltage (ELV) circuits or

	UEEEL0023 Terminate cables, cords and accessories for low voltage circuits
UEERE0040	Maintain and monitor remote area essential service operations - UEECD0007 Apply work health and safety regulations, codes and practices in the workplace - UEERE0023 Work safely with remote area power supply systems
UEERE0041	Maintain operation of remote area power generation plant UEERE0018 Maintain and repair remote area power generation facilities
UEERL0001	Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEERL0003	Conduct in-service safety testing of electrical cord connected equipment and cord assemblies UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UEG - Gas Industry Training Package	
UEGNSG709	Process meter reading information using appropriate technology
UEGNSG710	Read and record meter readings
UET - Transmission, Distribution and Rail Sector	
UETDRDO001	Inspect overhead poles, structures and electrical apparatus - UEECD0007 Apply work health and safety regulations, codes and practices in the workplace - UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications - UETDREL001 Apply environmental requirements - UETDREL005 Work safely in the vicinity of live electrical apparatus
UETDREL001	Apply environmental requirements
UETDREL004	Operate plant and equipment in the vicinity of live electrical apparatus UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UETDREL005	Work safely in the vicinity of live electrical apparatus UEECD0007 Apply work health and safety regulations, codes and practices in the workplace
UETDREL006	Work safely in the vicinity of live electrical apparatus as a non-electrical worker
UETDRMP001	Apply access authority procedures to work on or near electrical apparatus UETDRMP002 ESI safety rules for work on, near or in the vicinity of electrical apparatus
UETDRMP002	ESI safety rules for work on, near or in the vicinity of electrical apparatus

UETDRMP009	Perform tower rescue L HLTAID009 Provide cardiopulmonary resuscitation
UETDRRC004	Install and replace energy meters and associated equipment in a very remote community L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace L UEECD0046 Solve problems in single path circuits L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications L UETDREL001 Apply environmental requirements L UETDREL004 Operate plant and equipment in the vicinity of live electrical apparatus L UETDREL005 Work safely in the vicinity of live electrical apparatus L UETDRRC006 Perform low voltage electricity network switching in a very remote community L UETDRRC007 Solve problems in electrical network apparatus in a very remote community L UETDRRC008 Solve problems in low voltage electrical network circuits in a very remote community
UETDRRC006	Perform low voltage electricity network switching in a very remote community L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications L UETDREL001 Apply environmental requirements L UETDREL004 Operate plant and equipment in the vicinity of live electrical apparatus L UETDREL005 Work safely in the vicinity of live electrical apparatus
UETDRRC007	Solve problems in electrical network apparatus in a very remote community L UEECD0007 Apply work health and safety regulations, codes and practices in the workplace L UEECD0046 Solve problems in single path circuits L UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications L UETDREL001 Apply environmental requirements L UETDREL004 Operate plant and equipment in the vicinity of live electrical apparatus L UETDREL005 Work safely in the vicinity of live electrical apparatus L UETDRRC006 Perform low voltage electricity network switching in a very remote community

UETDRRC008	Solve problems in low voltage electrical network circuits in a very remote community
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KEY WORK AND TRAINING REQUIREMENTS IN THE INDUSTRY

Please click [here](#) to download the 2021 ESI Generation IRC Skills Forecast

There has been a move away from carbon intensive power generation, closure of thermal power stations and a rise in renewable energy generation. These trends will alter the skills required by those working in the ESI generation industry, creating greater demand for capabilities in renewable energy systems, innovative operating systems and big data analytics.

Industry have specified that renewable technology and adaptability skills are the highest priorities for the workforce over the next three to five years. However, the workforce still requires skills that will allow them to manage ageing generation assets and their maintenance needs.

A need for more skilled and/or qualified personnel and the ageing workforce were noted by industry as key reasons for shortages. There is also concern that reduced apprentice recruitment is resulting in fewer institutions providing or having the capability to provide contemporary industry valued training.

Variations in jurisdictional funding and traineeship arrangements are also reported as impacting the viability of delivering training for specialist technical areas.

REGULATION AND LICENSING IMPLICATIONS FOR IMPLEMENTATION

The industry is subject to a high level of legislation, regulation, codes of practice, guidelines and advisory standards related to the research, assembly, installation, construction, diagnostics, maintenance, commissioning, operation, programming, testing or repairing of steam generation systems, plant and equipment, networks, systems, circuits, components, appliances and facilities.

Licensing/regulatory authorities across Australia have actively participated in the development of this Training Package. This Training Package contains a number of licensing Units of Competency as packaged in various Skill Sets and qualifications. These units align to licensing outcomes in high-risk work, heavy vehicle driving and the carriage of dangerous goods by road.

Licensing/regulatory requirements vary between states and territories and may change from time to time.

The developers of this Training Package consider that the licensing/regulatory requirements described in this section apply to RTOs, assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and the Department of Education, Skills and Employment cannot guarantee that the list is definitive or accurate at the time of reading; the information in this section is provided in good faith on that basis.

Each Unit of Competency, Skill Set or qualification in this Training Package identifies where regulation and/or licensing apply by using an appropriate statement such as:

- Licensing, legislative or certification requirements apply to this unit. As these requirements can vary between states, territories or industry sectors, relevant information must be sourced prior to application of this unit.
- Candidates should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
- No licensing, legislative or certification requirements apply to this qualification at the time of publication.

The regulatory requirements are typically based on the principle of public safety and the safety and health of individuals who work on electricity generation plant, equipment and systems. Operation of plant and equipment, apparatus and systems may have other regulatory codes and practices related to boilers, mobile plant and equipment, liquids, electrical wiring systems and associated circuits.

A permit to work system is used in the power generation industry to control and monitor high-risk activities. Permits ensure that hazards have been identified and precautions considered before any hazardous work begins.

Units of Competency in this Training Package have been developed in consultation with the relevant industry Technical Advisory Committee (TAC) so that, where appropriate, these align to the requirements of legislation, regulations and mandated codes of practice.

Licensing and regulatory authorities will recognise a range of Units of Competency contained within this Training Package for respective licensing, registration or accreditation purposes.

See Attachment D: Summary of qualification licensing and regulatory requirements

IMPLEMENTATION INFORMATION

KEY FEATURES OF THE TRAINING PACKAGE AND THE INDUSTRY THAT WILL IMPACT ON THE SELECTION OF TRAINING PATHWAYS

Pathways define a sequence of learning or experience that can be followed to attain competency and describe the way in which training and assessment is undertaken in an education or training program. They are not mandatory and may vary depending on the qualification or training program, the needs of the individual and the industry.

The UEP Electricity Supply Industry - Generation Sector Training Package is flexible and many pathways can be constructed to align with individual requirements and business needs. RTOs can work with their clients to apply the flexibility available in the packaging rules to ensure 'fit for purpose' outcomes.

The UEP Electricity Supply Industry - Generation Sector Training Package contains Units of Competency imported from other Training Packages to ensure qualifications are relevant to their operation.

INDUSTRY SECTORS AND OCCUPATIONAL OUTCOMES OF QUALIFICATIONS

The UEP Electricity Supply Industry - Generation Sector Training Package does not lead to a licence, however; various STA's have their own regulatory requirements for licensing - refer to Attachment D.

The UEP Electricity Supply Industry - Generation Sector Training Package contains 14 Qualifications, 4 Skill Sets and 236 Units of Competency aligned to the occupations below:

Industry Occupations Guide

Qualification		Occupation	Industry sector
UEP20122	Certificate II in ESI Generation - Operations Support	Operational Support Operative (Electricity Supply Industry)	Operational Support Operatives operate local non-critical plant systems and undertake minor maintenance. They work on both electrical and mechanical equipment, undertake plant cleaning and lubrication and operate mobile load shifting equipment.
		Power Plant Operator	Power Plant Operators operate power plant machinery under direction and supervision.
UEP20222	Certificate II in Remote Area Essential Service	Essential Utilities Worker	Essential Utilities Workers perform basic work functions in relation to the operation of portable generation equipment and water supplies servicing remote area communities.
UEP30322	Certificate III in ESI Generation	Assistant Controller	Assistant Controllers help Power Distributors to operate electricity generation plant systems. They may isolate plant systems and observe civil plant infrastructure whilst observing safe working practices and environmental procedures within the ESI.

Qualification		Occupation	Industry sector
		Systems Operator (Electricity Supply Industry)	Systems Operators in the electricity supply industry operate and monitor systems which control energy production to ensure supply demands are met. They use data acquisition systems to operate plant and network equipment whilst observing safe working practices and environmental procedures.
		Control Room Operator (Electricity Supply Industry)	Control room operators manage the safe and proper operation of power generation facilities, switchyards and associated control structures to achieve maximum generation output and efficiency while maintaining environmental compliance.
		Boiler Attendant	Boiler Attendants operate and maintain boilers used to supply heat or steam for power that operates machines.
		Electricity Generation / Turbine Operator	Electricity Generation/Turbine Operators manage steam turbine start-ups, power generation shutdowns and inspections in the pulp and paper industry.
		Assistant Unit Controller	Assistant Unit Controllers assist Unit Controllers in the start-up and shutdown of electricity generating plant. They operate and isolate plant and equipment for work to ensure electricity production targets are met.
		Steam Generation / Boiler House Operator (Pulp and Paper)	Steam Generation/Boiler House Operators manage steam boiler start-ups and shutdowns and stoke steam boilers in the pulp and paper industry.

Qualification		Occupation	Industry sector
		Power Generation Plant Operator	Power Generation Plant Operators control and monitor boilers, turbines, generators and auxiliary equipment in power generating plants. They distribute power demands among generators, combine current and monitor instruments. They may also start or stop generators and connect or disconnect them from circuits.
		Mechanical Operator Technician (Electricity Supply Industry)	Mechanical Operator Technicians in the electricity supply industry work on the installation and operation of power plant equipment. They diagnose and repair faults and test equipment.
UEP40122	Certificate IV in ESI Generation	Electricity Generation/Turbine Senior Operator, Crew/Team Leader (Pulp and Paper)	Electricity Generation/Turbine Senior Operators and Team Leaders are required to coordinate all aspects of day-to-day electricity generation in the services sector of the pulp and paper industry. This may include maintenance of equipment, development of maintenance plans, supervising staff and monitoring machinery.
		Power Distributor	Power Distributors control the flow of electricity through transmission lines to industrial plants and substations which supply residential electricity. They monitor and operate current converters, voltage transformers and circuit breakers. They record status readings of transmission circuits and connections with substations and industrial plants.
		Systems Operation Technician (Electricity Supply Industry)	System Operation Technicians in the ESI maintain systems for monitoring and adjusting the output of a power station. They undertake remote

Qualification		Occupation	Industry sector
			operation of network equipment and isolation of plant and equipment. They may prepare cost estimates and coordinate work activities.
		Electricity Generation / Turbine Senior Operator, Crew/Team Leader (Pulp and Paper)	Electricity Generation/Turbine Senior Operators and Team Leaders are required to coordinate all aspects of day-to-day electricity generation in the services sector of the pulp and paper industry. This may include maintenance of equipment, development of maintenance plans, supervising staff and monitoring machinery.
		Steam Generation/ Boiler House Senior Operator, Crew/Team Leader (Pulp and Paper)	Steam Generation / Boiler House Senior Operators and Team Leaders oversee the maintenance and operation of all steam systems in the services sector of the pulp and paper industry.
		Unit Controller	Unit Controllers start up and shut down generating and auxiliary plants to ensure generation targets are achieved. They isolate equipment for plant outages and work. They also monitor and conduct fault finding, revise procedures and supervise and coordinate teams and operations.
		Power Plant Technician	Power Plant Technicians monitor the computer-controlled systems of a power generation facility to ensure the plant is operating efficiently. They check instruments and switchboards and monitor the flow of fuel to boilers.
		Electricity Generation Worker (Operations)	Electricity Generation Workers (Operations) operate power station equipment and manage the processes to produce electricity.

Qualification		Occupation	Industry sector
UEP40322	Certificate IV in ESI Generation Maintenance - Electrical Electronics	Electrical/Electronic Maintenance Technician (Electricity Supply Industry)	Electrical/Electronic Maintenance Technicians in the ESI maintain, repair and modify electrical and electronic circuits, components and systems in power plants. They schedule maintenance, supervise teams and coordinate work activities.
		Electrical Technician (Electricity Supply Industry)	Electrical Technicians in the ESI install, maintain, repair, test and commission electrical equipment. They can work on the construction and/or maintenance of substations.
		Instrumentation and Control Technician	Instrumentation and Control Technicians undertake a wide range of calibrations, repairs and installations to electrical, electronic, hydraulic and pneumatic instrumentation as well as analogue and digital electronic circuitry. They work in a wide range of industries, including water treatment operations.
		Electrical Supervisor (High Voltage Substation Construction)	Electrical Supervisors supervise all electrical aspects involved in the construction of high voltage (HV) substations.
UEP40422	Certificate IV in ESI Generation Maintenance (Fabrication)	Mechanical Operator Technician (Electricity Supply Industry)	Mechanical Operator Technicians in the ESI work on the installation and operation of power station equipment. They diagnose and repair faults and test equipment.
		Pressure Welder	Pressure Welders assemble, weld and repair pressure vessels such as storage tanks, pipelines and gas cylinders to exacting specifications.

Qualification		Occupation	Industry sector
UEP40522	Certificate IV in ESI Generation Maintenance (Mechanical)	Mechanical Maintenance Technician (Electricity Supply Industry)	Mechanical Maintenance Technicians in the ESI install, repair and maintain plant and mechanical systems in power plants. They schedule maintenance, supervise teams and coordinate work activities.
		Mechanical Operator Technician (Electricity Supply Industry)	Mechanical Operator Technicians in the ESI work on the installation and operation of power station equipment. They diagnose and repair faults and test equipment.
		Steam Generation / Boiler House Senior Operator, Crew/Team Leader (Pulp and Paper)	Steam Generation / Boiler House Senior Operators and Team Leaders oversee the maintenance and operation of all steam systems in the services sector of the pulp and paper industry.
UEP40622	Certificate IV in Wind Power Generation	Electrician (Utilities Services Electrotechnology Renewable and Sustainable Energy)	Electricians maintain, modify and repair electrical equipment, components, circuits and machines in a variety of industrial, commercial and domestic contexts. They may make replacement parts, connect wires or cables and operate machine tools.
		Electrician (Utilities Services Electricity Industry Electricity Generation Maintenance)	Electricians maintain, modify and repair electrical equipment, components, circuits and machines in a variety of industrial, commercial and domestic contexts. They may make replacement parts, connect wires or cables and operate machine tools.
		Electrician (Utilities Services Electrotechnology Systems Electrics)	Electricians maintain, modify and repair electrical equipment, components, circuits and machines in a variety of industrial, commercial and domestic contexts. They may make replacement parts, connect wires or cables and operate machine tools.

Qualification		Occupation	Industry sector
UEP50122	Diploma of ESI Generation	Senior Systems Operator (Electricity Supply Industry)	Senior Systems Operators develop operational procedures for and oversee the isolation of plant and equipment in various sectors of the ESI. They monitor power station operations and use protection equipment such as switchgears to isolate plant from circuits or processes to prevent electrical damage. They supervise and coordinate teams and activities.
		Operations Technical Officer (Electricity Supply Industry)	Operations Technical Officers manage plant operations and develop operational procedures and systems in the ESI. They oversee the start-up and shutdown of boilers, turbines and hydro plant. They also supervise and coordinate teams and implement safe working practices and environmental procedures.
		Unit Controller Supervisor	Unit Controller Supervisors oversee the start-up and shutdown of electricity generating and auxiliary plant to ensure generation targets are achieved. They coordinate unit control activities, monitor teams and operations and provide leadership in emergency situations.
		Senior Power Plant Operator	Senior Power Plant Operators operate and monitor the use of plant in power stations. They supervise and coordinate the activities of teams.

Qualification		Occupation	Industry sector
UEP50322	Diploma of ESI Generation (Maintenance)	Maintenance Technical Officer (Electricity Supply Industry)	Maintenance Technical Officers in the ESI supervise and provide high level support for maintenance activities in power plants. They coordinate and oversee maintenance schedules, activities and teams, monitor the functioning of plant and may be involved in project management.
UEP50422	Diploma of ESI Generation Maintenance - Electrical Electronic	Commissioning and Protection Technician	Commissioning and Protection Technicians commission and investigate power protection systems in high voltage (HV) substations. They also oversee maintenance program activities.
		High Voltage Substation Project Manager	High Voltage Substation Project Managers oversee the construction of electrical substations and related projects within the ESI. They manage personnel and the business aspects of projects and give specialist advice to deal with day-to-day issues and problems.
		Electrical Supervisor (High Voltage Substation Construction)	Electrical Supervisors supervise all electrical aspects involved in the construction of HV substations.
		Electrical Technical Officer (Electricity Supply Industry)	Electrical Technical Officers in the ESI oversee and undertake activities to install and maintain electrical, electronic and instrumentation systems. They develop maintenance schedules and manage projects, work activities and teams.

Qualification		Occupation	Industry sector
		Instrumentation and Control Technician	Instrumentation and Control Technicians undertake a wide range of calibrations, repairs and installations to electrical, electronic, hydraulic and pneumatic instrumentation, as well as analogue and digital electronic circuitry. They work in a wide range of industries including water treatment operations.

QUALIFICATION ENTRY REQUIREMENTS

Entry requirements are the knowledge, skills or experience required to undertake a qualification. They may be expressed as Units of Competency, qualifications or vocational outcomes and must be demonstrated prior to commencing the qualification, where applicable.

In the UEP Electricity Supply Industry - Generation Sector Training Package qualification entry and exit arrangements are based on the specific training and educational requirements endorsed by industry.

Entry into all qualifications is also available through Recognised Prior Learning (RPL) arrangements.

PATHWAYS ADVICE

Attachment E provides sector and qualification pathways guidance. Information about specific pathways relevant to qualifications in the Training Package is best provided by RTOs delivering the qualifications and State/Territory Advisory Bodies (STAs).

Generally, all qualifications in the UEP Electricity Supply Industry - Generation Sector Training Package are suitable for delivery via an Australian Apprenticeship pathway.

The Australian Apprenticeships website offers information about traineeships and apprenticeships and includes links to STAs that monitor provision.

VET IN SCHOOLS

VET in Schools programs are packaged and delivered in a variety of ways across Australia. It is highly recommended that schools work in partnership with an RTO so that qualifications and Skill Sets result in strong transferable skills relevant to the needs of the individual and commercial enterprises.

No UEP Electricity Supply Industry - Generation Sector Training package qualifications have been identified as being suitable for VET in School.

CREDIT ARRANGEMENTS

There are no credit transfer arrangements between qualifications in this Training Package and higher education qualifications.

ACCESS AND EQUITY

Good vocational education and training, and assessment include making adjustments to meet the learning and assessment needs of individuals. An open mind, common sense and tailoring training and assessment to individual circumstances should ensure individuals achieve the standards employers and RTOs expect.

Adjustments can be made to assist learners to access and participate in vocational education and training. Adjustments are reasonable if they achieve this purpose and take into account factors such as the nature of the learner's ability and disability, the views of the learner, the potential effect of the adjustment on the learner and others, and the costs and benefits of making the adjustment.

Reasonable adjustments need only be that – reasonable. It is about identifying what adjustments might reasonably be made and how they may be put into place.

Assessment processes and techniques should be modified for distance-based learners, be culturally appropriate and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

FOUNDATION SKILLS

Language, literacy and numeracy skills can make the difference between whether or not someone succeeds in training and at work. These important skills are now called 'core skills' or 'foundation skills' because they are at the core of – or the foundation to – other more specific technical skills.

All Units of Competency in the UEP Electricity Supply Industry - Generation Sector Training Package clearly describe the foundation skills that are essential to performance in the elements and performance criteria of the unit.

There is a distinction between 'core skills' and 'foundation skills' in Training Packages, which can be summarised as follows:

- Core skills are those described in the ACSF: learning, numeracy, oral communication (speaking and listening), reading and writing.

- Foundation skills is the term that the Australian Government uses in a number of different contexts, including vocational units of competency, to capture language, literacy and numeracy skills and employment skills.

In the UEP Training Package, foundation skills are explicit in the performance criteria in each Unit of Competency.

This is achieved with the use of key words or phrases to indicate foundation skills that are essential to performance. It is important to note that foundation skills may not have the same meaning in every instance and do need to be considered in the relevant job context.

The significance of each of these skills will also vary in respect to job roles and the strengths of individuals. It is important for users of the Training Package to contextualise relevant foundation skills identified in Units of Competency and assessment criteria.

FSK FOUNDATION SKILLS TRAINING PACKAGE

The FSK Foundation Skills Training Package allows RTOs to deliver foundation skills units, qualifications and Skill Sets that will enable learners to build the specific foundation skills they need to achieve vocational competency.

Foundation skills units provide additional information about the types of language, literacy and numeracy skills that are needed to meet the requirements of vocational units.

The Training Package can be downloaded from www.training.gov.au.

HEALTH AND SAFETY IMPLICATIONS IN THE INDUSTRY

Work health and safety (WHS)/occupational health and safety (OHS) has been used in Units of Competency to refer to the relevant legislation. As not all jurisdictions have implemented the Model Work Health and Safety (WHS) Act the combined term is used to recognise that either the national model or existing state instrument will apply, as specified by the relevant regulatory authority.

In jurisdictions where the Model WHS Act has not been implemented RTOs are advised to contextualise the Unit of Competency by referring to the existing state OHS legislative requirements.

RESOURCES AND EQUIPMENT RELEVANT TO THE TRAINING PACKAGE

The assessment requirements for each Unit of Competency refers to the relevant resources and equipment required for assessment tasks.

Where a specific vehicle or piece of equipment is referred to, it must be used in the assessment.

For assessment, access is required to:

- a range of relevant exercises, case studies and/or simulations
- a vehicle typical of that used in the industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry

Specific assessment requirements and strategies are defined in the relevant Unit of Competency where applicable.

RTOs can only conduct training and/or assessment of the qualifications and/or Units of Competency in this Training Package provided it is listed on their Scope of Registration.

The assessment requirements for each Unit of Competency specifies the resources and equipment required to achieve the vocational outcomes of the UEP Electricity Supply Industry - Generation Sector Training Package.

LEGAL CONSIDERATIONS FOR LEARNERS IN THE WORKPLACE/ON PLACEMENTS

Legal requirements that apply to specific industries and VET vary across each state and territory, and the Commonwealth, and can change.

Contact relevant state and territory and Commonwealth departments to determine specific legal requirements.

SUPPORTING LEARNER TRANSITION BETWEEN EDUCATION SECTORS

LINKS

Companion Volume Implementation Guide (CVIG) for UEP - Electricity Supply Industry - Generation Sector Training Package

ATTACHMENT A: QUALIFICATION MAPPING

Mapping information for Qualifications can be found in the ESI Generation CVIG Mapping Information Attachments A–C spreadsheet.

ATTACHMENT B: SKILL SETS MAPPING

Mapping information for Skill Sets can be found in the ESI Generation CVIG Mapping Information Attachments A–C spreadsheet.

ATTACHMENT C: UNITS OF COMPETENCY MAPPING

Mapping information for Units of Competency can be found in the ESI Generation CVIG Mapping Information Attachments A–C spreadsheet.

ATTACHMENT D: SUMMARY OF QUALIFICATION LICENSING/REGULATORY INFORMATION

Licensing and registration requirements that apply to specific industries and VET vary between each state and territory and can regularly change.

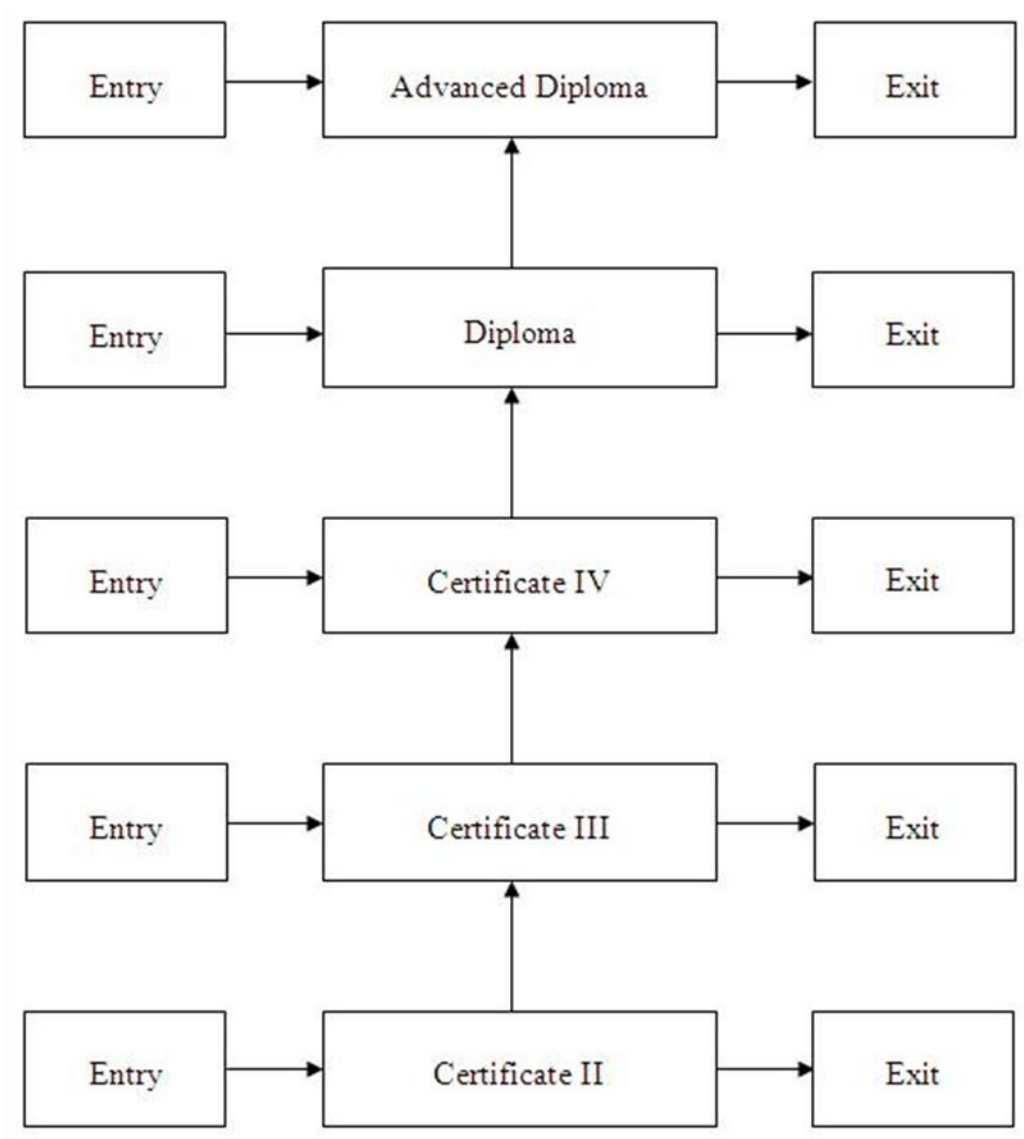
Contact details for the relevant state or territory authorities that can assist in providing the most up-to-date information are listed below.

The regulatory authorities for the ESI - generation industry at the time of publication of this Training Package are listed below.

Jurisdiction	Regulatory Body	Contacts
Australian Capital Territory	ACT Accreditation and Registration Council	02 6205 7091
New South Wales	Vocational Education and Training Accreditation Board, NSW	13 77 88
Northern Territory	NT Department of Education and Training	08 8901 1339
Queensland	QLD Training and Employment Recognition Council	07 3237 9959 07 3222 2775
South Australia	SA Training and Skills Commission	08 8226 4359
Tasmania	Tasmanian Qualifications Authority (TQA)	03 6233 6354
Victoria	Victorian Registration and Qualifications Authority (VRQA)	03 9637 2806
Western Australia	WA Training Accreditation Council	08 9441 1910

ATTACHMENT E: TRAINING PACKAGE PATHWAYS ADVICE

The UEP Electricity Supply Industry - Generation Sector Training Package provides open entry at each of the AQF levels. Arrows indicate the pathways that can be followed.



ATTACHMENT F: ESSENTIAL KNOWLEDGE AND ASSOCIATED SKILLS (EKAS)

Please note that the information provided in this table may not map to Elements and Performance Criteria in the endorsed units listed on training.gov.au. The below EKAS are a guide only and will not replace the endorsed content in the UoC. This section was extracted from UEP12 to assist training providers only.

UEPMNT001 Carry out routine work activities in an electricity supply industry generation environment

T1 ESI generation

- Coal fired electricity generation
- Gas fired electricity generation
- Gas turbine electricity generation
- Oil fired electricity generation
- Hydro-electricity generation
- Co-generation and tri-generation systems
- Bio-mass electricity generation
- Large scale photo-voltaic electricity generation
- Large scale wind generation
- Other forms of large scale renewable electricity generation
- Mix of electricity generation in the marketplace

T2 Workplace health and safety in the ESI generation industry

- Electrical
- Mechanical
- Hydraulic
- Pneumatic (pressurised air)
- Steam
- Toxic gases and chemicals used in the industry

T3 Overview of the electricity distribution network

- Generators
- Substations and switching yards
- Transformers
- Circuit breakers and switches/isolators
- Common voltages
- Three phase and single phase electricity supply
- Electricity distributors and electricity retailers

T4 Lubrication

- Refilling of greasing systems
- Checking oil levels
- Confirming lubrication of components

T5 Cleaning

- Excess grease
- Dust
- Oil
- Water
- Salt
- Cleaning chemicals:
 - appropriateness of use
 - safety data sheets (SDS) for cleaning products
 - use of cleaning products in restricted spaces
 - prohibited cleaning solvents

T6 Warehousing

- Enterprise procedures for managing stock levels:
 - computer stock control
- Loading and unloading stock and products:
 - shelving
 - inward goods receiving
 - manual handling
 - trolleys
- Enterprise communication protocols

UEPMNT002 Carry out routine work activities in an ESI large scale wind generation environment

T1 Wind generation industry

- Climate change
- Mix of electricity generation in the marketplace

T2 Wind generation

- Power available in the wind
- Classes of wind turbine generator
- Geographic placement of wind turbine generators

T3 Work health and safety (WHS) in the wind generation industry

- Electrical
- Mechanical

- Hydraulic
- Working in environmental climates subject to high wind velocity
- Working at heights on a wind turbine generator

T4 Components that form a wind turbine generator

- Tower
- Blades
- Nacelle
- Generator
- DC/AC converter
- Power transformer
- Grid connection
- Control systems
- Supervisory control and data acquisition (SCADA) and similar control systems

T5 Lubrication

- Refilling of automatic greasing systems
- Checking oil levels
- Confirming lubrication of components

T6 Cleaning

- Excess grease
- Dust
- Oil
- Water
- Salt
- Cleaning chemicals:
 - appropriateness of use
 - SDS for cleaning products
 - use of cleaning products in restricted spaces
 - prohibited cleaning solvents

T7 Warehousing

- Enterprise procedures for managing stock levels
- Computer stock control
- Loading and unloading stock and products:
 - shelving
 - inward goods receiving
 - manual handling
 - trolleys
- Enterprise communication protocols

UEPMNT302 Install and maintain industrial pipe work

T1

- Relevant environmental and work health and safety (WHS) legislation and regulations
- Pipe work materials and their applications
- measuring equipment
- Seals and gaskets
- Pipe bending principles
- Specialised tools and jigs
- Pipe levelling and alignment
- Rigging and lifting
- Relevant materials and components
- Technical drawings and manufacturers' manuals
- Hand and portable power tools
- Testing techniques
- Relevant plant and equipment and its location
- Isolation procedures
- Protective coatings

T2:

- Relevant environmental and WHS legislation and regulations
- Identify and use measuring equipment
- Apply pipe work fabrication and installation techniques
- Manufacture and install seals and gaskets
- Apply pipe levelling and alignment techniques
- Interpret Technical drawings and manufacturers' manuals
- Identify and select materials and components
- Apply data analysis techniques
- Use hand and portable power tools
- Apply relevant testing techniques
- Apply dismantling and reassembling techniques
- Apply relevant maintenance procedures
- Recognise worn/damaged components
- Communicate effectively
- Apply relevant tools and jigs

UEPMNT303 Maintain mechanical valves

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant industry standards
- Technical drawings and manufacturers' manuals
- Valve, damper and actuator types and characteristics
- Precision measuring equipment
- Introduction to and typical arrangements of power production plant
- Seals and gaskets
- Specialised tools and jigs
- Relevant materials and components
- Hand and portable power tools
- Testing techniques

T2:

- WHS legislation and regulations
- Identify and use precision measuring equipment
- Apply valve installation techniques
- Manufacture and install seals and gaskets
- Apply valve levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Identify and select materials and components
- Apply data analysis techniques
- Use hand and portable power tools
- Apply relevant testing techniques
- Apply dismantling and reassembling techniques
- Apply relevant maintenance procedures
- Recognise worn/damaged components
- Communicate effectively
- Apply relevant tools and jigs
- Apply relevant standards
- Communicate effectively

UEPMNT304 Maintain mechanical pumps

T1:

- Relevant environmental and WHS legislation and regulations
- Pumps types and characteristics
- Technical drawings and manufacturers' manuals
- Precision measuring equipment
- Seals and gaskets
- Bearings
- Specialised tools and jigs
- Coupling levelling and alignment
- Rigging and lifting equipment
- Materials and components of pumps
- Fluid dynamics
- Hand and portable power tools
- Protective coatings
- Heating techniques
- Balancing techniques
- Isolation procedures

T2:

- Apply environmental and WHS legislation and regulations
- Identify and use precision measuring equipment
- Apply coupling levelling and alignment techniques
- Manufacture and install seals and gaskets
- Apply fluid dynamics principles
- Install bearings
- Use specialised tools and jigs
- Interpret technical drawings and manufacturers' manuals
- Identify and select materials and components
- Apply data analysis techniques and tools
- Use hand and portable power tools
- Use heat application equipment
- Apply dismantling and reassembling techniques
- Work to defined tolerances
- Recognise worn/damaged components
- Apply maintenance procedures
- Communicate effectively

UEPMNT305 Maintain industrial fans

T1:

- Relevant environmental and WHS legislation and regulations
- Introduction to and typical arrangements of power production plant
- Fan and motor types and characteristics
- Introduction to and typical arrangements of power production plant
- Motor variable speed drive types and characteristics
- Precision measuring equipment
- Seals and gaskets
- Coupling levelling and alignment
- Rigging and lifting
- Technical drawings and manufacturers' manuals
- Hand and power tools
- Protective coatings
- Balancing techniques
- Isolation procedures

T2:

- Apply environmental and WHS legislation and regulations
- Identify and use measuring equipment
- Manufacture and install seals and gaskets
- Apply coupling levelling and aligning techniques
- Interpret technical drawings and manufacturers' manuals
- Identify and select materials and components
- Use hand and portable power tools
- Work to defined tolerances
- Dismantle and assemble components
- Apply balancing procedures
- Recognise worn/damaged components
- Communicate effectively

UEPMNT307 Maintain industrial screens, strainers and filters

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Measuring equipment
- Screen and filter types and characteristics
- Hand and portable power tools

- Specialised tools and jigs
- Node and cathode protection
- Levelling and alignment
- Rigging and lifting techniques
- Relevant materials and components
- Balancing procedures
- Communication principles

T2:

- Apply environmental and WHS legislation and regulations
- Apply valve levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Apply levelling and alignment techniques
- Identify and use measuring equipment
- Use hand portable power tools
- Use technical drawings and data
- Dismantle and assemble components
- Apply installation and maintenance procedures
- Communicate effectively

UEPMNT308 Maintain conveyors and associated equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Conveyor types and their operating principles
- Conveyor tracking principles
- Conveyor tensioning techniques
- Conveyor operations/systems
- Precision measuring equipment
- Hand and portable power tools
- Specialised tools and jigs
- Levelling and alignment principles
- Rigging and lifting techniques
- Balancing procedures
- Isolation procedures

T2:

- Apply environmental and WHS legislation and regulations
- Apply valve levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Identify and use measuring equipment
- Use hand and portable power tools
- Select and use specialised tools and jibs
- Apply levelling and alignment techniques
- Track, align and tension conveyors and associated equipment
- Dismantle, exchange and reassemble components and parts
- Communicate effectively

UEPMNT309 Maintain material feeders

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment, its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Gearboxes
- Seals and gaskets
- Feeder types and operating principles
- Precision measuring equipment
- Hand and power tools
- Specialised tools and jigs
- Levelling and alignment principles
- Rigging and lifting techniques
- Relevant materials and components
- Isolation procedures
- Balancing procedures

T2:

- Apply environmental and WHS legislation and regulations
- Apply levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Manufacture gaskets and seals
- Identify and use precision measuring equipment
- Apply feeder operating principles when setting equipment
- Use hand and portable power tools
- Use technical drawings and data
- Apply data analysis techniques

- Select and use specialised tools and jigs
- Identify and select materials and components
- Adjust feeder for desired material feed rate
- Dismantle and reassemble components
- Communicate effectively

UEPMNT310 Maintain material crushers

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment, its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Crusher types and operating principles
- Measuring equipment
- Hand and portable power tools
- Specialised tools and jigs
- Levelling and alignment principles
- Rigging and lifting techniques
- Balancing procedures
- Lubrication systems

T2:

- Apply environmental and WHS legislation and regulations
- Apply levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Identify and use measuring equipment
- Use hand and portable power tools
- Select and use specialised tools and jigs
- Identify and select materials and components
- Test, adjust, replace and overhaul crushers for desired material sizing
- Dismantle and reassemble components
- Communicate effectively

UEPMNT314 Maintain hydro turbines

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of hydro power production plant

- Hydro turbines types and characteristics
- Hydro turbines support equipment types and characteristics
- Hand and portable power tools
- Fluid power control principles
- Precision measuring equipment
- Specialised tools and jigs
- Levelling and aligning techniques
- Diagnostic and testing techniques
- Protective coatings
- Gaskets and seals
- Transmissions/couplings
- Valves
- Fluid power systems
- Pipe work
- Torqueing techniques
- Data recording techniques
- Isolation procedures
- Rigging and lifting equipment
- Communication principles

T2:

- Apply environmental and WHS legislation and regulations
- Apply levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Use hand and portable power tools
- Use precision measuring equipment
- Use rigging and lifting equipment
- Use specialised tools and jigs
- Apply levelling and aligning techniques
- Diagnose and test
- Manufacture gaskets and seals
- Identify hazardous materials
- Identify components
- Recognise worn, damaged or faulty components
- Apply fluid power control principles
- Apply torqueing techniques
- Apply maintenance techniques
- Communicate effectively

UEPMNT317 Diagnose and repair faults in mechanical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Equipment and material required to perform the work
- Layout of plant and operation of its equipment
- Performance and function of the equipment
- Fault finding and diagnostic techniques
- Repair techniques

T2:

- Apply environmental and WHS legislation and regulations
- Apply levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Identify equipment and material required to perform the work
- Locate and interpret plans, drawings and texts
- Use tools and relevant equipment
- Use test and measurement instruments
- Verify and identify faults
- Apply fault finding and diagnostic techniques
- Determine cause of faults
- Repair faults
- Communicate effectively

UEPMNT318 Conduct generator mechanical maintenance

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment, its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Construction of electrical generators
- Hand and portable power tools
- Precision measuring equipment
- Rigging and lifting equipment
- Specialised tools and jigs
- Advanced balancing, levelling and aligning techniques
- Diagnostic and testing techniques
- Gaskets and seals, including complex seals
- Transmissions/couplings
- Valves

- Pipe work
- Isolation procedures
- Communication principles

T2:

- Apply environmental and WHS legislation and regulations
- Apply levelling and alignment techniques
- Interpret technical drawings and manufacturers' manuals
- Use hand and portable power tools
- Use precise measuring equipment
- Use rigging and lifting equipment
- Use specialised tools and jigs
- Apply advanced balancing, levelling and aligning techniques
- Apply diagnose and testing techniques
- Manufacture and install gaskets and seals, including complex seals
- Identify hazardous materials
- Identify components
- Recognise worn, damaged or faulty components
- Sequentially assemble and disassemble
- Work to fine tolerances
- Apply data analysis techniques and tools
- Communicate effectively

UEPMNT340 Fabricate metal structures and components

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment, its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Basic metallurgy
- Hand and portable power tools
- Welding, heating and cutting techniques
- Mechanical cutting techniques
- Paints, sealants and glues
- Sheet metal work
- Distortion control techniques
- Jigs and templates
- Levelling and aligning techniques
- Workshop plant and equipment
- Assembly techniques

- Fabrication techniques and principles
- Geometric development techniques
- Materials/sections
- Forming and shaping techniques and principles
- Heating, cutting and welding equipment
- Mathematical techniques

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Use welding, cutting and heating equipment
- Use workshop plant and equipment
- Apply geometric development concepts
- Apply basic engineering concepts
- Apply basic engineering design concepts
- Perform precision measurements
- Use hand and portable power tools
- Fabricate, assemble and install structures and components
- Select materials and resources
- Apply distortion control techniques
- Apply job inspection techniques
- Make jigs and templates
- Apply levelling and aligning techniques
- Apply metal forming techniques
- Communicate effectively

UEPMNT346 Maintain electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Maintenance techniques for the equipment
- Electrical equipment
- Electrical principles
- Test and measurement instruments

- Electrical installation practice
- Engineering and workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use tools and equipment
- Use test and measurement instruments
- Use maintenance procedures
- Identify and select materials
- Carry out work completion details
- Apply electrical principles

UEPMNT347 Maintain complex electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Maintenance techniques for the equipment
- Complex electrical equipment
- Electrical principles
- Test and measurement instruments
- Electrical installation practice
- Circuit plan appreciation
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use tools and equipment
- Use test and measurement instruments
- Use maintenance procedures

- Identify and select materials
- Apply regulatory procedures
- Carry out work completion details
- Apply electrical principles
- Communicate effectively
- Apply engineering and electronic workshop practices

UEPMNT348 Maintain electrical electronic equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Layout of plant/worksite and operation of its equipment
- Maintenance techniques for the equipment
- Electronic principles
- Electronic electrical equipment
- Regulatory requirements
- Electrical principles
- Test and measurement instruments
- Electrical installation practice
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use tools and equipment
- Use test and measurement instruments
- Use maintenance procedures
- Identify and select materials
- Apply regulatory procedures
- Carry out work completion details
- Apply electrical principles
- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT350 Modify electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Modification techniques
- Electrical equipment
- Regulatory procedures
- Electrical principles
- Test and measurement instruments
- Engineering and workshop practice
- Communication principles

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Modify electrical equipment
- Select materials for the job
- Apply electrical principles
- Carry out work completion details
- Communicate effectively

UEPMNT351 Test and commission electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Testing and commissioning techniques and procedures
- Operational requirements of the equipment
- Electrical equipment
- Regulatory procedures
- Electrical principles
- Test and measurement instruments
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use and update plans, drawings and texts
- Use tools and relevant equipment
- Use test and measurement instruments
- Inspect and test the wiring systems

- Inspect, test and monitor equipment
- Commission electrical equipment
- Select materials for the job
- Apply electrical principles
- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT355 Install complex electronic instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Installation requirements of the equipment
- Electrical fundamentals
- Test and measurement instruments
- Engineering and electronic workshop practice
- Instrumentation principles and practices

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Use correct termination procedures
- Use correct installation procedures
- Identify and select relevant materials
- Carry out work completion details
- Apply electrical fundamentals
- Communicate effectively
- Apply engineering and workshop practices

UEPMNT356 Maintain instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Maintenance techniques for the equipment
- Instrumentation principles and practices
- Instrument calibration techniques
- Instrumentation equipment
- Electrical fundamentals
- Test and measurement of instruments
- Instrument installation practice
- Engineering and workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Apply instrumentation principles and practices
- Apply instrument calibration techniques
- Use tools and relevant equipment
- Use test and measurement instruments
- Use correct maintenance procedures
- Use correct calibration procedures
- Identify and select materials for the job
- Apply electrical fundamentals
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT357 Diagnose and repair faults in instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals

- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Instrumentation principles and practices
- Instrument calibration techniques
- Fault finding and diagnostic techniques
- Repair techniques
- Instrumentation equipment
- Electrical fundamentals
- Test and measurement instruments
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Verify and identify faults
- Use appropriate fault finding and diagnostic techniques
- Determine the cause of faults
- Repair faults
- Identify and select materials for the job
- Apply regulatory aspects theory
- Apply electrical fundamentals
- Instrumentation principles and practices
- Instrument calibration techniques
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT358 Modify instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals

- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Modification techniques
- Instrumentation equipment and technology
- Regulatory aspects
- Instrumentation principles and practices
- Electrical fundamentals
- Test and measurement instruments
- Engineering and workshop practice
- Communication principles

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Modify instrumentation equipment
- Use tools and relevant equipment
- Use test and measurement instruments
- Identify and select materials for the job
- Apply instrumentation principles and practices
- Apply electrical fundamentals
- Carry out work completion details

UEPMNT359 Test and commission instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Operating principles of the equipment
- Testing and commissioning procedures and techniques
- Operational requirements of the equipment

- Instrumentation principles and practices
- Instrument calibration techniques
- Instrumentation systems
- Regulatory aspects
- Electrical fundamentals
- Test and measurement instruments

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Inspect and test the wiring systems
- Inspect and test piping and tubing systems
- Inspect, test and monitor equipment
- Commission the equipment
- Instrumentation principles and practices
- Instrument calibration techniques
- Identify and select materials for the job
- Apply electrical fundamentals
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT366 Maintain power plant inverter systems

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Maintenance techniques for the system
- Electrical equipment
- Electrical principles

- Test and measurement instruments
- Electrical installation practice
- Engineering and workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and equipment
- Use test and measurement instruments
- Use maintenance procedures
- Identify and select materials
- Carry out work completion details
- Apply electrical principles

UEPMNT367 Install and commission stationary gas fuelled reciprocating engines

T1 Gas fuels

- Types, properties and applications
- Safety
- Hazards
- Combustion
- Ignition types

T2 Gas fuelled reciprocating engine overview

- Types
- Major components
- Operating principles
- Manufacturers' specifications and diagrams

T3 Fuel train requirements

- Pipe work and connections
- Valves
- Metering devices
- Regulating valves
- Electrical controls

T4 Exhaust/flue requirements

- Materials
- Terminations
- Sizing

T5 Location ventilation requirements

- Materials
- Calculations
- Interlocks
- Locations

T6 Hazardous area requirements

- Locations
- Housing requirements
- Distances

T7 Codes, regulations and industry standards

- AS 3814 Industrial and commercial gas-fired appliances
- AS 5601 Gas installations

T8 Design specifications

- Accessing
- Analysis and interpretation
- Calculations

T9 Required authority to proceed

- Regulatory requirements (scope and restrictions)
- Standards and code of practice requirements
- Required documentation and submissions

T10 Site arrangements

- Location and environment
- Piping requirements for gas fuel train pipe work
- Suitable equipment and plant locations

T11 Site safety

- Hazards
- Checklists
- Reports

T12 Plant and equipment diagrams

- Mechanical layouts
- Gas pipe work drawings
- Electrical circuits

T13 Installation

- Reciprocating engines plant and equipment
- Gas train pipe work and components

- Exhaust/flue system
- Ventilation system
- Pressure testing and purging
- Authorisations and certification requirements and procedures
- T14 Commissioning Inspection of the installed reciprocating engines, pipe work, components and accessories
- Testing reciprocating engine operation first without and then with fuel
- Testing and adjusting regulator, operation and safety controls
- Exhaust gases analysis throughout operating parameters including bifuel applications
- Compliance with design specification, regulations, codes, industry standards and manufacturers' specifications
- Documentation and reports:
 - as installed reciprocating engine components, pipe work, flue/exhaust systems and accessories are documented and reported

UEPMNT368 Repair and maintain stationary gas fuelled reciprocating engines

T1 Gas fuels

- Types, properties and applications
- Safety
- Hazards
- Combustion
- Ignition types

T2 Gas fuelled reciprocating engines

- Types
- Major components
- Operating principles
- Manufacturers' specifications and diagrams

T3 Fuel train requirements

- Pipe work and connections
- Valves
- Metering devices
- Regulating valves
- Electrical controls

T4 Exhaust/flue requirements

- Materials
- Terminations
- Sizing

T5 Ventilation requirements

- Location
- Materials
- Calculations
- Interlocks

T6 Hazardous area requirements

- Locations
- Housing requirements
- Distances

T7 Codes, regulations and industry standards

- AS 3814 Industrial and commercial gas-fired appliances
- AS 5601 Gas installations

T8 Design specifications

- Accessing
- Analysis and interpretation
- Calculations

T9 Required authority to proceed

- Regulatory requirements (scope and restrictions)
- Standards and code of practice requirements
- Required documentation and submissions

T10 Site arrangements

- Location and environment
- Piping requirements for gas fuel train pipe work
- Suitable equipment/equipment plant locations

T11 Site safety

- Hazards
- Checklists
- Reports

T12 Engine diagrams

- Mechanical layouts
- Gas pipe work drawings
- Electrical circuits

T13 Fault finding

- Taking readings and gathering information
- Symptoms and possible faults
- Logical fault diagnosis sequence and flow charts
- Manufacturers' fault diagnosis tables

- Confirming actual fault

T14 Disconnect requirements and procedures

- Regulator, business and customer requirements
- Manufacturers' specifications and procedures

T15 Repairs and maintenance requirements and procedures

- Gas train pipe work and components
- Exhaust/flue system
- Ventilation system
- Oil change
- Oil and air filter replacement

T16 Reconnection requirements and procedures

- Regulator, business and customer requirements
- Manufacturers' specifications and procedures
- Inspection of installed engine, pipe work, components and accessories
- Pressure testing and purging
- Testing engine operation first without and then with fuel
- Testing and adjusting regulator, operation and safety controls
- Exhaust gases analysis
- Compliance with design specification, regulations, codes, industry standards and manufacturers' specifications back to commissioned settings
- Documentation and reports:
 - as installed plant and equipment components, pipe work, flue/exhaust systems and accessories are documented and reported

UEPMNT013 Monitor climatic conditions for renewable electricity generation

T1 Basic knowledge of meteorology

- Lightning and storms
- Wind speed and direction
- Atmospheric pressure

T2 Sources of meteorological information

- Bureau of meteorology
- On-site weather measuring technology
- Proprietary sources of meteorological data

T3 Weather safety alert systems

- SMS alerts
- Internet alerts

T4 Enterprise documentation and procedures relating to operations and management of renewable electricity generation plant and equipment during extreme weather events

T5 Lightning protection systems

- Generator protection
- Lightning rods and conductors

T6 Post-weather event damage inspections

T7 National energy market pricing

UEPMNT008 Maintain and monitor wind farm civil assets

T1 Fencing

- Types and applicability of different types of fencing
- Regulations for types of fencing and installation standards
- Methods for maintaining fencing

T2 Gates

- Types and applicability of different types of gates
- Methods for maintaining gates

T3 Paints

- Types and uses of different types of paint
- Health and safety precautions with use of different types of paints
- Disposal of paint

T4 Corrosion

- Recognising corrosion
- Typical places where corrosion occurs
- Methods of corrosion control

T5 Pests

- Identification of different types of pests and the damage they cause:
 - insect pests
 - rodents
 - native animals
 - permitted and recommended methods of pest control

T6 Vegetation control

- Identification of types of weeds
- Native plants including protected species
- Methods of controlling weeds and vegetation
- Mechanical vegetation control:

- lawn mowers
- brush cutters
- chain saws

T7 Security

- Methods of securing site assets
- First level maintenance of security systems

T8 Emergency services

T9 Enterprise procedures for notifying emergency services in case of an incident

T10 Roads and pathways

- Materials used to build roads and pathways
- Recognising early signs of deterioration
- Restorative techniques
- Blue metal rock mulch maintenance

T11 Erosion control

- Causes of soil erosion
- Stormwater control

T12 Lighting

- Types of luminaires
- Method of replacing different types of luminaires
- Method of isolating lighting circuits prior to servicing

T13 Planning permit and environmental plans

- Identification of planning and environmental plan restrictions
- Methods of civil works remediation that conform both to planning and environmental plans

UEPMNT009 Maintain large scale wind turbines

T1 Wind generation industry environmental, WHS requirements

- Legislation and regulations relevant to the wind generation industry
- Manual handling requirements as applicable to the wind generation industry
- Working at heights as applicable to the wind generation industry
- Rigging and lifting equipment
- Working in environmental climates subject to high wind velocity

T2 Quality principles and enterprise requirements as applicable to the wind generation industry

T3 Wind farm principles

- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics as applicable to the wind generation industry

- Switchgear types and characteristics as applicable to the wind generation industry
- Electrical protection types and characteristics as applicable to the wind generation industry
- Wind turbine generator types and characteristics
- Wind turbine support systems

T4 Enterprise procedures and documentation

- Plant drawings and manufacturers' manuals
- Enterprise work completion documentation
- Enterprise timesheets

T5 Introduction to and typical arrangements of power production plant

- Plant status
- Control and data acquisition systems

T6 Electrical fundamentals

- Voltage, current, power and resistance
- DC and AC
- Voltages present in and around a wind turbine generator
- Wiring conventions used in and around wind turbine generators
- Digital multimeters

T7 Levelling and aligning techniques

T8 Isolation procedures

T9 High torqueing tools and adjustments

- Lubrication principles, types and application as applicable to the wind generation industry

UEPMNT401 Install and maintain complex mechanical seals

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Complex mechanical seals
- Precision measuring equipment
- Seals and gaskets (types and materials)
- Bearings (anti-friction and plain)
- Quality assurance and/or quality control
- Specialised tools and jigs
- Levelling and aligning principles
- Rigging and lifting techniques

- Relevant materials and components
- Hand and portable power tools
- Diagnostic and testing techniques
- Isolation procedures
- Heating techniques

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Identify and use measuring equipment
- Apply sealing principles
- Manufacture and install seals and gaskets
- Identify and select materials and components
- Use hand and portable power tools
- Apply diagnostic and testing techniques
- Apply dismantling and reassembling techniques
- Apply installation and maintenance procedures
- Recognise worn/damaged components
- Communicate effectively

UEPMNT402 Conduct complex levelling and alignment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Precision measuring equipment
- Advanced levelling and aligning principles
- Couplings
- Engineering mathematical techniques
- Rigging and lifting principles
- Shimming and packing materials
- Bearings and seals
- Technical drawings and data
- Data recording techniques
- Hand and portable power tools

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Use precision measuring equipment

- Apply advanced levelling and aligning principles
- Apply engineering mathematical techniques
- Use hand and portable power tools
- Identify types and characteristics of couplings, seals and bearings
- Apply data recording techniques
- Work to precise tolerances
- Use rigging and lifting techniques
- Calculate and apply correct adjustment techniques
- Apply testing techniques
- Communicate effectively

UEPMNT403 Maintain complex mechanical valves

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Valve operating and seating arrangements
- Hydraulic and pneumatic principles
- Measuring equipment
- Glands, seals and gaskets
- Bearings
- Quality assurance and/or quality control
- Specialised tools and jigs
- Levelling and aligning
- Rigging and lifting equipment
- Valve materials and components
- Hand and portable power tools
- Diagnostic and testing techniques

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Identify and use precision measuring equipment
- Manufacture and install seals and gaskets
- Apply dismantling and assembly techniques
- Select, manufacture and use specialised tools and jigs
- Apply level and alignment techniques
- Use technical drawings and data
- Identify and select materials and components

- Use hand and portable power tools
- Apply diagnostic and testing techniques and rectify faults
- Interpret and apply valve operational techniques
- Recognise worn/damaged components
- Apply maintenance procedures
- Apply data analysis techniques and tools
- Communicate effectively

UEPMNT404 Maintain complex mechanical pumps

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Pumps and compressors
- Precision measuring equipment
- Seals and gaskets
- Quality assurance and/or quality control
- Specialised tools and jigs
- Advanced balancing, levelling and alignment techniques
- Rigging and lifting equipment
- Materials and components of pumps
- Fluid dynamics
- Torque techniques
- Data recording techniques
- Hand and portable power tools
- Diagnostic and testing techniques
- Heating techniques
- Defined tolerances and fits
- Isolation procedures
- Insulation materials
- Complex/multistage pumps, compressors

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Identify and use precision measuring equipment
- Manufacture and install seals and gaskets
- Apply fluid dynamics principles
- Use specialised tools and jigs
- Apply advanced level and alignment techniques
- Identify and select materials and components
- Apply data analysis techniques
- Identify and apply correct torque techniques
- Use hand and portable hand tools
- Apply diagnostic and testing techniques
- Use heat application equipment
- Apply dismantling and reassembling techniques
- Work to defined tolerances

- Recognise worn/damaged components
- Apply maintenance procedures
- Communicate effectively

UEPMNT408 Install hydro turbines

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Bernoulli principle
- Hydraulic principles
- Introduction to dams
- Hydro turbines types and characteristics
- Hydro turbine governor systems
- Hand and portable power tools
- Precision measuring equipment
- Specialised tools and jigs
- Levelling and aligning techniques
- Diagnostic and testing techniques
- Gaskets and seals
- Bearings (white metal and pad tilting)
- Quality assurance and/or quality control
- Transmissions/couplings
- Non-destructive testing
- Fundamental principles of electrical generation
- Valves
- Fluid power systems
- Pipe work
- Torqueing techniques
- Data recording techniques
- Isolation procedures
- Rigging equipment and techniques

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Use hand and portable power tools
- Use precision measuring equipment
- Use rigging and lifting equipment

- Use specialised tools and jigs
- Apply levelling and aligning techniques
- Use drawings and data
- Diagnose and test
- Manufacture gaskets and seals
- Identify components
- Recognise worn, damaged or faulty components
- Apply fluid power control principles
- Apply non-destructive testing
- Apply torqueing techniques
- Apply maintenance techniques
- Communicate effectively

UEPMNT410 Diagnose and repair faults in electronic equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Fault finding and diagnostic techniques
- Repair techniques
- Electronic principles
- Electronic equipment
- Regulatory procedures
- Electrical principles
- Test and measurement instruments
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Verify and identify faults

- Use appropriate fault finding and diagnostic techniques
- Repair faults
- Select materials for the job
- Apply regulatory procedures
- Apply electronic principles
- Apply electrical principles
- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT411 Diagnose and repair faults in complex electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Fault finding and diagnostic techniques
- Repair techniques
- Electronic equipment
- Electrical principles
- Test and measurement instruments
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Verify and identify faults
- Use appropriate fault finding and diagnostic techniques
- Repair faults
- Select materials for the job
- Apply regulatory procedures
- Apply electrical principles

- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT412 Modify complex electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- General layout of plant/worksite and operation of its equipment
- Modification techniques
- Complex electrical equipment
- Electrical principles
- Test and measurement instruments
- Circuit plan appreciation
- Engineering and workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Modify complex electrical equipment
- Select materials for the job
- Apply regulatory procedures
- Apply electrical principles
- Carry out work completion details
- Apply data analysis techniques and tools
- Communicate effectively

UEPMNT414 Test and commission complex electrical equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Testing and commissioning techniques and procedures
- Operational requirements of the equipment
- Complex electrical equipment
- Regulatory procedures
- Electrical principles
- Test and measurement instruments
- Engineering and electronic workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Inspect and test the wiring systems
- Inspect, test and monitor equipment
- Commission complex electrical equipment
- Select materials for the job
- Apply regulatory procedures
- Apply electrical principles
- Communicate effectively
- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT417 Inspect electrical generators and diagnose faults

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations

- Relevant industry standards
- Isolation procedures
- Generator types and characteristics
- Generator support systems
- Regulatory procedures
- Engineering and workshop practice

T2 :

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use inspection procedures
- Apply data analysis techniques and tools
- Communicate effectively

UEPMNT419 Perform civil drafting

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Detailed drafting concepts
- Technical drawings and data
- Engineering practices (civil)
- Engineering drawing equipment
- Civil drawing symbols
- Computer-aided drawing (CAD) systems

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Perform civil drafting
- Use drawing equipment
- Use CAD systems
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT421 Conduct technical inspection of process plant and equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant statutory legislation
- Relevant enterprise/site safety procedures
- Enterprise/site emergency procedures and techniques
- Plant status
- Plant operating parameters
- Environmental awareness
- Inspection and test procedures
- Relevant test equipment
- Diagnostic techniques
- Sampling techniques
- Quality assurance and quality control
- Data logging systems
- Engineering assembly, design and operating principles

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Locate relevant plant and equipment
- Identify plant status
- Recognise abnormal plant operating conditions
- Communicate effectively
- Apply documentation recording procedures
- Recognise worn, damaged or seized components
- Identify components against drawings, manuals and modules
- Select and use engineering procedures and instructions
- Apply sampling techniques
- Apply diagnostic techniques
- Apply data analysis techniques and tools
- Apply testing and inspection techniques
- Use safety data sheets (SDS)

UEPMNT422 Conduct performance testing on process plant and equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Typical arrangements of power production plant
- Relevant state and territory regulations
- Plant operating parameters
- Performance testing and data collection techniques
- Thermodynamics
- Heat rate and heat balance
- Turbine performance
- Boiler performance
- Feedwater system performance
- Air heater performance
- Power plant efficiency losses
- Enterprise recording procedures
- Plant and plant systems
- Plant performance characteristics
- plant efficiency calculations
- Mechanical and electrical processes
- Materials
- Monitoring procedures

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply performance testing and data collection techniques
- Calculate plant efficiency
- Identify plant status
- Record, analyse and use data
- Apply problem-solving techniques
- Communicate effectively
- Plan and prioritise work
- Write reports
- Apply data analysis techniques and tools
- Determine plant performance

UEPMNT425 Maintain complex instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Equipment and material required to perform the work
- Isolation procedures
- Instrumentation principles and practices
- Instrument calibration techniques
- Maintenance techniques for the equipment
- Complex instrument equipment
- Electrical fundamentals
- Test and measurement instruments
- Engineering and workshop practice
- Distributed control systems
- Programmable logic controller (PLC)

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply instrumentation principles and practices
- Apply instrument calibration techniques
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Use correct maintenance procedures
- Identify and select materials for the job
- Apply regulatory aspects theory
- Apply electrical fundamentals
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT427 Diagnose and repair faults in complex instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Instrumentation principles and practices
- Instrument calibration techniques
- Electronic principles
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Fault finding and diagnostic techniques
- Repair techniques
- Complex instrumentation equipment
- Electrical fundamentals
- Test and measurement instruments
- Engineering and electronic workshop practice
- Distributed control systems
- Programmable logic controller (PLC)

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply electronic principles
- Apply instrumentation principles and practices
- Apply instrument calibration techniques
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Verify and identify faults
- Use appropriate fault finding and diagnostic techniques
- Determine the cause of faults
- Repair faults
- Identify and select materials for the job
- Apply electrical fundamentals
- Carry out work completion details
- Apply distributed control theory
- Communicate effectively

- Apply data analysis techniques and tools
- Apply engineering and electronic workshop practices

UEPMNT428 Modify complex instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Instrumentation principles and practices
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- General layout of plant/worksite and operation of its equipment
- Modification techniques
- Regulatory aspects
- Electrical fundamentals
- Test and measurement instruments
- Engineering and workshop practice
- Distributed control systems
- Programmable logic controller (PLC)

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply instrumentation principles and practices
- Follow relevant statutory regulations and codes of practice
- Apply industry standards
- Modify instrumentation equipment
- Use tools and relevant equipment
- Use test and measurement instruments
- Identify and select materials for the job
- Apply regulatory aspects
- Apply electrical fundamentals
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT430 Test and commission complex instrumentation equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Instrumentation principles and practices
- Instrument calibration techniques
- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Testing and commissioning procedures and techniques
- Operational requirements of the equipment
- Complex instrument equipment
- Regulatory aspects
- Electrical fundamentals
- Test and measurement instruments
- Distributed control systems
- Programmable logic controller (PLC)

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply instrumentation principles and practices
- Apply instrument calibration techniques
- Apply industry standards
- Use tools and equipment
- Use test and measurement instruments
- Inspect and test the wiring systems
- Inspect and test piping and tubing systems
- Inspect, test and monitor equipment
- Commission the equipment
- Identify and select materials for the job
- Apply electrical fundamentals theory
- Carry out work completion details
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT433 Conduct routine generator electrical maintenance

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Relevant industry standards
- Equipment and material required to perform the work
- Generator types and characteristics
- Generator support systems
- Isolation and Permit procedures
- Maintenance techniques
- Electrical equipment
- Regulatory procedures
- Test and measurement instruments
- Engineering and workshop practice

T2:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and, its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations
- Apply industry standards
- Use tools and relevant equipment
- Use test and measurement instruments
- Use maintenance procedures
- Select materials for the job
- Apply regulatory procedures
- Apply data analysis techniques and tools
- Communicate effectively

UEPMNT440 Diagnose and repair faults in power plant inverter systems

T1:

- Relevant environmental and WHS legislation and regulations
- Relevant plant and equipment and its location and operation
- Technical drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant state and territory regulations

- Relevant industry standards
- Equipment and material required to perform the work
- Isolation procedures
- Fault finding and diagnostic techniques
- Repair techniques
- Environmental legislation
- Regulatory procedures
- Electrical principles
- Test and measurement instruments
- Engineering and workshop practice

T2:

- Apply environmental and WHS legislation and regulations
- Interpret technical drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply industry standards
- Use test and measurement instruments
- Use fault finding and diagnostic techniques
- Determine the cause of faults
- Repair faults
- Select materials for the job
- Apply electrical principles
- Communicate effectively
- Apply data analysis techniques and tools

UEPMNT011 Maintain wind turbine electrical systems

T1 Slip ring maintenance

- AC slip rings
- DC slip rings

T2 Low voltage (LV) DC systems used in wind turbine generators

- Isolation
- DC battery banks:
 - types of rechargeable batteries
 - battery chargers
 - safety around standby power supply systems
 - battery testing
 - replacement of batteries

T3 Techniques for recognising wiring failure or potential failure

T4 Using multimeters for typical measurements in the wind turbine generator

T5 Overview of electrical generation in wind turbine generators

- DC/AC and AC/DC conversion technologies
- Power factor correction techniques
- Power factor correction capacitors:
 - recognising signs of imminent failure
 - capacitor safety
- Resistor box

T6 Power transformer principles

- Oil sampling
- Breathers

T7 Ring mains units (RMUs)

UEPMNT010 Maintain wind turbine control systems

T1 Principles of programmable logic controllers (PLC), digital control systems (DCS) and similar technology

T2 Sensors used in wind turbine generators

- Current transformers and current sensors
- Voltage transformers and voltage sensors
- Temperature sensors
- Proximity sensors
- Vibration sensors
- Resolvers and encoders
- Wind direction and velocity sensors
- Intrusion sensors
- Position sensors
- Pressure sensors

T3 Analog and digital signals

T4 Overview of data communications techniques applicable to the wind generation industry:

- Ethernet TCP/IP
- Optic fibre
- 'Fast bus'
- Data security techniques and protocols

T5 Principles of software and firmware upgrades

T6 Integration with supervisory control and data acquisition (SCADA), DCS and similar remote operation systems

- Monitoring sensors using SCADA, DCS and similar remote monitoring technology

UEPMNT012 Maintain wind turbine mechanical systems

T1 Principles of hydraulics

- Hydraulic safety
- Hydraulic valves
- Hydraulic schematics

T2 Oil sampling techniques

- Sources of oil contamination

T3 Gearbox fundamentals and principles as used in the wind generation industry

- Planetary gears
- Helical gears
- Early signs of gearbox failure
- Cooling systems
- Oil heaters

T4 Endoscopic inspection techniques

T5 Grease and oil

- Grades and constituents
- Grease distribution systems and techniques

T6 Backlash - cause and effect

T7 Oil pumps, filters and breathers

T8 Bearing fundamentals and types used in the wind generation industry

T9 Oil and hydraulic sensors

T10 Blade calibration techniques

UEPMNT004 Diagnose and repair faults in large scale wind turbines

T1 Enterprise wind turbine generator control rules and procedures

T2 Enterprise requirements of wind turbine generator testing and function

- Communication protocols when problem solving
- Reading and interpreting enterprise datalogs
- Escalation procedures

T3 Key wind turbine generator function metrics

T4 Data security techniques and protocols

T5 Pitch system components and wiring and software

- T6 Yaw system components and wiring
- T7 Gearbox design and functional principles
- T8 Generator design and functional principles
- T9 Wind turbine generator control systems
- T10 Wind turbine generator breaking and start-up systems
- T11 Wind turbine generator weather monitoring systems
- T12 Wind turbine generator digital and analog sensors
- T13 Error codes from data logging systems
- T14 Critical event data analysis
- T15 Physical characteristics (sound and look etc.) of a functioning wind turbine generator

UEPMNT003 Coordinate maintenance on a wind farm

T1 Report writing skills

- Enterprise standards and styles

T2 Enterprise escalation procedures

T3 Local applicable licensing rules and regulations

- Live work restrictions
- Working at heights restrictions
- Single person working
- Industrial agreements
- Fatigue management rules

T4 Team leadership skills fundamentals

- Communication in a team environment
- Developing personnel through task allocation
- Organising work schedules

T5 Equipment spares and consumables

- Local enterprise procedures for inventory management

UEPMNT006 Diagnose and repair faults in wind turbine electrical systems

T1 Slip ring

- Installation/replacement
- Repair

T2 Isolation diode

- Fault diagnosis
- Replacement

T3 Diagnose and repair uninterruptible power supply (UPS) systems

T4 Diagnose and repair DC backup supply systems

- Battery banks

T5 Techniques for replacing damaged wiring (where permitted)

T6 Reset principles for protection devices

T7 Live troubleshooting

T8 Diagnose and repair power factor correction equipment

- Capacitors
- Flexi-slip system

- Solid state phase feedback conversion systems
- Resistors

T9 Wave pattern analysis

T10 Current measurements

T11 Interfacing to the power grid

- Grid failure response
- Principles of grid synchronisation

T12 Safety chain

- Troubleshooting
- Isolating issues

T13 Terminating lugs and connectors specific to the industry

T14 In rush protection circuitry, function and repair

- Crowbar protection circuitry

UEPMNT005 Diagnose and repair faults in wind turbine control systems

T1 Programmable logic controllers (PLCs), digital control systems (DCS) and similar technology

- Firmware and software upgrades
- Reading data
- Addressing controllers
- Binary and hexadecimal numerical conversion
- Parameter entry
- Interfacing to other computers and peripheral devices

T2 Reading fault codes and indicators directly from wind turbine generator control equipment

T3 Software reloading techniques

T4 Data communications analysis units

T5 Sensor data analysis

UEPMNT007 Diagnose and repair mechanical systems faults in wind turbines

T1 Diagnose and repair pitch drive

- Hydraulic systems
- Mechanical systems

T2 Diagnose and repair yaw drive

T3 Diagnose and repair wind turbine generator gearbox

T4 Non-pitch turbine braking systems

T5 Diagnose and repair hydraulic pumps

T6 Field based oil testing techniques

UEPMNT014 Test and commission wind turbines

T1 Manufacturer and/or enterprise test and commission procedure and practices

T2 Installation and commissioning software

T3 Interconnection of test and commissioning hardware with wind turbine generator equipment

T4 Advanced knowledge of manufacturer specific wind turbine generator components

- Generators
- Converter systems
- Pitch frequency converters
- Soft starters
- Generator slip systems
- Compensation systems

UEPOPL004 Licence to operate a steam turbine

T1:

- Accurate recording and maintenance of information relating to operation of a steam turbine
- Compliance with legislation, regulations, standards, codes of practice and established safe practices and procedures for starting, operating, shutting down and maintaining a steam turbine
- Diagnostic and testing techniques as applied to steam turbines
- Efficient and safe conduct when starting, operating, shutting down and maintaining a steam turbine
- Use of appropriate communication techniques with colleagues and others
- Use of relevant tools and equipment
- Verification of problems and steam turbine equipment faults and demonstrate appropriate response procedures

T2:

- Basic principles of heat transfer and thermodynamics
- Commonwealth, state or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of techniques for operating steam turbines
- Confined space awareness and the limits for entry into a confined space
- Environmental protection requirements relating to the disposal of waste material and storage of environmentally hazardous materials

- Established communication channels and protocols in the workplace
- Safety data sheets (SDS) and material handling methods
- Organisational and workplace standards, requirements, policies and procedures for starting, operating, shutting down and maintaining a steam turbine
- Procedures for the recording, reporting and maintenance of workplace records and information
- Understanding of the hierarchy of hazard identification and control
- Steam turbine capabilities and components
- Steam turbine fault finding and problem-solving techniques
- Steam turbine operations and operating techniques
- Steam turbine safety devices and testing techniques
- System components and their interaction with other plant and equipment
- Steam turbine speed control equipment
- Typical routine problems encountered in the process and with equipment and adjustments required for correction

UEPOPL003 Licence to operate a reciprocating steam engine

T1:

- Accurate recording and maintenance of information relating to operation of a reciprocating steam engine
- Compliance with legislation, regulations, standards, codes of practice and established safe practices and procedures for starting, operating, shutting down and maintaining a reciprocating steam engine
- Diagnostic and testing techniques for reciprocating steam engines
- Efficient and safe conduct when starting, operating, shutting down and maintaining a reciprocating steam engine
- Use of appropriate communication techniques with colleagues and others
- Use of relevant tools and equipment
- Verification of problems and equipment faults and demonstrate appropriate response procedures

T2:

- Basic principles of heat transfer and thermodynamics
- Commonwealth, state or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of techniques for operating reciprocating steam engines
- Confined space awareness and the limits for entry into a confined space
- Engine speed control equipment
- Environmental protection requirements relating to the disposal of waste material and storage of environmentally hazardous materials
- Established communication channels and protocols in the workplace

- Safety data sheets (SDS) and material handling methods
- Organisational and workplace standards, requirements, policies and procedures for starting, operating, shutting down and maintaining a reciprocating steam engine
- Procedures for the recording, reporting and maintenance of workplace records and information
- Understanding of the hierarchy of hazard identification and control
- Reciprocating steam engine capabilities and components
- Reciprocating steam engine fault finding and problem-solving techniques
- Reciprocating steam engine operations and operating techniques
- Reciprocating steam engine safety devices and testing techniques
- System components and their interaction with other plant and equipment
- Types of tools and equipment and procedures for their use, operation and maintenance
- Typical routine problems encountered in the process and with equipment and adjustments required for correction

UEPOPS003 Apply quality systems to work

T1 Quality Management Systems (QMS)

- Purpose of a QMS
- QMS documentation, including work instructions also known as work procedures or standard operating procedures (SOPs), documentation templates, forms and records:
 - location of QMS documentation and enterprise-based work instructions, including both hard copy and electronic forms of documentation, where appropriate
 - enterprise-based documentation and records, including forms, records and databases

T2 Principles contained within the AS/NZS ISO 9001 Quality management standard

- Quality assurance auditing principles including external and internal audits

T3 Quality management tools and techniques

- Flow charts
- Cause and effect diagrams
- Histograms
- Run charts and graphs
- Check sheets

T4 Continuous improvement techniques

- Performance indicators
- Techniques for generating improvement including quality circles, suggestion schemes and brainstorming

T5 Communication in a team environment

- Team meeting participation techniques

- Participation in buddy training

T6 Principles of sustainable energy practice

- Performance indicators
- Using enterprise based systems to recommend and implement workplace improvements

UEPOPS085 Operate and monitor communications system

T1 Use of a range of electronic communication tools

- Facsimile
- Telephone (POTS and mobile)
- Two way radio or CB radio
- SMS messaging
- Personal computers
- Email
- Internet/Intranet messaging
- Pager
- Intercom
- According to licensing regulations, enterprise requirements and manufacturers' instructions

T2 Use of a range of non-electronic communication tools

- Spoken communication
- Hand signals

T3 Communication protocols and procedures

- Facsimile
- Telephone (POTS and mobile):
 - answering procedures
 - limitations of mobile phones including black/dead spots
- Two way radio or CB radio:
 - call signs
 - calling in and signing off
 - Privacy and security
 - using common channels and repeaters
 - limitations including black/dead spots
- SMS messaging
- Email
- Etiquette:
 - internet/Intranet messaging privacy and security
- Pager
- Intercom

- Report forms
- Log books

T4 Interpersonal communication

- Communicating facts clearly
- Communicating technical concepts to non-technical people
- Active listening skills
- Dealing with difficult, angry or irate people
- On the job training techniques

T5 Enterprise recording procedures

- Reports
- Logs
- Databases
- Escalation procedures

UEPOPS045 Maintain and utilise records

T1 Use of a range of electronic record keeping tools

- Personal computer applications:
 - word processors
 - spreadsheets
 - databases
- Data loggers
- Chart recorders
- Supervisory control and data acquisition (SCADA) systems
- Data acquisition and surveillance (DAS) systems

T2 Use of a range of non-electronic record keeping tools

- Memorandums and letters
- Log sheets
- Outage reports
- Whiteboards

T3 Use of enterprise based document and record management systems, both paper based and electronic

- Creation and storing of new documents and records
- Archiving of documents and records according to legislative and enterprise requirements
- Electronic data backup according to enterprise requirements

UEPOPS010 Conduct minor mechanical maintenance

T1 Use of a range of hand tools

- Basic measuring tools, including rulers
- Screwdrivers:
 - Flat blade
 - Phillips head
 - Posidrive
 - Torx™
- Metal hacksaw
- Hammers:
 - ball pein
 - claw hammer
 - club hammers
 - soft faced hammers or mallets
- Spanners and sockets:
 - open-ended spanners
 - ring spanners
 - adjustable spanners
- Pliers:
 - combination pliers
 - long nose pliers
 - multi-grip
 - vice grips
- Wrenches:
 - stillson
 - footprint
- Allen keys
- Scrapers

T2 Use of a range of small power tools

- Pistol drills
- Battery drills and screwdrivers
- Angle grinders and polishers (buffers)
- Sanders

T3 Use a range of engineering workshop tools

- Benders
- Guillotines

T4 Identification of a range of different types of metals

- Mild steel
- Sheet steel

- Aluminium
- Sheet aluminium
- Copper
- Brass

T5 Drill a range of materials using the correct drill bit type

- Mild Steel
- Aluminium
- Copper

T6 Prepare surfaces on engineering materials for maintenance

- Sanding
- Grinding
- Polishing

T7 Clean machinery using techniques

- Water
- Pressure washers
- Steam cleaners
- Hydrocarbon solvents

T8 Air receivers and air lines

- Blow down air receivers
- Maintain oil levels in oilers
- Empty and wipe out dryers

T9 WHS and environmental practices and procedures

- Risk assessment
- Control of hazards
- Identification and correct use of personal protective equipment (PPE)
- Manual handling techniques
- Compliance with permit to work requirements and equipment isolation procedures
- Dealing with waste in an environmentally appropriate manner
- Housekeeping

UEPOPS009 Conduct minor electrical maintenance

T1 Use of a range of electrical measuring tools

- Multimeters
- Continuity tester

T2 Use of enterprise-based inspection checklists

- Identification and replacement of faulty lighting:
 - CFLs
 - fluorescent tubes
 - fluorescent tube starters
 - emergency lighting
- Identification and replacement of faulty switchboard and control panel indicator lamps
- Status checks of fault indicators and tell tales on plant equipment:
 - explosion vents
 - humidryer canisters

T3 Oil levels of electrical generation plant equipment

- Alternators
- Turbines
- Transformers:
 - bushings
- Circuit breakers
- Oil conservators

T4 Air and oil filter maintenance, including cleaning and changing where required, on equipment

- Air conditioners
- Air compressors
- Firefighting equipment

T5 Maintenance of event recording equipment:

- cleaning
- checking serviceability
- replacing consumables
- Types of event recorders:
 - printers
 - plotters
 - chart recorders
 - event loggers

T6 WHS Environment practices and procedures

- Risk assessment

- Control of hazards
- Identification and correct use of personal protective equipment (PPE)
- Compliance with permit to work requirements and equipment isolation procedures
- Dealing with waste in an environmentally appropriate manner
- Housekeeping

UEPOPS121 Perform plant lubrication

T1 Function, types and purposes of lubricants

- Oils
- Greases
- Synthetic lubricants

T2 Lubrication of machinery:

- Application of lubricants:
 - grease guns
 - oilers
 - automatic systems
 - bearing grease points
 - bearing oil reservoirs
 - oil tanks
- Problems resulting from excessive or inadequate lubricants

T3 Lubricant testing and analysis

- Sources of lubricant contamination
- Sampling techniques
- Testing techniques

T4 WHS and Environment practices and procedures

- Risk assessment
- Control of hazards
- Identification and correct use of personal protective equipment (PPE)
- Compliance with permit to work requirements and equipment isolation procedures
- Material handling procedures:
 - use of safety data sheets (SDS)
- Dealing with waste in an environmentally appropriate manner
- Housekeeping

UEPOPS122 Perform process plant inspections

T1 Accessing historical records

T2 Instruction sheets

- Enterprise, state or national standards
- Enterprise specific work instructions or job sheets
- Manufacturers' operating instructions and manuals
- Plant drawings
- Equipment checklists

T3 Perform inspection of plant equipment associated with electricity generating plants by use of sight, sound and smell

- Types of equipment
 - pipe work
 - valves and fittings
 - pumps
 - photovoltaic panels
 - solar collectors
 - wind turbines
 - chemical and water treatment processes
 - instrumentation and process control
 - civil, electrical, thermal and mechanical works
 - DC supplies
 - security equipment
 - fire prevention and fire management equipment
 - data recorders
 - compressed air systems
 - environmental containment systems
 - general purpose lighting
 - communication systems:
 - telephones
 - public address systems
 - emergency warning systems and alarms
- Checks:
 - general condition
 - corrosion
 - correct positioning and settings
 - leaks:
 - water
 - steam
 - oil

- air
- noise and vibration
- odours
- housekeeping
- availability and condition of personal protective equipment (PPE)
- availability of spares
- availability of procedure manuals including emergency procedures

T4 WHS and environmental practices and procedures

- Risk assessment
- Control of hazards
- Identification and correct use of PPE
- Compliance with permit to work requirements and equipment isolation procedures
- Emergency procedures
- Operation of plant equipment according to legislative requirements, regulations and codes of practice applicable to industry

UEPOPS005 Clean plant and equipment

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Introduction to and typical arrangements of power production plant

T4 Relevant plant and equipment and its location parameters

T5 Cleaning agents and their properties

T6 Protection of nearby plant or equipment from cleaning

T7 Cleaning equipment and their accessories

T8 Hazardous materials

T9 Cleaning techniques and procedures

T10 Hand and portable power tools

T1 Interpret plant drawings and manufacturers' manuals

T2 Identify and select appropriate cleaning methods

T3 Identify and operate appropriate cleaning equipment

T4 Protect nearby plant or equipment from cleaning

T5 Handle hazardous materials

T6 Apply cleaning techniques and procedures

T7 Use hand and portable power tools

T8 Communicate effectively

UEPOPS142 Transport plant and equipment

T1 Relevant environmental and WHS legislation and regulations

T2 Relevant plant and equipment and its location and operation

T3 Introduction to and typical arrangements of power production plant

T4 Relevant state and territory regulations

T5 Operational and maintenance procedures

T6 Equipment capabilities and limitations

T7 Road transport and traffic authorities permits

T8 Loading and off loading procedures

T9 Vehicle recording systems

T10 Warning and directional signals

T11 Pre-start, start up and shutdown procedures

T12 Enterprise recording procedures

T1 Apply relevant state and territory regulations

T2 Plan and organise resources

T3 Prepare and operate transport vehicle

T4 Use hand tools

T5 Communicate effectively

T6 Transport loads

T7 Apply pre-start, start up and shutdown procedures

UEPOPS125 Perform tool store duties

T1 Relevant environmental and WHS legislation and regulations

T2 Relevant plant and equipment and its location and operation

T3 Introduction to and typical arrangements of power production plant

T4 Tool names, types and their uses

T5 Site/enterprise ordering procedures

T6 Site/enterprise documentation procedures

T7 Workshop tool storage requirements

T8 Tool maintenance requirements

T9 Tool attachments and accessories

T1 Interpret technical drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Apply ordering procedures

T4 Maintain logbooks and records

T5 Apply tool maintenance procedures

T6 Issue tools and associated equipment

T7 Communicate effectively

UEPOPS046 Maintain battery banks and cells

T1 Relevant environmental and WHS legislation and regulations

T2 Relevant plant and equipment and its location and operation

T3 Technical drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Equipment and material required to perform the work

T6 Isolation procedures

T7 Battery plant and operation of its equipment

T8 Test and measurement instruments

T9 Performance and function of DC electrical systems

T10 Fault finding and diagnostic techniques

T11 Hazardous materials

T12 Battery test procedures

T13 Repair techniques

T14 Electrical principles

T15 Engineering and work shop practice

- T1 Interpret technical drawings and manufacturers' manuals
- T2 Use hand and portable power tools
- T3 Use test and measurement instruments
- T4 Identify faults
- T5 Apply fault finding and diagnostic techniques
- T6 Repair faults
- T7 Maintain battery banks
- T8 Select materials for the job
- T9 Handle hazardous materials
- T10 Carry out work completion details
- T11 Apply data analysis techniques and tools
- T12 Communicate effectively

UEPOPS097 Operate and monitor fuel supply - coal

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Plant status
- T7 Enterprise recording procedures
- T8 Coal Plant equipment designs and characteristics
- T9 Coal handling procedures
- T10 Control and data acquisition systems
- T11 Lubrication and bearings
- T12 Coal bunker designs and characteristics
- T13 Electrical principles
- T14 Transformers types and characteristics
- T15 Electric motors types and characteristics

T16 Switchgear types and characteristics

T17 Electrical protection types and characteristics

T1 Interpret plant drawings and manufacturers' manuals

T2 Identify plant status

T3 Operate coal delivery plant

T4 Apply diagnostic and testing techniques

T5 Identify and respond to abnormal plant operating conditions

T6 Plan and prioritise work

T7 Use relevant hand tools

T8 Communicate effectively

T9 Apply data analysis techniques and tools

T10 Operate in a team

UEPOPS080 Operate and monitor ash and dust disposal plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Plant status

T7 Enterprise recording procedures

T8 Control and data acquisition systems

T9 Computers and software

T10 Emergency procedures

T11 Electric motor types and characteristics

T12 Pump and compressor types and characteristics

T13 Valve, damper and actuator types and characteristics

T14 Properties and types of ash formations

T15 Properties of matter

T16 Lubrication and bearings
T17 Bottom ash types and characteristics
T18 Fly ash types and characteristics
T19 Ash removal systems types and characteristics
T20 Electrical principles
T21 Switchgear types and characteristics
T22 Electrical protection types and characteristics

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply enterprise recording procedures
T3 Organise resources
T4 Operate ash and dust disposal plant
T5 Apply diagnostic and testing techniques
T6 Identify and respond to abnormal plant operating conditions
T7 Plan and prioritise work
T8 Use relevant hand tools
T9 Communicate effectively
T10 Apply data analysis techniques and tools

UEPOPS091 Operate and monitor dust collection plant

T1 Relevant environmental and WHS legislation and regulations
T2 Enterprise procedures
T3 Plant drawings and manufacturers' manuals
T4 Introduction to and typical arrangements of power production plant
T5 Relevant plant and equipment and its location and operating parameters
T6 Electric motor types and characteristics
T7 Pump and compressor types and characteristics
T8 Valve, damper and actuator types and characteristics
T9 Switchgear types and characteristics
T10 Electrical protection types and characteristics

T11 Plant status
T12 Enterprise recording procedures
T13 Control and data acquisition systems
T14 Properties of matter
T15 Lubrication and bearings
T16 Electrical principles
T17 Auxiliary supply systems
T18 Safe operating principles

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply enterprise recording procedures
T3 Identify plant status
T4 Prepare plant/equipment for operation
T5 Organise resources
T6 Operate dust collection plant
T7 Apply diagnostic and testing techniques
T8 Identify and respond to abnormal plant operating conditions
T9 Plan and prioritise work
T10 Use relevant hand tools
T11 Communicate effectively
T12 Apply data analysis techniques and tools

UEPOPS069 Operate air conditioning plant

T1 Relevant environmental and WHS legislation and regulations
T2 Enterprise procedures
T3 Plant drawings and manufacturers' manuals
T4 Introduction to and typical arrangements of power production plant
T5 Relevant plant and equipment, its location and operating parameters
T6 Electric motor types and characteristics
T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Air conditioner systems types and characteristics

T11 Plant status

T12 Enterprise recording procedures

T13 Control, supervisory and data acquisition systems

T14 Emergency procedures

T15 Legionella bacteria awareness

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Operate air conditioning plant

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS106 Operate and monitor site services water systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Plant status

T12 Enterprise recording procedures

T13 Control and data acquisition systems

T14 Emergency procedures

T15 Lubrication and bearings

T16 Safe operating principles

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Operate site services water systems

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

UEPOPS007 Conduct chemical batching operations

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Water chemistry

T12 Plant status

T13 Enterprise recording procedures

T14 Relevant chemicals, uses and hazards

T15 Properties of matter

T16 Lubrication and bearings

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Apply diagnostic and testing techniques

T7 Plan and prioritise work

T8 Use relevant hand tools

T9 Communicate effectively

T10 Conduct chemical batching operation

UEPOPS119 Operate waste and contaminated water plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

- T9 Switchgear types and characteristics
 - T10 Electrical protection types and characteristics
 - T11 Plant status
 - T12 Control and data acquisition systems
 - T13 Raw sewage treatment systems types and characteristics
 - T14 Oil/water separators types and characteristics
 - T15 Waste water treatment processes
 - T16 Lubrication and bearings
 - T17 Electrical principles
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Identify plant status
 - T3 Prepare plant/equipment for operation
 - T4 Organise resources
 - T5 Operate waste and contaminated water plant
 - T6 Apply diagnostic and testing techniques
 - T7 Identify and respond to abnormal plant operating conditions
 - T8 Plan and prioritise work
 - T9 Use relevant hand tools
 - T10 Communicate effectively
 - T11 Apply data analysis techniques and tools

UEPOPS079 Operate and monitor an internal combustion single fuel reciprocating engine

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Relevant plant and equipment, its location and operating parameters
- T5 Switchgear types and characteristics
- T6 Air intake and exhaust system, types and characteristics
- T7 Plant status

T8 Enterprise recording procedures
 T9 Control and data acquisition systems
 T10 Starting system, types and characteristics
 T11 Fuel system, types and characteristics
 T12 Lubricating system, types and characteristics
 T13 Cooling system types and characteristics
 T14 Internal combustion reciprocating engine, types and characteristics

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply enterprise recording procedures
 T3 Identify plant status
 T4 Prepare plant/equipment for operation
 T5 Organise resources
 T6 Operate single fuel engines
 T7 Apply diagnostic and testing techniques
 T8 Identify and respond to abnormal plant operating conditions
 T9 Plan and prioritise work
 T10 Use relevant hand tools
 T11 Communicate effectively
 T12 Apply data analysis techniques and tools

UEPOPS078 Operate and monitor an internal combustion dual fuel reciprocating engine

T1 Relevant environmental and WHS legislation and regulations
 T2 Enterprise procedures
 T3 Plant drawings and manufacturers' manuals
 T4 Introduction to and typical arrangements of power production plant
 T5 Relevant plant and equipment and its location and operating parameters
 T6 Switchgear types and characteristics
 T7 Electrical protection types and characteristics
 T8 Plant status

T9 Starting system, types and characteristics
T10 Fuel systems, types and characteristics
T11 Lubricating system, types and characteristics
T12 Cooling system types and characteristics
T13 Internal combustion reciprocating engine, types and characteristics
T14 Enterprise recording procedures
T15 Control and data acquisition systems
T16 Equipment starting pre-requisites
T17 Fuel changeover equipment types and characteristics
T18 Air intake and exhaust system, types and characteristics

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply relevant state and territory regulations
T3 Identify plant status
T4 Prepare plant/equipment for operation
T5 Organise resources
T6 Operate dual fuel engines
T7 Apply diagnostic and testing techniques
T8 Identify and respond to abnormal plant operating conditions
T9 Plan and prioritise work
T10 Use relevant hand tools
T11 Communicate effectively
T12 Apply data analysis techniques and tools
T13 Apply knowledge of dual fuel engine operation

UEPOPS044 Liaise with stakeholders

T1 Relevant environmental and WHS legislation and regulations
T2 Enterprise procedures
T3 Plant status
T4 Identifying stake holder requirements

T5 Two way radio capabilities, uses and procedures

T6 Electronic mediums procedures

T7 Enterprise documentation system

T1 Communicate effectively

T2 Use appropriate communication mediums

T3 Adapt the form of communication to anticipated contexts and audiences

UEPOPS016 Conduct routine wind turbine maintenance

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of wind farm power plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Equipment and material required to perform the work

T7 Wind farm principles

T8 Wind turbine types and characteristics

T9 Routine maintenance techniques

T10 Hand and portable power tools

T11 Lubrication systems and oil conditioning systems

T12 Lifting techniques

T13 Working at heights principles

T14 Cleaning techniques

T15 Ladder safety

T16 Fitness requirements for climbing towers

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply routine maintenance techniques

T3 Identify and select materials for the job

T4 Use hand and portable power tools

T5 Store and maintain tools and equipment

T6 Apply working at heights principles

UEPOPS145 Undertake local systems operations

T1 Instruction sheets

- Enterprise specific work instructions or job sheets
- Manufacturers' operating instructions and manuals
- Plant drawings and flow charts

T2 Principles of plant equipment associated with fuel-burning electricity generation plants

- Burner tilts
- Burner operations
- Precipitator plant
- Ash or dust plant
- Hydrogen/seal oil differential pressure controllers
- Stator temperature controller
- Hydrogen temperature controller
- Ammonia dosing controller
- Feed heater level controls
- Secondary air and flue gas dampers
- Turning gear barring equipment
- Rotary air heater barring equipment
- Sootblowing retracting equipment
- Reflux valve controls
- Condenser level controls
- Condenser backflushing equipment
- Oil temperature controllers
- Turbine gland sealing controllers
- Electricity distribution system (AC and DC)
- Valves, actuators and dampers (electric, hydraulic, pneumatic and manual)
- Types of valves:
 - gate, butterfly and ball valves
 - control valves
 - safety valves
- Basic pumps

T3 Principles of plant equipment associated with gas turbine electricity generating plants

T4 Principles of plant equipment associated with hydro-electricity generating plants

T5 Principles of plant equipment associated with solar-electricity generating plants

T6 Fault testing and identification

- Standby plant tests
- Post-maintenance operating tests
- Test running equipment

UEPOPS017 Conduct single energy source isolation procedures for permit to work

T1 Knowledge of the local enterprise based permit to work system

T2 Interpret plant and equipment diagrams

- Electrical schematic diagrams
- Piping and instrument drawings

T3 Properties of matter and energy

- Phases of matter
- Units of measurement:
 - volume
 - density
 - specific gravity
- Pressure:
 - measurement of pressure
 - negative pressure
 - head pressure
 - density of water
- Energy:
 - laws of thermodynamics
 - mechanical/kinetic energy
 - electrical energy
 - chemical energy
 - solar energy
 - potential energy
- Temperature scales
- Latent heat
- Enthalpy

T4 Valves actuators

- Pneumatic
- Hydraulic
- Electrical

T5 Mechanical isolations, de-isolations and restorations

- Fuel fired generator

- Hydro generator
- Wind generator
- Solar generator

T6 DC electrical fundamentals

- Atomic structure
- Ohm's law
- Calculating series and circuits
- Calculating parallel circuits
- Calculating power

T7 AC electrical principles

- Magnetism
- Electromagnetism
- Generating AC electricity
- AC capacitance
- AC inductance
- AC phaser diagrams
- Introduction to electric motors

T8 LV switching

- Knowledge of LV protection
- Types of LV switchgear

T9 Lock and tag systems

- Types of lock out devices and systems
- Placement of electrical isolations
- Removal of stored energy from electrical isolation systems
- Placement of mechanical isolations
- Removal of stored energy from mechanical isolation systems

T10 Switching sequence instructions

- Interpret and apply switching sequence instructions
- Confirmation of correct sequencing before commencing work

T11 Completion of documentation

- Enterprise based record keeping procedures

T12 Emergency procedures

- Declaration of emergency procedure
- Fire suppression procedure and implementation
- Emergency generator equipment shutdown procedure

UEPOPS076 Operate and monitor air conditioning plant and ventilation systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Relevant state and territory regulations

T12 Air conditioner systems types and characteristics

T13 Ventilation systems types and characteristics

T14 Plant status

T15 Enterprise recording procedures

T16 Supervisory control and data acquisition (SCADA) systems

T17 Emergency procedures

T18 Legionella bacteria control procedures

T19 Electrical principles

T20 Refrigerant gases

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply legionella bacteria control procedures

T3 Apply enterprise recording procedures

T4 Identify plant status

T5 Prepare plant/equipment for operation

T6 Organise resources

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Operate air conditioning plant

T10 Plan and prioritise work

T11 Use relevant hand tools

T12 Communicate effectively

T13 Apply data analysis techniques and tools

T14 Apply electrical principles

T15 Communicate effectively

T16 Apply data analysis techniques and tools

UEPOPS112 Operate bulk coal handling plant

- T1 Relevant environmental and WHS legislation and regulations
 - T2 Enterprise procedures
 - T3 Plant drawings and manufacturers' manuals
 - T4 Introduction to and typical arrangements of power production plant
 - T5 Relevant plant and equipment and its location and operating parameters
 - T6 Electric motor types and characteristics
 - T7 Pump and compressor types and characteristics
 - T8 Valve, damper and actuator types and characteristics
 - T9 Switchgear types and characteristics
 - T10 Electrical protection types and characteristics
 - T11 Plant status
 - T12 Enterprise recording procedures
 - T13 Warning and directional signals
 - T14 Coal blending procedures
 - T15 Stockpile stability and management
 - T16 Hydraulic power units, types and characteristics
 - T17 Lubrication and oil conditioning systems, types and characteristics
 - T18 Lubrication and bearings
 - T19 Bunkering coal
 - T20 Auxiliary supply systems (coal handling plant)
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Identify plant status
 - T3 Prepare plant/equipment for operation
 - T4 Organise resources
 - T5 Operate coal handling plant
 - T6 Apply diagnostic and testing techniques
 - T7 Identify and respond to abnormal plant operating conditions
 - T8 Plan and prioritise work

- T9 Use relevant hand tools
- T10 Communicate effectively
- T11 Apply data analysis techniques and tools
- T12 Blend coal

UEPOPS113 Operate fabric filter dust collection plant

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment, its location and operating parameters
- T6 Relevant state and territory regulations
- T7 Electric motor types and characteristics
- T8 Pump and compressor types and characteristics
- T9 Valve, damper and actuator types and characteristics
- T10 Switchgear types and characteristics
- T11 Electrical protection types and characteristics
- T12 Electrical principles
- T13 Fan types and characteristics
- T14 Transformers types and characteristics
- T15 Plant status
- T16 Enterprise recording procedures
- T17 Control and data acquisition systems
- T18 Valve, damper and actuator types and characteristics
- T19 Fabric filter bag toxicity properties and appropriate safety precautions
- T20 Properties of matter
- T21 Lubrication and bearings
- T22 Fabric filters, types and characteristics
- T23 Ash and dust removal systems, types and characteristics
- T24 Electrical principles

T25 Auxiliary supply systems

T26 Safe operating principles

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Operate fabric filter plant

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS096 Operate and monitor fuel supply

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Electrical fundamentals

T12 Plant status

T13 Enterprise recording procedures

- T14 Control and data acquisition systems
- T15 Emergency procedures
- T16 Fuel leak detection and control
- T17 Fuel supply system, types and characteristics

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Identify plant status
- T3 Prepare plant/equipment for operation
- T4 Organise resources
- T5 Operate fuel supply system
- T6 Apply diagnostic and testing techniques
- T7 Identify and respond to abnormal plant operating conditions
- T8 Plan and prioritise work
- T9 Use relevant hand tools
- T10 Communicate effectively
- T11 Apply data analysis techniques and tools

UEPOPS082 Operate and monitor boiler draught system

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status

T13 Enterprise recording procedures
 T14 Control and data acquisition systems
 T15 Properties of matter
 T16 Lubrication and bearings
 T17 Fans, types and characteristics
 T18 Motor variable speed drive types and characteristics
 T19 Air flow properties
 T20 Air heater types and characteristics
 T21 Lubrication and bearings
 T22 Fly ash and dust extraction systems
 T23 Electrical fundamentals
 T24 Boiler draft systems, types and characteristics
 T25 Principles governing efficient combustion
 T26 Electrical principles

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply relevant state and territory regulations
 T3 Identify plant status
 T4 Prepare plant/equipment for operation
 T5 Organise resources
 T6 Operate boiler draught plant
 T7 Apply diagnostic and testing techniques
 T8 Identify and respond to abnormal plant operating conditions
 T9 Plan and prioritise work
 T10 Use relevant hand tools
 T11 Communicate effectively
 T12 Apply data analysis techniques and tools

UEPOPS095 Operate and monitor fuel firing plant - gas/oil

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures
 T3 Plant drawings and manufacturers' manuals
 T4 Introduction to and typical arrangements of power production plant
 T5 Relevant plant and equipment, its location and operating parameters
 T6 Electric motor types and characteristics
 T7 Pump and compressor types and characteristics
 T8 Valve, damper and actuator types and characteristics
 T9 Switchgear types and characteristics
 T10 Electrical protection types and characteristics
 T11 Relevant state and territory regulations
 T12 Fuel firing plant, types and characteristics
 T13 Principles governing efficient combustion
 T14 Properties of matter
 T15 Properties of fuels
 T16 Plant status
 T17 Enterprise recording procedures
 T18 Control and data acquisition systems

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply relevant state and territory regulations
 T3 Apply enterprise recording procedures
 T4 Identify plant status
 T5 Prepare plant/equipment for operation
 T6 Organise resources
 T7 Operate fuel firing plant
 T8 Apply diagnostic and testing techniques
 T9 Identify and respond to abnormal plant operating conditions
 T10 Plan and prioritise work
 T11 Use relevant hand tools
 T12 Communicate effectively

T13 Apply data analysis techniques and tools

UEPOPS094 Operate and monitor fuel firing plant - coal

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Relevant state and territory regulations

T12 Plant status

T13 Enterprise recording procedures

T14 Control and data acquisition systems

T15 Computers and software

T16 Emergency procedures

T17 Properties of matter

T18 Lubrication and bearings

T19 Fans types and characteristics

T20 Properties of matter

T21 Properties of fuels

T22 Principles governing efficient combustion

T23 Coal Feeders, types and characteristics

T24 Coal pulverisers/crushers types and characteristics

T25 Electrical principles

T1 Interpret plant drawings and manufacturers' manuals

- T2 Apply relevant state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Identify plant status
- T5 Prepare plant/equipment for operation
- T6 Organise resources
- T7 Operate coal firing plant
- T8 Apply diagnostic and testing techniques
- T9 Identify and respond to abnormal plant operating conditions
- T10 Plan and prioritise work
- T11 Use relevant hand tools
- T12 Communicate effectively
- T13 Apply data analysis techniques and tools

UEPOPS083 Operate and monitor boiler steam/water cycle

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status
- T13 Enterprise recording procedures
- T14 Supervisory control and data acquisition (SCADA) systems
- T15 Boiler drains and traps types and characteristics
- T16 Thermodynamics

T17 Principles governing efficient combustion
T18 Properties of matter
T19 Boiler steam/water cycle fundamentals
T20 Boiler steam/water systems, types and characteristics
T21 Economiser and superheater types and characteristics
T22 Principles of steam temperature control

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply relevant state and territory regulations
T3 Apply enterprise recording procedures
T4 Identify plant status
T5 Prepare plant/equipment for operation
T6 Organise resources
T7 Operate boiler water/steam cycle
T8 Apply diagnostic and testing techniques
T9 Identify and respond to abnormal plant operating conditions
T10 Plan and prioritise work
T11 Use relevant hand tools
T12 Communicate effectively
T13 Apply data analysis techniques and tools

UEPOPS092 Operate and monitor fixed fire protection systems

T1 Principles of combustion

- Fire triangle
- Agents used to control and extinguish fires
- Fire hazards in electricity generation plants

T2 Fire suppression systems

- Types
- Water deluge
- Foam
- Halon
- Gas

- CO2
- Theory of operation
- Hazards of gas fire suppression systems

T3 Interpretation of documentation

- Hard copy and computer-based documentation
- Enterprise/site safety and emergency documentation
- Equipment and alarm manuals
- Enterprise/site logbooks
- Manufacturers' manuals

T4 Fire protection system testing

- Communication with central controller and other staff
- Isolation of alarm system
- Remote communications and data logging systems testing
- Standby power supply testing
- Lamp indicator testing
- Alarm testing
- Valve testing

T5 Confirmation of operational status of firefighting and fire prevention equipment

- Currency of inspection tags and log book entries
- Fire and smoke detectors
- Inventory and visual checks of extinguishers, fire blankets, hydrant reels, signage and other on-site firefighting and fire prevention equipment
- Valves, actuators and dampers in correct operating position
- Availability of emergency water supply
- Fire doors, fire walls and fire barriers
- Fire pump engine
- fuel supply
- lubrication
- starter battery
- coolant

T6 Reporting, record and log keeping

- As per statutory, enterprise and manufacturers' requirements
- Reporting of non-compliant fire protection or fire suppression systems or equipment

UEPOPS087 Operate and monitor compressed gas systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals
 T4 Introduction to and typical arrangements of power production plant
 T5 Relevant plant and equipment and its location and operating parameters
 T6 Electric motor types and characteristics
 T7 Pump and compressor types and characteristics
 T8 Valve, damper and actuator types and characteristics
 T9 Switchgear types and characteristics
 T10 Electrical protection types and characteristics
 T11 Relevant state and territory regulations
 T12 Plant status
 T13 Enterprise recording procedures
 T14 Communication principles
 T15 Computers and software
 T16 Supervisory, alarm, protection and control equipment
 T17 Emergency procedures
 T18 Properties of gases, their uses and precautions to be taken
 T19 Properties of matter
 T20 Lubrication and bearings

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply relevant state and territory regulations
 T3 Apply enterprise recording procedures
 T4 Identify plant status
 T5 Prepare plant/equipment for operation
 T6 Organise resources
 T7 Operate compressed gas systems
 T8 Apply diagnostic and testing techniques
 T9 Identify and respond to abnormal plant operating conditions
 T10 Plan and prioritise work
 T11 Use relevant hand tools

T12 Communicate effectively

T13 Apply data analysis techniques and tools

UEPOPS098 Operate and monitor gas production plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Relevant state and territory regulations

T12 Plant status

T13 Enterprise recording procedures

T14 Supervisory, alarm, protection and control equipment

T15 Properties of gases, their uses and precautions to be taken

T16 Properties of matter

T16 Lubrication and bearings

T17 Electrical principles

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Apply enterprise recording procedures

T4 Identify plant status

T5 Prepare plant/equipment for operation

T6 Organise resources

T7 Operate gas production plant

T8 Apply diagnostic and testing techniques

T9 Identify and respond to abnormal plant operating conditions

T10 Plan and prioritise work

T11 Use relevant hand tools

T12 Communicate effectively

T13 Apply data analysis techniques and tools

UEPOPS086 Operate and monitor compressed air systems

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment, its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Plant status
- T12 Air Dryers types and characteristics
- T13 Enterprise recording procedures
- T14 Supervisory, alarm, protection and control equipment

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Identify plant status
- T3 Prepare plant/equipment for operation
- T4 Organise resources
- T5 Operate compressed gas systems
- T6 Apply diagnostic and testing techniques
- T7 Identify and respond to abnormal plant operating conditions
- T8 Plan and prioritise work
- T9 Use relevant hand tools
- T10 Communicate effectively
- T11 Apply data analysis techniques and tools

UEPOPS111 Operate and monitor water treatment plant

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Water chemistry
- T12 Relevant chemicals, uses and hazards
- T13 Fundamentals of water treatment
- T14 Water treatment plants, types and characteristics
- T15 Plant status
- T16 Enterprise recording procedures
- T17 Supervisory control and data acquisition (SCADA) systems
- T18 Computers and software
- T19 Properties of matter
- T20 Lubrication and bearings
- T21 Electrical principles

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply enterprise recording procedures
- T3 Identify plant status
- T4 Prepare plant/equipment for operation
- T5 Organise resources
- T6 Operate water treatment plant
- T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS077 Operate and monitor alkalinity reduction plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Water chemistry

T12 Relevant chemicals, uses and hazards

T13 Electrical fundamentals

T14 Plant status

T15 Supervisory, alarm, protection and control equipment

T16 Lubrication and bearings

T1 Interpret plant drawings and manufacturers' manuals

T2 Identify plant status

T3 Prepare plant/equipment for operation

T4 Organise resources

T5 Operate alkalinity reduction plant

T6 Apply diagnostic and testing techniques

T7 Identify and respond to abnormal plant operating conditions

T8 Plan and prioritise work

T9 Use relevant hand tools

T10 Communicate effectively

T11 Apply data analysis techniques and tools

UEPOPS105 Operate and monitor reverse osmosis plant

T1 Relevant environmental and WHS legislation and regulation

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Water chemistry

T12 Relevant chemicals, uses and hazards

T13 Fundamentals of water treatment

T14 Water treatment plants, types and characteristics

T15 Plant status

T16 Supervisory control and data acquisition (SCADA) systems

T17 Lubrication and bearings

T18 Electrical fundamentals

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

- T5 Organise resources
- T6 Operate reverse osmosis plant
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools
- T11 Communicate effectively
- T12 Apply data analysis techniques and tools

UEPOPS084 Operate and monitor brine concentrator plant

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Water chemistry
- T12 Relevant chemicals, uses and hazards
- T13 Fundamentals of water treatment
- T14 Plant status
- T15 Enterprise recording procedures
- T16 Supervisory control and data acquisition (SCADA) systems
- T17 Lubrication and bearings
- T18 Electrical fundamentals
- T19 Auxiliary supply systems
- T20 High voltage systems

T21 Safe operating principles

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Operate brine concentrator plant

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS109 Operate and monitor water quality monitoring systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Plant status

T7 Supervisory control and data acquisition (SCADA) systems

T8 Electric motor types and characteristics

T9 Pump and compressor types and characteristics

T10 Valve and actuator types and characteristics

T11 Switchgear types and characteristics

T12 Relevant chemicals, uses and hazards

T13 Fundamentals of water treatment

T14 Water treatment plants, types and characteristics

T15 Water analysing equipment types and characteristics
T16 Water dosing systems
T17 Water chemical additives and effects
T18 Water systems types and characteristics
T19 Relevant water quality standards
T20 Process chemicals and their properties
T21 Safety data sheets (SDS)
T22 General responsibilities for power production plant operations
T23 Electrical principles

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply enterprise recording procedures
T3 Identify plant status
T4 Prepare plant/equipment for operation
T5 Organise resources
T6 Operate water quality monitoring systems
T7 Apply diagnostic and testing techniques
T8 Identify and respond to abnormal plant operating conditions
T9 Apply enterprise recording procedures
T10 Identify plant status
T11 Prepare plant/equipment for operation
T12 Organise resources
T13 Operate water quality monitoring systems
T14 Apply diagnostic and testing techniques
T15 Identify and respond to abnormal plant operating conditions
T16 Plan and prioritise work
T17 Use relevant hand tools
T18 Communicate effectively
T19 Apply data analysis techniques and tools

UEPOPS104 Operate and monitor oil systems

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Properties of oils
- T12 Oil systems types and characteristics
- T13 Oil cooling systems, types and characteristics
- T14 Plant status
- T15 Supervisory, alarm, protection and control equipment
- T16 Oil conditioning equipment, types and characteristics
- T17 Lubrication and bearings
- T18 Electrical fundamentals

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply enterprise recording procedures
- T3 Identify plant status
- T4 Prepare plant/equipment for operation
- T5 Organise resources
- T6 Operate oil systems
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS062 Monitor and maintain civil assets

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of hydroelectric generation plant

T5 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics

T6 Dam, types and characteristics

T7 Principles of hydro electric generation

T8 General layout of worksite and associated assets

T9 Relevant monitoring and maintenance procedures and techniques

T10 Lifting equipment and techniques, surface preparation and treatment techniques

T11 Communication equipment and operating procedures

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply monitoring and maintenance procedures

T3 Identify and select equipment and materials for job

T4 Use and portable power tools

T5 Use relevant lifting and load shifting equipment

T6 Perform equipment user maintenance

T7 Store and maintain tools and equipment

T8 Communicate effectively

UEPOPS144 Undertake dam safety surveillance

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of hydroelectric generation plant

T5 General layout of worksite and associated equipment

T6 Early warning signs and causes of dam failures

T7 Dams, types and characteristics

T8 Water chemistry

T9 Water sampling procedures, recording procedures

T10 Communication equipment and principles

T1 Interpret plant drawings and manufacturers' manuals

T2 Select and utilise equipment and materials required to perform work

T3 Recognise worksite and relevant associated equipment

T4 Identify early warning signs and causes of dam failures

T5 Undertake water sampling and recording procedures

T6 Communicate effectively

UEPOPS081 Operate and monitor auxiliary steam systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Relevant state and territory regulations

T12 Boiler steam/water cycle fundamentals

T13 Boiler steam/water auxiliary systems, types and characteristics

T14 Boiler drains and traps types and characteristics

T15 Plant status

T16 Enterprise recording procedures

T17 Supervisory control and data acquisition (SCADA) systems

T18 Thermodynamics

T19 Properties of matter

T20 Lubrication and bearings

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Operate auxiliary steam systems

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

T13 Use diagrams, drawings and symbols

T14 Coordinate the operation of equipment to maintain plant integrity, personnel safety and continuity of supply

UEPOPS100 Operate and monitor heat exchangers and cooling systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Valve, damper and actuator types and characteristics

T7 Heat exchanger, types and characteristics

T8 Plant status

- T9 Enterprise recording procedures
- T10 Computers and software
- T11 Supervisory, alarm, protection and control equipment
- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply enterprise recording procedures
- T3 Identify plant status
- T4 Prepare plant/equipment for operation
- T5 Organise resources
- T6 Operate cooling system
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools
- T11 Communicate effectively
- T12 Apply data analysis techniques and tools

UEPOPS110 Operate and monitor water systems (condensate and feedwater)

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Deaerator types and characteristics
- T13 Feedwater heaters types and characteristics

T14 Air ejectors types and characteristics
T15 Motor variable speed drive types and characteristics
T16 Plant status
T17 Enterprise recording procedures
T18 Supervisory control and data acquisition (SCADA) systems
T19 Thermodynamics
T20 Properties of matter
T21 Lubrication and bearings
T22 Feedwater chemical treatment
T23 Feedwater drainage systems
T24 Circulating water system
T25 Condenser systems
T26 Electrical fundamentals

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply relevant state and territory regulations
T3 Apply enterprise recording procedures
T4 Identify plant status
T5 Prepare plant/equipment for operation
T6 Organise resources
T7 Operate condensate and feedwater system
T8 Apply diagnostic and testing techniques
T9 Identify and respond to abnormal plant operating conditions
T10 Plan and prioritise work
T11 Use relevant hand tools
T12 Communicate effectively
T13 Apply data analysis techniques and tools

UEPOPS088 Operate and monitor condenser and auxiliary cooling systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Relevant state and territory regulations

T12 Plant status

T13 Enterprise recording procedures

T14 Supervisory control and data acquisition (SCADA) systems

T15 Condenser cooling system types and characteristics

T16 Condenser, types and characteristics

T17 Cooling towers, types and characteristics

T18 Air ejector, types and characteristics

T19 Condenser principles

T20 Thermodynamics

T21 Properties of matter

T22 Lubrication and bearings

T23 Feedwater and cooling water treatment

T24 Turbine construction and operating principles

T25 Electrical fundamentals

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

- T6 Operate condenser and auxiliary cooling water systems
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools
- T11 Communicate effectively
- T12 Apply data analysis techniques and tools

UEPOPS101 Operate and monitor HRSG hot gas control system

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status
- T13 Enterprise recording procedures
- T14 Supervisory control and data acquisition (SCADA) systems
- T15 Prime mover exhaust temperature control system
- T16 Gas flow control systems

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply relevant state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Identify plant status

- T5 Prepare plant/equipment for operation
- T6 Organise resources
- T7 Operate heat recovery steam generator (HRSG) hot gas control system
- T8 Apply diagnostic and testing techniques
- T9 Identify and respond to abnormal plant operating conditions
- T10 Plan and prioritise work
- T11 Use relevant hand tools
- T12 Communicate effectively
- T13 Apply data analysis techniques and tools

UEPOPS068 Operate a hydro generator synchronous condenser pump unit

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of hydro power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status
- T13 Supervisory control and data acquisition (SCADA) systems
- T14 Hydro turbine, types and characteristics
- T15 Hydro turbine governor, types and characteristics
- T16 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics
- T17 Hydro generator types and characteristics
- T18 Generator performance characteristics
- T19 Speed control systems

T20 Electrical fundamentals

T21 Electrical supply and distribution systems

T22 Heat exchanger types and characteristics

T23 Lubrication systems and oil conditioning systems

T24 Equipment behaviours under the influence of high water pressure and/or flows

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Apply enterprise recording procedures

T4 Identify plant status

T5 Prepare plant/equipment for operation

T6 Organise resources

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

T13 Operate equipment under the influence of high water pressures and/or flows

T14 Coordinate the remote operation of equipment to maintain personnel safety and plant integrity

T15 Operate a hydro turbine generator/pump unit

UEPOPS059 Manage, operate and monitor a gas turbine unit

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

- T8 Valve, damper and actuator types and characteristics
 - T9 Switchgear types and characteristics
 - T10 Electrical protection types and characteristics
 - T11 Relevant state and territory regulations
 - T12 Gas turbine principle of operation
 - T13 Air intake, types and characteristics
 - T14 Air inlet cooling and heating systems, types and characteristics
 - T15 Exhaust, types and characteristics
 - T16 Lubrication systems, types and characteristics
 - T17 Control oil systems, types and characteristics
 - T18 Water wash systems, types and characteristics
 - T19 Cooling systems, types and characteristics
 - T20 Water/steam injection systems, types and characteristics
 - T21 Combustion system, types and characteristics
 - T22 Generator, types and characteristics
 - T23 Generator excitation system, types and characteristics
 - T24 Electrical fundamentals
 - T25 Plant status
 - T26 Enterprise recording procedures
 - T27 Supervisory control and data acquisition (SCADA) systems
 - T28 Computers and software
 - T29 Supervisory, alarm, protection equipment
 - T30 Fire protection control system, types and characteristics
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Apply relevant state and territory regulations
 - T3 Apply enterprise recording procedures
 - T4 Identify plant status
 - T5 Prepare plant/equipment for operation
 - T6 Organise resources

T7 Operate gas turbine plant and equipment

T8 Apply diagnostic and testing techniques

T9 Identify and respond to abnormal plant operating conditions

T10 Plan and prioritise work

T11 Use relevant hand tools

T12 Communicate effectively

T13 Apply data analysis techniques and tools

UEPOPS047 Maintain quality systems within the team

T1 Quality management theory

- Standardisation
- Waste
- Measurement
- Variation
- Control limits

T2 Quality Management System (QMS)

- Elementary quality systems design processes
- Internal and third-party auditing techniques
- Sampling
- Process mapping
- Interviewing

T3 Performance reporting

- Key result areas
- Key performance indicators (KPIs)
- Quantitative measures
- Qualitative measures

T4 Advanced quality management tools and techniques

- Pareto charts
- Run charts and graphs
- Range control charts
- Scattergrams
- 5-S

T5 Advanced continuous improvement techniques

- Kaizen
- Techniques to measure, validate and value changes made to a process
- Enterprise based systems to recommend and implement workplace improvements

- Lead employee participative initiative processes:
 - Quality circles
 - Brain storming
 - Suggestion schemes

T6 Communication when leading a team

- Team meeting techniques:
 - action planning
 - minute taking
- Structured on-the-job training techniques

UEPOPS041 Facilitate workplace communication

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Document writing principles

T4 Enterprise communication equipment and procedures

T5 Enterprise documentation procedures

T6 Enterprise meeting agenda requisites

T7 Enterprise recording procedures

T8 Enterprise communication procedures

T1 Interpret instructions

T2 Write meeting minutes

T3 Communicate effectively

UEPOPS070 Operate and monitor a boiler unit

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Electric motor types and characteristics

- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status
- T13 Enterprise recording procedures
- T14 Steam/water system, types and characteristics
- T15 Supervisory control and data acquisition (SCADA) systems
- T16 Supervisory, alarm, burner protection equipment
- T17 Emergency procedures
- T18 Boiler operation processes
- T19 The system components and their interaction with other plant and equipment external to that covered by this competency
- T20 Principles of air heater operation
- T21 Principles of relevant fuel combustion
- T22 Fire protection control systems, types and characteristics
- T23 Principles of boiler and feedwater chemical treatment
- T24 Thermodynamics
- T25 Properties of matter
- T26 Lubrication and bearings
- T27 Boiler water and steam systems
- T28 Boiler draught system, types and characteristics
- T29 Fuel firing plant, types and characteristics
- T30 Principles governing efficient combustion
- T31 Principles of boiler efficiency
- T32 Electrical principles
- T33 Electrical fundamentals

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

- T3 Apply relevant statutory legislation
- T4 Apply relevant enterprise/site safety procedures
- T5 Apply enterprise/site emergency procedures and techniques
- T6 Apply enterprise recording procedures
- T7 Identify plant status
- T8 Prepare plant/equipment for operation
- T9 Organise resources
- T10 Operate boiler plant and equipment
- T11 Apply diagnostic and testing techniques
- T12 Identify and respond to abnormal plant operating conditions
- T13 Plan and prioritise work
- T14 Use relevant hand tools
- T15 Communicate effectively
- T16 Apply data analysis techniques and tools
- T17 Continuity of supply and optimum efficiency

UEPOPS073 Operate and monitor a steam turbine

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Electrical fundamentals
- T12 Relevant state and territory regulations
- T13 Plant status

- T14 Enterprise recording procedures
- T15 Supervisory control and data acquisition (SCADA) systems
- T16 Supervisory, alarm and protection equipment
- T17 Turbine speed control equipment
- T18 Heat transfer principles
- T19 System components and interaction
- T20 The system components and their interaction with other plant and equipment external to that covered by this competency
- T21 Station water distribution systems
- T22 Fire protection control systems
- T23 Principles of condensate and feedwater chemical treatment
- T24 Turbine life expenditure and control
- T25 Turbine bypass system
- T26 Vacuum raising and turbine gland sealing systems
- T27 Thermodynamics
- T28 Properties of matter
- T29 Lubrication and bearings
- T30 Liquid pumping systems
- T31 Turbine construction and operating principles
- T32 Turbine lubrication and oil systems, types and characteristics
- T33 Condensate and feedwater systems
- T34 Circulating water system
- T35 Condenser systems, types and characteristics
- T36 Turbine efficiency principles
- T37 Transformers, types and characteristics

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply relevant state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Identify plant status
- T5 Prepare plant/equipment for operation

- T6 Organise resources
- T7 Operate turbine plant and equipment
- T8 Apply diagnostic and testing techniques
- T9 Identify and respond to abnormal plant operating conditions
- T10 Plan and prioritise work
- T11 Use relevant hand tools
- T12 Communicate effectively
- T13 Apply data analysis techniques and tools

UEPOPS001 Analyse single protection device operation

T1 Introduction to protection schemes

- Functions of electrical protection schemes
- Features of electrical protection schemes
- Types of electrical faults
- Functions of mechanical protection schemes
- Features of mechanical protection schemes
- Types of mechanical faults
- Alarms and flags raised by protection devices

T2 Alternating Current (AC) motors

- Application of motors in electricity generating plants
- Three phase motors
- Starter operations and applications
- Single phase motor principles
- Construction of single phase motors
- Synchronous motors
- Fault testing

T3 Electrical protection devices

- Fuses
- Thermal overload devices
- Over temperature devices
- Over current devices
- LV circuit breakers
- Over and under-voltage relays
- Resetting or restoring electrical protection

T4 Mechanical protection devices

- Mechanical interlocks

- Flow switches
- Suction valve failures
- Resetting or restoring mechanical protection

T5 Fault-finding theory

- Linear approach (logical step by step sequential elimination of source of fault)
- Half split rule (progressive isolation of the faulty system in halves until the fault is identified)
- Sensory detection (using senses of sight, sound and smell to recognise faults)
- Continuity testing

UEPOPS115 Operate hydroelectric generating plant and auxiliary equipment

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of hydro power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Electrical fundamentals

T12 Plant status

T13 Enterprise recording procedures

T14 Supervisory control and data acquisition (SCADA) systems

T15 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics

T16 Dam, types and characteristics

T17 Principles of hydro electric generation

T18 Hydro turbine, types and characteristics

T19 Hydro turbine governor, types and characteristics

T20 Hydro generator types and characteristics

T21 Bypass and relief valves, types and characteristics

T22 Transformers, types and characteristics

T23 Auxiliary plant, types and characteristics

- T24 Speed control systems
- T25 Electrical supply and distribution systems
- T26 Lubrication systems and oil conditioning systems
- T27 Equipment behaviours under the influence of high water pressure and/or flows
- T28 Civil and hydraulic structures
- T29 Governing, frequency, excitation, voltage, voltage phase and speed matching, synchronising, active and reactive power setting
- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply relevant state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Identify plant status
- T5 Prepare plant/equipment for operation
- T6 Organise resources
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools
- T11 Communicate effectively
- T12 Apply data analysis techniques and tools
- T13 Operate equipment under the influence of high water pressures and/or flows

UEPOPS018 Conduct water conveyance and control

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of hydro power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, damper and actuator types and characteristics
- T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Electrical fundamentals

T12 Relevant state and territory regulations

T13 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics

T14 Dam, types and characteristics

T15 Principles of hydro electric generation

T16 Hydro turbine, types and characteristics

T17 Hydro turbine governor, types and characteristics

T18 Hydro generator types and characteristics

T19 Bypass and relief valves, types and characteristics

T20 Transformers, types and characteristics

T21 Auxiliary plant, types and characteristics

T22 System hydraulics, coordination processes

T23 System supplies layout

T24 Relevant utilities and service bodies

T25 Equipment operation, capacity and limitations

T26 Affect of weather and conditions on operation of water storage/conveyance systems

T27 Control systems

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply state and territory regulations

T3 Apply enterprise recording procedures

T4 Plan and prioritise work

T5 Communicate effectively

T6 Respond to abnormal operating conditions

T7 Apply testing and diagnostic techniques

T8 Manage water control systems

UEPOPS042 Implement dam safety surveillance procedures

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of hydro power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Relevant state and territory regulations

T7 Dam, types and characteristics

T8 Properties of stored water

T9 Dam design principles

T10 Materials science e.g. corrosion and paint coating

T11 Relevant utilities

T12 Principles of hydraulics

T13 Principles of soil mechanics

T14 Concrete structure, strengths and deterioration

T15 Construction procedures - safe dam operating procedures

T16 Principles of dam surveillance

T17 Risk management techniques

T18 Maintenance practices

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Analysis

T4 Data processing

T5 Communication

T6 Use of equipment and instruments

T7 Interpretation of plans and charts

T8 Production of reports

T9 Inspection skills

T10 Operation of instruments

UEPOPS012 Conduct non-routine operational testing

T1 Relevant environmental and WHS legislation and regulations
T2 Enterprise procedures
T3 Plant drawings and manufacturers' manuals
T4 Introduction to and typical arrangements of power production plant
T5 Relevant plant and equipment, its location and operating parameters
T6 Relevant state and territory regulations
T7 Plant status
T8 Testing procedures and techniques
T9 Enterprise recording procedures

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply relevant state and territory regulations
T3 Locate relevant plant and equipment
T4 Identify plant status
T5 Recognise abnormal plant operating conditions
T6 Restore normal operating conditions
T7 Apply testing techniques and procedures
T8 Use testing equipment
T9 Communicate effectively
T10 Apply data analysis techniques and tools

UEPOPS107 Operate and monitor supervisory, control and data acquisition systems

T1 Windows operating system

- Starting up and logging on to the operating system
- Windows desktop
- Point and click and click and drag functionality of Windows
- Clipboard
- Icons
- Applications
- Minimising, maximising and arranging windows
- Memory and memory devices
- Saving and backing up data

- Printing

T2 Instrumentation theory

- Process switches
- Pressure gauges
- Pressure switches
- Thermocouples
- Vibration sensors
- Transmitters

T3 Remote telemetry and data acquisition

- Remote terminal units
- Programmable logic controllers (PLCs)
- Communication network

T4 SCADA systems

- Human machine interface (HMI)
- Mimic diagrams
- SCADA historian database
- Tags (points)
- Trending
- Diagnostic data
- Commands and functions
- Drawing program
- Alarm points
- Alarm indicators
- Alarm events
- Server
- Redundancy
- Index searching

T5 Distributed control systems (DCS)

UEPOPS116 Operate local H.V. switchgear

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Switchgear types and characteristics

T7 Electrical protection types and characteristics

- T8 Electrical fundamentals
 - T9 Relevant state and territory regulations
 - T10 Electrical protection equipment, types and characteristics
 - T11 Plant status
 - T12 Circuit breaker operating parameters
 - T13 Consequences of operator actions
 - T14 HV electrical operation procedure and practices
 - T15 Personal protective equipment (PPE) requirements for HV circuit breaker operation
 - T16 HV power systems and parameters
 - T17 HV protection schemes
 - T18 Enterprise procedures
 - T19 Circuit breaker construction and operation
 - T20 Isolation and earthing procedures
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Apply relevant state and territory regulations
 - T3 Apply statutory legislation
 - T4 Apply relevant enterprise/site safety procedures
 - T5 Apply enterprise/site emergency procedures and techniques
 - T6 Apply enterprise recording procedures
 - T7 Locate relevant plant and equipment
 - T8 Operate circuit breaker within design parameters
 - T9 Identify plant status
 - T10 Prepare equipment for operation
 - T11 Communicate effectively
 - T12 Recognise abnormal circuit breaker operation
 - T13 Plan and prioritise work
 - T14 Operate protection equipment
 - T15 Isolate and earth equipment

UEPOPS114 Operate H.V. condition changing apparatus

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Switchgear types and characteristics
- T7 Electrical protection types and characteristics
- T8 Electrical fundamentals
- T9 Relevant state and territory regulations
- T10 Condition changing apparatus, types and characteristics
- T11 Plant status
- T12 Enterprise recording procedures
- T13 HV systems and interconnected circuitry

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Operate equipment within design parameters
- T5 Identify plant status
- T6 Prepare equipment for operation
- T7 Communicate effectively
- T8 Recognise abnormal switch gear operation
- T9 Plan and prioritise work

UEPOPS014 Conduct operational checks on in-service mechanical plant

- T1 Instruction sheets
 - Enterprise, state or national standards
 - Enterprise-specific work instructions or job sheets
 - Manufacturers' operating instructions and manuals
 - Plant drawings

- Equipment checklists

T2 Perform inspection of plant equipment associated with electricity generating plants by use of sight, sound and smell

- Types of equipment:
 - pressure vessels
 - fans
 - pumps
 - pipe work
 - valves and fittings
 - wind turbine hydraulic systems
 - chemical and water treatment processes
 - pneumatic air systems
 - water cooling mechanical equipment
 - heat exchangers
 - induced draft fan mechanical equipment
 - fuel delivery system
- Checks:
 - fault finding
 - minor performance checking and testing
 - general condition
 - corrosion
 - correct positioning and settings
 - leaks:
 - water
 - steam
 - oil
 - air
 - oil and lubrication requirements
 - noise and vibration
 - odours

T3 Assess the operation of electrical plant by use of a range of indicators

- Analogue displays
- Digital displays
- Fluid flows
- Protection settings
- Load capabilities

UEPOPS090 Operate and monitor dual fuel firing plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures
 T3 Plant drawings and manufacturers' manuals
 T4 Introduction to and typical arrangements of power production plant
 T5 Relevant plant and equipment and its location and operating parameters
 T6 Electric motor types and characteristics
 T7 Pump and compressor types and characteristics
 T8 Valve, damper and actuator types and characteristics
 T9 Switchgear types and characteristics
 T10 Electrical protection types and characteristics
 T11 Electrical fundamentals
 T12 Relevant state and territory regulations
 T13 Fuels and the combustion processes
 T14 Plant status
 T15 Enterprise recording procedures
 T16 Supervisory control and data acquisition (SCADA) systems
 T17 Supervisory, alarm, protection and control equipment
 T18 Fan types and characteristics

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply relevant state and territory regulations
 T3 Apply enterprise recording procedures
 T4 Identify plant status
 T5 Prepare plant/equipment for operation
 T6 Organise resources
 T7 Operate fuel firing plant
 T8 Apply diagnostic and testing techniques
 T9 Identify and respond to abnormal plant operating conditions
 T10 Plan and prioritise work
 T11 Use relevant hand tools
 T12 Communicate effectively

T13 Apply data analysis techniques and tools

UEPOPS067 Monitor the implementation of under frequency load shedding

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Switchgear types and characteristics

T7 Electrical protection types and characteristics

T8 Electrical fundamentals

T9 Transformers types and characteristics

T10 Relevant state and territory regulations

T11 Plant status

T12 Plant operating parameters

T13 Enterprise recording procedures

T14 Systems components and interactions, load shedding schemes, customer prioritisation, stakeholder communication and generator capacities

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Communicate effectively

T6 Coordinate the operation of plant and equipment

T7 Apply data analysis techniques and tools

T8 Recognise abnormal plant operating conditions

T9 Apply or determine appropriate corrective actions required

T10 Plan and prioritise work

T11 Interpret remote indication of plant status and condition

T12 Set load shedding within operation parameters, forecast system load shifting, scheduling load shedding to match generator output

UEPOPS002 Apply environmental and sustainable energy procedures

T1 Environmental fundamentals

- Environmental standards, codes, environmental legislation, supply authority regulations and/or enterprise requirements applicable to the control of environment associated with the worksite encompassing:
 - Relevant federal legislation
 - Relevant state/territory legislation
 - Relevant local government by-laws
 - Relevant government or quasi-government policies and regulations
 - Relevant community planning and development agreements [Examples include land care agreements]
- AS/NZS ISO 14001 Environment Management Systems
- Employer and employee responsibilities
- Methods of obtaining information on environmental issues and updates
- Methods of identifying environmental impacts from work related activities
- Meaning of environmental terms encompassing:
 - Identification, assessment and control of risks
 - Compliance
 - Best practice
 - Sustainable energy
 - Renewable energy
- Environmental operating licence for electricity generation plant
- List the penalties for environmental breaches
- Authorities to be notified in the event of an environmental incident

T2 Sustainable energy principles

- Notions of sustainable energy
- Solar energy
- Wind energy
- Tidal and wave energy
- Biomass energy
- Hydro-electric energy
- Geothermal energy
- Non-renewable energy

T3 Environmentally sustainable work practice

- Notion of sustainable work practice

- Effects of neglecting sustainable work practice
- The greenhouse effect – causes and consequences
- International and national greenhouse imperatives
- Role of regulators and similar bodies
- Economic benefits of sustainable initiatives
- Techniques for reducing carbon produced energy and hence greenhouse gases:
- Domestic, commercial and industrial strategies
- Trade related technologies and methods
- Energy efficient retrofits (overview)
- Renewable energy technologies (overview)

T4 Pollution control

- Air pollution
- Water pollution
- Soil pollution
- Noise pollution
- Greenhouse gases
- CO₂
- Methane
- NO_x
- Sulphur Hexafluoride (SF₆)
- Oxides of sulphur
- Environmentally hazardous chemicals used around electricity generating plants
- Technology used to reduce gas emissions
- Cooling towers
- Controlling Legionnaire's (Legionellosis bacterium)

T5 Waste management

- Types of waste associated with electricity generation plants:
 - Fly ash
 - Sludge and slurry
 - Oil
 - Dust
 - Heat
 - Steam
 - EMF radiation
 - Asbestos
 - Sulphur Hexafluoride (SF₆)
 - Halon fire suppressant gas
 - CFC refrigerant gases

- Classification of wastes
- Waste management standards
- Waste disposal methods

T6 Environmental Management Systems (EMS)

- Principles of EMS
- Models of EMS, including specific enterprise models
- Enterprise documentation and record keeping associated with EMS

T7 Vegetation management

- Protected and threatened species of flora
- Heritage listed vegetation
- Noxious weeds
- Pesticides and herbicides
- Bushfire management
- Erosion control

T8 Heritage protection

- Built environment
- Indigenous sites
- Culturally and historically significant sites
- Environmentally sensitive sites

T9 Recycling and reuse

- Uses of fly ash by-product

T10 Water management

- Dams and catchments
- Floodplains and wetlands
- Drainage sites
- Ponds

UEPOPS117 Operate local L.V. switchgear

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Switchgear types and characteristics

T8 Electrical protection types and characteristics

T9 Electrical fundamentals
 T10 Relevant state and territory regulations
 T11 Electrical protection equipment, types and characteristics
 T12 HV electrical operation procedure and practices
 T13 Personal protective equipment (PPE) requirements for LV switchgear operation
 T14 Secondary switchgear operating parameters
 T15 Enterprise recording procedures
 T16 Consequences of operator actions
 T17 HV power systems and parameters
 T18 HV protection schemes
 T19 Enterprise procedures
 T20 Secondary switchgear construction and operation
 T21 Isolation and earthing procedures

T1 Interpret plant drawings and manufacturers' manuals
 T2 Apply relevant state and territory regulations
 T3 Apply enterprise recording procedures
 T4 Locate relevant plant and equipment
 T5 Operate switchgear within design parameters
 T6 Identify plant status
 T7 Prepare equipment for operation
 T8 Communicate effectively
 T9 Recognise abnormal switch gear operation
 T10 Plan and prioritise work
 T11 Use plans, diagrams and symbols
 T12 Operate protection equipment
 T13 Isolate and earth equipment

UEPOPS063 Monitor and maintain wind farm civil assets

T1 Relevant environmental and WHS legislation and regulations

- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of wind farm power plant
- T5 Wind farm principles
- T6 Wind turbine types and characteristics
- T7 General layout of worksite and associated assets
- T8 Relevant monitoring and maintenance procedures and techniques
- T9 Lifting equipment and techniques, surface preparation and treatment techniques
- T10 Communication equipment and operating procedures
- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply monitoring and maintenance procedures
- T3 Identify and select equipment and materials for the job
- T4 Use hand and portable power tools
- T5 Use relevant lifting and load shifting equipment
- T6 Perform equipment user maintenance
- T7 Store and maintain tools and equipment
- T8 Communicate effectively

UEPOPS064 Monitor climatic conditions for renewable energy production

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of power production plant
- T5 Relevant plant and equipment and its location and operating parameters
- T6 Relevant state and territory regulations
- T7 Plant status
- T8 Effects of wind and rain on plant, equipment and civil assets
- T9 Weather and climate conditions and its impact on plant, equipment and civil assets
- T10 Knowledge of climate and weather patterns in local area

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Interpret weather and climate conditions and its impact on plant, equipment and civil assets
- T3 Apply relevant state and territory regulations
- T4 Apply enterprise recording procedures
- T5 Identify plant status
- T6 Prepare plant/equipment for operation
- T7 Organise resources
- T8 Plan and prioritise work
- T9 Use relevant hand tools
- T10 Communicate effectively
- T11 Apply data analysis techniques and tools

UEPOPS072 Operate and monitor a hydro turbine

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of hydro power production plant
- T5 Relevant plant and equipment, its location and operating parameters
- T6 Electric motor types and characteristics
- T7 Pump and compressor types and characteristics
- T8 Valve, and actuator types and characteristics
- T9 Switchgear types and characteristics
- T10 Electrical protection types and characteristics
- T11 Relevant state and territory regulations
- T12 Plant status
- T13 Supervisory control and data acquisition (SCADA) systems
- T14 Condition monitoring trending equipment
- T15 Hydro turbine, types and characteristics
- T16 Hydro turbine governor, types and characteristics
- T17 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics

T18 Hydro generator types and characteristics

T19 Generator performance characteristics

T20 Speed control systems

T21 Electrical fundamentals

T22 Electrical supply and distribution systems

T23 Cooling water systems and filtration

T24 Heat exchanger types and characteristics lubrication systems and oil conditioning systems

T25 Equipment behaviours under the influence of high water pressure and/or flows

- T1 Interpret plant drawings and manufacturers' manuals
- T2 Apply relevant state and territory regulations
- T3 Apply enterprise recording procedures
- T4 Identify plant status
- T5 Prepare plant/equipment for operation
- T6 Organise resources
- T7 Apply diagnostic and testing techniques
- T8 Identify and respond to abnormal plant operating conditions
- T9 Plan and prioritise work
- T10 Use relevant hand tools
- T11 Communicate effectively
- T12 Access and apply data analysis techniques and tools to hydro machine condition monitoring data/trends
- T13 Operate equipment under the influence of high water pressures and or flows
- T14 Coordinate the remote operation of equipment to maintain personnel safety and plant integrity
- T15 Operate a hydro turbine generator/pump unit

UEPOPS102 Operate and monitor hydro plant auxiliary systems

- T1 Relevant environmental and WHS legislation and regulations
- T2 Enterprise procedures
- T3 Plant drawings and manufacturers' manuals
- T4 Introduction to and typical arrangements of hydro power production plant
- T5 Relevant plant and equipment, its location and operating parameters
- T6 Dewatering systems types and characteristics
- T7 Electric motor types and characteristics
- T8 Cooling water systems types and characteristics
- T9 Pump and compressor types and characteristics
- T10 Valve, damper and actuator types and characteristics
- T11 Switchgear types and characteristics
- T12 Electrical protection types and characteristics

- T13 Relevant state and territory regulations
 - T14 Plant status
 - T15 Supervisory control and data acquisition (SCADA) systems
 - T16 Hydro turbine, types and characteristics
 - T17 Hydro turbine governor, types and characteristics
 - T18 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics
 - T19 hydro generator types and characteristics
 - T20 Speed control systems
 - T21 Electrical fundamentals
 - T22 Electrical supply and distribution systems
 - T23 Heat exchanger types and characteristics
 - T24 Lubrication systems and oil conditioning systems
 - T25 Equipment behaviours under the influence of high water pressure and/or flows
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Apply relevant state and territory regulations
 - T3 Apply enterprise recording procedures
 - T4 Identify plant status
 - T5 Prepare plant/equipment for operation
 - T6 Organise resources
 - T7 Apply diagnostic and testing techniques
 - T8 Identify and respond to abnormal plant operating conditions
 - T9 Plan and prioritise work
 - T10 Use relevant hand tools
 - T11 Communicate effectively
 - T12 Apply data analysis techniques and tools
 - T13 Operate equipment under the influence of high water pressures and or flows
 - T14 Coordinate the remote operation of equipment to maintain personnel safety and plant integrity
 - T15 Operate a hydro turbine generator/pump unit

UEPOPS099 Operate and monitor generator/alternator

- T1 Safety legislation and regulations
 - T2 Enterprise procedures
 - T3 Plant drawings and manufacturers' manuals
 - T4 Introduction to and typical arrangements of power production plant
 - T5 Relevant plant and equipment, its location and operating parameters
 - T6 Electric motor types and characteristics
 - T7 Generator/alternator excitation systems types and characteristics
 - T8 Generator/alternator cooling systems types and characteristics
 - T9 Automatic voltage regulators types and characteristics
 - T10 Pump and compressor types and characteristics
 - T11 Switchgear types and characteristics
 - T12 Electrical protection types and characteristics
 - T13 Supervisory control and data acquisition (SCADA) systems
 - T14 Generator/alternator types and characteristics
 - T15 Generator performance characteristics
 - T16 Electrical fundamentals
 - T17 Generator/alternator theory of operation
 - T18 Heat exchanger types and characteristics
 - T19 Lubrication systems and oil conditioning systems types and characteristics
-
- T1 Interpret plant drawings and manufacturers' manuals
 - T2 Apply relevant state and territory regulations
 - T3 Apply enterprise recording procedures
 - T4 Identify plant status
 - T5 Prepare plant/equipment for operation
 - T6 Organise resources
 - T7 Apply diagnostic and testing techniques
 - T8 Identify and respond to abnormal plant operating conditions
 - T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS037 Ensure compliance with work health and safety policy and procedures

T1 Relevant WHS regulations

T2 Relevant statutory legislation

T3 Relevant enterprise/site safety procedures

T4 Enterprise/site emergency procedures and techniques

T5 Environmental legislation

T6 Participative arrangements, including the reporting of WHS issues

T7 Provision of WHS instructions to others

T1 Apply relevant WHS regulations

T2 Apply relevant statutory legislation

T3 Apply relevant enterprise/site safety procedures, including identification of hazards and controlling of risks

T4 Apply enterprise/site emergency procedures and techniques

T5 Apply enterprise recording procedures

T6 Locate and/or identify relevant plant and equipment

T7 Apply enterprise recording procedures

T8 Communicate effectively

UEPOPS118 Operate manual systems

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to typical arrangements of power production plant and electrical systems

T5 Relevant plant and equipment and its location and operating parameters

T6 Relevant state and territory regulations

T7 Enterprise recording procedures
T8 Pump and motor types and characteristics
T9 Valves, dampers and actuators types and characteristics

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply enterprise recording procedures
T3 Identify plant status
T4 Operate plant/equipment
T5 Communicate effectively

UEPOPS130 Respond to a critical incident

T1 Relevant environmental and WHS legislation and regulations
T2 Enterprise procedures
T3 Plant drawings and manufacturers' manuals
T4 Introduction to and typical arrangements of power production plant
T5 Relevant plant and equipment, its location and operating parameters
T6 Relevant state and territory regulations
T7 Plant status
T8 Enterprise recording procedures
T9 Contingency plans
T10 Supervisory, alarm, protection and control equipment
T11 Supervisory control and data acquisition (SCADA) systems

T1 Interpret plant drawings and manufacturers' manuals
T2 Apply relevant state and territory regulations
T3 Apply enterprise recording procedures
T4 Identify plant status
T5 Communicate effectively
T6 Apply data analysis techniques and tools
T7 Identify and respond to abnormal system operating conditions

T8 Plan and prioritise work

T9 Apply stress management techniques

T10 Apply diagnostic techniques

UEPOPS040 Facilitate the use of contingency plans for power generation facilities

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment and its location and operating parameters

T6 Enterprise recording procedures

T7 Enterprise procedure

T8 Communication procedures

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Communicate effectively

T4 Use data analysis techniques and tools

T5 Use diagnostic techniques

T6 Plan and prioritise work

T7 Develop contingency plans

UEPOPS004 Carry out operational checks on in-service electrical plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Switchgear types and characteristics

T8 Electrical protection types and characteristics

T9 Electrical fundamentals

T10 Transformers, types and characteristics

T11 Plant status

T12 Enterprise recording procedures

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for checks

T5 Communicate effectively

T6 Maintain plant integrity

T7 Apply data acquisition techniques and tools

T8 Recognise abnormal plant operating conditions

T9 Plan and prioritise work

T10 Interpret remote indication of plant status and condition

UEPOPS372 Operate and monitor generator/alternator auxiliary plant

T1 Relevant environmental and WHS legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers' manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Generator/alternator cooling systems types and characteristics

T8 Pump and compressor types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Supervisory control and data acquisition (SCADA) systems

T12 Electrical fundamentals

T13 Heat exchanger types and characteristics

T14 Lubrication systems and oil conditioning systems types and characteristics

T1 Interpret plant drawings and manufacturers' manuals

T2 Apply relevant state and territory regulations

T3 Apply enterprise recording procedures

T4 Identify plant status

T5 Prepare plant/equipment for operation

T6 Organise resources

T7 Apply diagnostic and testing techniques

T8 Identify and respond to abnormal plant operating conditions

T9 Plan and prioritise work

T10 Use relevant hand tools

T11 Communicate effectively

T12 Apply data analysis techniques and tools

UEPOPS011 Conduct multiple energy source isolation procedures for permit to work

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Plant status
- Mechanical equipment isolation techniques
- Electrical equipment isolation techniques
- Mechanical isolation equipment types and characteristics
- Electrical isolation equipment types and characteristics
- Enterprise recording procedures
- Isolating procedures
- Electrical principles
- Auxiliary supply systems
- Safe operating principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Communicate effectively
- Apply isolating procedures
- Plan and prioritise work

UEPOPS028 Coordinate permit to work system

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures and policies
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Mechanical equipment isolation techniques
- Electrical equipment isolation techniques
- Mechanical isolation equipment types and characteristics
- Electrical isolation equipment types and characteristics
- Electrical principles
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- Auditing procedures and techniques
- Investigation and evaluating techniques
- Development and management techniques
- Human resources and management principles
- Electrical principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply state and territory regulations
- Locate relevant plant and equipment
- Identify plant status
- Plan and prioritise work
- Apply planning principles and techniques
- Communicate effectively
- Apply data analysis techniques and tools
- Develop and manage permit to work systems

- Manage human resources

UEPOPS024 Coordinate first response team operation

T1:

- Relevant WHS regulations
- Relevant statutory legislation
- Relevant enterprise, site safety and emergency procedures and techniques
- Plant status
- Relevant plant and equipment and its location and operating parameters
- Site communications systems
- First aid
- Appropriate warning signs
- Equipment appropriate for the task
- Operation of emergency stations
- Roles of the emergency team and its members
- Classifications of fires and emergencies
- Roles and responsibilities of emergency services
- Firefighting and rescue principles and techniques
- Communication principles
- Human resources and management principles within a team
- Safety data sheets (SDS) and emergency services

T2:

- Apply relevant WHS regulations
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Locate relevant plant and equipment
- Prepare emergency plant/equipment for operation
- Communicate effectively
- Plan and prioritise work
- Work in a team
- Apply first aid and resuscitation techniques
- Apply emergency and evacuation procedures
- Identify and operate appropriate emergency communications equipment
- Apply emergency techniques and procedures

UEPOPS075 Operate and monitor A.C. electrical systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Computers and software
- Supervisory, alarm, protection and control equipment
- Switchboards, switch yards and ring mains layout and configuration
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Relevant state and territory regulations
- Electrical protection equipment, types and characteristics
- Plant status
- Enterprise procedures
- Circuit breaker construction and operation
- Switchgear - operation, isolation and earthing
- Protection - systems, types and function
- Switching practices and procedures
- Electrical principles
- Transformers types and characteristics
- Electric motors types and characteristics
- AC generators types and characteristics
- Heating of electrical equipment
- Auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Operate switchgear and equipment
- Conduct switching operations
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools

- Communicate effectively
- Apply data analysis techniques and tools
- Produce and/or assess internal and external switching procedures
- Assess and evaluate protection operation and determine the appropriate response

UEPOPS089 Operate and monitor D.C. electrical systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, and control equipment
- Switchboards and ring mains layout and configuration
- DC switchgear types and characteristics
- Interlocks and inter tripping systems
- Rectifiers and battery systems types and characteristics
- Electrical principles
- DC electric motors types and characteristics
- Uninterrupted power supply (UPS) systems types and characteristics
- Heating of electrical equipment
- Electrical protection
- Auxiliary supply systems
- Safe operating principles
- Inverters and rectifiers types and characteristics

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Operate switchgear and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively

- Apply data analysis techniques and tools

UEPOPS138 Start and run up gas turbine

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics
- Relevant state and territory regulations
- Gas turbine principle of operation
- Air intake, types and characteristics
- Air inlet cooling and heating systems, types and characteristics
- Exhaust, types and characteristics
- Lubrication systems, types and characteristics
- Control oil systems, types and characteristics
- Cooling systems, types and characteristics
- Water/steam injection systems, types and characteristics
- Combustion system, types and characteristics
- Supervisory control and data acquisition (SCADA) systems
- Computers and software
- Mechanical and electrical supervisory, alarm, protection and control equipment
- Principles of safe and efficient fuel combustion
- Fuel storage, conditioning, transfer and firing equipment types and characteristics
- Objectives, sequence of operations, critical operating parameters and safety precautions associated with a gas turbine start up
- Gas turbine efficiency
- AC and DC electrical distribution systems
- Station water distribution systems
- Fire protection control systems, compressed air systems and auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Communicate effectively
- Plan and prioritise work
- Organise resources
- Identify plant status
- Prepare plant/equipment for operation
- Use relevant hand tools
- Operate gas turbine and associated plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Apply data analysis techniques and tools

UEPOPS134 Shut down a gas turbine

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics
- Relevant state and territory regulations
- Gas turbine principle of operation
- Air intake, types and characteristics
- Air inlet cooling and heating systems, types and characteristics
- Exhaust, types and characteristics
- Lubrication systems, types and characteristics
- Control oil systems, types and characteristics
- Cooling systems, types and characteristics
- Water/steam injection systems, types and characteristics

- Combustion system, types and characteristics
- Generator, types and characteristics
- Generator excitation system, types and characteristics
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- computers and software
- Mechanical and electrical supervisory, alarm, protection and control equipment
- Principles of safe and efficient fuel combustion
- Fuel storage, conditioning, transfer and firing equipment types and characteristics
- Objectives, sequence of operations, critical operating parameters and safety precautions associated with a gas turbine shut down
- AC and DC electrical distribution systems
- Station water distribution systems
- Fire protection control systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Communicate effectively
- Plan and prioritise work
- Organise resources
- Identify plant status
- Prepare plant/equipment for operation
- Use relevant hand tools
- Operate gas turbine and associated plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Apply data analysis techniques and tools

UEPOPS140 Start up a boiler unit

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics

- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Boiler process control systems
- Fan types and characteristics
- Transformers types and characteristics
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- System components and their interaction with other plant and equipment external to that covered by this competency
- Temperature and pressure raising techniques and principles
- Principles of air heater operation
- Principles of relevant fuel combustion
- Electricity distribution system, AC and DC
- Station water distribution systems
- Fire protection control systems
- Principles of boiler and feedwater chemical treatment
- Boiler temperature and pressure requirements
- Thermodynamics
- Properties of matter
- Coal handling plant
- Bunkering
- Steam power plant boiler water and steam systems
- Boiler draught system, types and characteristics
- Fuel types and properties
- Principles governing efficient combustion
- Fuel conditioning and fuel firing equipment
- Control of a boiler start-up
- Boiler efficiency
- Auxiliary supply systems
- Safe operating principles

T2:

- Apply relevant environmental and WHS legislation and regulations
- Apply enterprise procedures
- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation

- Organise resources
- Operate boiler plant and equipment
- Apply temperature and pressure raising techniques and principles
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS133 Shut down a boiler unit

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Boiler process control systems
- Fan types and characteristics
- Transformers types and characteristics
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- Shutting down and depressurising a boiler
- The system components and interaction
- Principles of air heater operation
- Principles of fuel combustion
- Electricity distribution system, AC and DC
- Station water distribution systems
- Fire protection control systems
- Principles of boiler and feedwater chemical treatment
- Thermodynamics

- Properties of matter
- Lubrication and bearings
- Steam power plant boiler water and steam systems
- Boiler draught system, types and characteristics
- Fuel types and properties
- Fuel conditioning and fuel firing equipment
- Control of a boiler shutdown
- Auxiliary supply systems

T2:

- Apply relevant environmental and WHS legislation and regulations
- Apply enterprise procedures
- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Shut down boiler plant and equipment
- Apply cooling and de-pressurising techniques and principles
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS131 Run up a steam turbine

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics

- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- Turbine speed control equipment
- Heat transfer principles
- System components and interaction
- Electricity distribution system, AC and DC
- System components and their interaction with other plant and equipment external to that covered by this competency
- Station water distribution systems
- Fire protection control systems
- Power and control oil systems, types and characteristics
- Compressed air systems, types and characteristics
- Turbine life expenditure and control
- Turbine bypass system types and characteristics
- Vacuum raising and turbine gland sealing systems
- Thermodynamics
- Properties of matter
- Lubrication and bearings
- Liquid pumping systems types and characteristics
- Steam turbine construction
- Steam turbine types and characteristics
- Turbine lubrication systems types and characteristics
- Condensate and feedwater systems
- Feedwater heating types and characteristics
- Drainage systems, types and characteristics
- Circulating water system, types and characteristics
- Condenser systems, types and characteristics
- Turbine operations
- Turbine efficiency

T2:

- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Run up turbine plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions

- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS120 Undertake operational commissioning and decommissioning

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Principles of commissioning
- Decommissioning procedures
- Recommissioning procedures
- Test and measurement equipment

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply decommissioning procedures
- Apply recommissioning procedures
- Use test and measuring equipment
- Analyse relevant data
- Identify relevant plant or equipment
- Communicate effectively

UEPOPS027 Coordinate operational strategies for power production

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Power plant operating parameters
- Relevant performance targets
- Relevant plant reliability targets
- Power plant efficiency
- Problem-solving techniques
- Data collection and recording techniques

- Risk management principles
- Plant operating parameters
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Communication principles
- Risk management principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS123 Perform risk analysis of generation plant

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Plant status
- Enterprise recording procedures
- Effects of operating outside design limits
- Risk management principles
- Risk analysis principles
- Problem-solving principles
- Problem-solving tools
- Leadership principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Solve problems
- Provide leadership

- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS065 Monitor implementation of quality control for production and maintenance

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant international and industry standards
- Quality control procedures, processes and techniques
- Statistical analysis
- Monitoring equipment
- Inspection techniques
- Data analysis

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant international and industry standards,
- Apply quality control procedures, processes and techniques
- Monitor quality control processes and techniques
- Perform statistical analysis
- Conduct inspections
- Identify variances to specifications
- Communicate effectively

UEPOPS061 Monitor and implement environmental site plans and procedures

T1:

- Relevant legislative requirements; standard operating procedures; environmental plans and procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Enterprise procedures
- Gaseous emission removal equipment, types and characteristics
- Particulate removal equipment types and characteristics
- Water pollution control equipment, types and characteristics

- NOx control equipment, types and characteristics
- Sedimentation and erosion control
- Risk assessment procedures
- Rare and endangered plants
- Recording procedures
- Cultural/heritage sites Identification
- Reporting procedures
- Monitoring procedures; identification of risks and impacts
- Consultation procedures
- Incident management procedures
- Potential environmental risks and incidents
- Disposal of dangerous and contaminated soils
- Environmental auditing; concepts of due diligence
- Principles of environmental protection
- Endangered species and habitat protection
- Environmental impact assessment
- Control procedures for environmental risks and incidents
- Waste management

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply control procedures at environmental risks and incidents
- Access, interpret and apply relevant legislation and standard operating procedures
- Assess environmental risks at the specific project/site
- Apply environmental plans and procedures
- Develop local workplace environmental procedures
- Identify risks and impacts
- Apply consultation processes
- Manage environmental incidents
- Conduct environmental audits
- Monitor specific project/site
- Identify possible cultural/heritage sites
- Identify potential pollutants
- Solve operational problems

UEPOPS137 Shut down a steam turbine

T1 :

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant

- Relevant plant and equipment and its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical fundamentals
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- Emergency procedures
- Turbine speed control equipment
- Heat transfer principles
- The system components and interaction
- Electricity distribution systems a.c.and d.c.
- System components and their interaction with other plant and equipment external to that covered by this competency
- Station water distribution systems
- Fire protection control systems
- Power and control oil systems, types and characteristics
- Compressed air systems, types and characteristics
- Principles of condensate and feedwater chemical treatment
- Turbine life expenditure and control
- Turbine bypass system, types and characteristics
- Vacuum raising and turbine gland sealing systems
- Thermodynamics
- Properties of matter
- Lubrication and bearings
- Turbine construction and operating principles
- Turbine lubrication and oil systems, types and characteristics
- Condensate and feedwater systems
- Turbine drains, types and characteristics
- Feedwater heating and drainage systems
- Circulating water system, types and characteristics
- Condenser systems, types and characteristics
- Turbine operations
- Generator, types and characteristics
- Turbine efficiency
- Transformers, types and characteristics

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Shutdown turbine plant and equipment
- Apply turbine cooling techniques and procedures
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS026 Coordinate network/system

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Relevant state and territory regulations
- Relevant enterprise/site safety procedures
- Plant status
- Enterprise recording procedures
- System/network types and characteristics
- Contingency plans
- Problem solving
- Load shedding principles
- Supervisory control and data acquisition (SCADA) systems
- Switching practices and procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations

- Apply enterprise recording procedures
- Control system/network
- Identify plant status
- Communicate effectively
- Identify and respond to abnormal system operating conditions
- Plan and prioritise work
- Coordinate the operation of system/network to maintain plant integrity
- Continuity of supply and optimum efficiency
- Direct and coordinate personnel
- Select appropriate load shedding

UEPOPS132 Schedule generation

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Plant design parameters
- Plant status
- Planning techniques
- Risk management techniques
- Power plant operating parameters
- Enterprise recording procedures
- Systems operating instructions
- Relationships that weather, social and industrial variables have on system demand
- Economic operating criteria including fuel strategies
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Schedule plant within design parameters to meet demand
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools

- Plan and prioritise work
- Scheduling the generating units to maintain optimum system efficiency
- Operate screen based equipment

UEPOPS126 Plan a scheduled outage

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Contract management
- Liaising with contractors and clients
- Project management
- Project planning
- Risk management
- Leadership techniques
- Plant status
- Communications principles
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Plan and prioritise work
- Communicate with public and key stake holder

UEPOPS025 Coordinate local H.V. networks

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Switchgear types and characteristics

- Electrical protection types and characteristics
- Electrical principles
- Transformers types and characteristics
- Local HV networks types and characteristics
- Plant status
- Enterprise recording procedures
- Contingency plans
- Supervisory, alarm, protection and control equipment
- Switching practices and procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Manager and control system/network
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Identify and respond to abnormal system operating conditions
- Plan and prioritise work
- Apply stress management techniques
- Direct and coordinate personnel
- Select appropriate load shedding
- Apply diagnostic techniques

UEPOPS128 Produce maintenance plans for generation production plant

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Contract management
- Liaising with contractors and clients
- Project management
- Project planning
- Risk management
- Leadership techniques
- Maintenance plan development
- Maintenance philosophies and work practices
- Strategic plan objectives and principles of application

- Computer systems
- Quality assurance and/or quality control
- Maintenance techniques, procedures and requirements

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply risk management and quality assurance/quality control principles
- Prioritise options and work
- Solve problems
- Communicate effectively
- Analyse relevant information
- Apply data analysis techniques and tools
- Produce maintenance plans
- Apply maintenance planning principles
- Identify maintenance requirements

UEPOPS043 Interpret and analyse multi-operation protection devices

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Transformers types and characteristics
- Plant status
- Plant operating parameters
- Enterprise recording procedures
- Responding to protection equipment operation
- Interpreting and determining cause of equipment operation
- Restoring protection

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Apply diagnostic techniques
- Apply or determine appropriate corrective actions required

- Plan and prioritise work
- Recognise abnormal plant/system/equipment operating conditions
- Evaluate protection operation and determine the appropriate response

UEPOPS036 Develop H.V. switching programs

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Plant status
- Enterprise recording procedures
- Interconnected utilities systems and equipment
- Network systems
- Isolating, tagging and earthing procedures
- Control systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Use data analysis techniques and tools
- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Write switching programmes

UEPOPS021 Control permit to work operations

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals

- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location
- Enterprise recording procedures
- Mechanical equipment isolation techniques
- Electrical equipment isolation techniques
- Mechanical isolation equipment types and characteristics
- Electrical isolation equipment types and characteristics

T2:

- Interpret plant drawings and manufacturers' manuals
- Locate relevant plant and equipment
- Identify plant status
- Plan and prioritise work
- Apply planning principles and techniques
- Communicate effectively

UEPOPS006 Collect and analyse hydrological and meteorological data

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Systems components and interactions
- Prospective inflow forecasting
- Snow depth gauging
- Interpreting meteorological charts
- Stream gauging
- Water quality monitoring
- Calibration of instrumentation
- Interpretation of hydrological data
- Interpretation of meteorological data
- Survival techniques, hypothermia and snake avoidance

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedure
- Communicate effectively
- Apply data analysis techniques and tools
- Recognise abnormal conditions
- Apply or determine appropriate corrective actions required
- Plan and prioritise work

- Personnel safety
- Coordinate the operation of equipment to maintain optimum efficiency
- Application of meteorological and hydrographical instrumentation
- Measure snow depth
- Determine inflows based on snow melt
- Measure stream flows
- Complete flow calculations
- Conduct depth measurements
- Apply survival techniques, hypothermia and snake avoidance

UEPOPS141 Start up a heat recovery steam generator unit

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Steam and water systems types and characteristics
- Duct burners types and characteristics
- Heat recovery steam generator (HRSG) construction and principles
- Thermodynamics
- Properties of matter
- Supervisory control and data acquisition (SCADA) systems
- Mechanical and electrical supervisory
- Alarm, protection and control equipment
- Safe operating principles
- Principles of control of heat transfer and rate of temperature rise during a HRSG start-up
- Heat recovery steam generator efficiency
- Arrangement of the HRSG gas path and water and steam circuits

- HRSG components and their interaction with other plant and equipment external to that covered by this competency
- Station water distribution systems
- Fire protection control systems
- Compressed air systems
- Auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Operate heat recovery steam generator plant and equipment
- Apply temperature and pressure raising techniques and principles
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS071 Operate and monitor a heat recovery steam generator unit

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Duct burners types and characteristics

- Heat recovery steam generator (HRSG) construction and principles
- Thermodynamics
- Properties of matter
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Mechanical and electrical supervisory
- Alarm, protection and control equipment
- Principles of control of steam temperature and pressure throughout the full range of HRSG operation up to and including maximum continuous rating
- HRSG efficiency
- Arrangement of the HRSG gas path and water and steam circuits
- Fuel conditioning and supplementary firing equipment
- HRSG system components and their interaction with other plant and equipment external to that covered by this competency
- AC and DC electrical distribution systems
- Station water distribution systems
- Fire protection control systems
- Compressed air systems
- Auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Operate HRSG plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS135 Shut down a heat recovery steam generator unit

T1:

- Relevant environmental WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant

- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Duct burners types and characteristics
- Heat recovery steam generator (HRSG) construction and principles
- Thermodynamics
- Properties of matter
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Computers and software
- Mechanical and electrical supervisory,
- Alarm, protection and control equipment
- Principles of control of steam temperature and pressure throughout the full range HRSG operation up to and including maximum continuous rating
- HRSG efficiency
- Principles of HRSG steam and feedwater chemical treatment
- Arrangement of the HRSG gas path and water and steam circuits
- Fuel conditioning and supplementary firing equipment
- HRSG system components and their interaction with other plant and equipment external to that covered by this competency
- AC and DC electrical distribution systems
- Station water distribution systems
- Fire protection control systems
- Compressed air systems
- Auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Operate HRSG plant and equipment

- Apply temperature and pressure reducing techniques and principles
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS093 Operate and monitor flue gas (NOx) mitigation systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Transformers types and characteristics
- Water treatment plants types and characteristics
- Types of air pollution
- Gaseous emission removal equipment, types and characteristics
- NOx control equipment, types and characteristics
- Combustion principles
- Fuels, types and properties
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Alarm, protection and control equipment
- NOx emission control system components and their interaction with other plant and equipment external to that covered by this competency
- AC and DC electrical distribution systems
- Station water distribution systems
- Fire protection control systems
- Compressed air systems
- Auxiliary supply systems

T2:

- Interpret plant drawings and manufacturers' manuals

- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Communicate effectively
- Plan and prioritise work
- Organise resources
- Identify plant status
- Prepare plant/equipment for operation
- Use relevant hand tools
- Operate NOx emission control plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Apply data analysis techniques and tools

UEPOPS057 Manage system restart

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Electrical system/network types and characteristics
- Plant status
- Environmental awareness
- Enterprise recording procedures
- Equipment starting pre requisites
- Supervisory, alarm, protection and control equipment
- Auxiliary plant and plant operation
- Computers and software
- External authorities/bodies role
- Communication equipment

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures

- Locate relevant plant and equipment
- Operate plant within design parameters
- Identify plant status
- Communicate effectively
- Apply diagnostic techniques
- Apply data analysis techniques and tools
- Recognise abnormal plant operating conditions
- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Maintain generator unit integrity
- Interpret remote indication of plant status and condition
- Delegate to and manage staff
- Apply stress management techniques

UEPOPS127 Plan and organise work

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Resource planning techniques
- Interpersonal skills techniques
- Team goals setting techniques
- Performance management techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Enterprise permit to work procedures
- Enterprise recording procedures
- Appropriate tools, equipment and materials required to do the work
- Team communication process

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply resource planning techniques
- Apply interpersonal skills techniques
- Apply team goals setting techniques
- Apply performance management techniques
- Coordinate/sequence work requirements
- Assess team capabilities and capacities

- Review job progress against agreed goals
- Modify team work plan
- Communicate information to stakeholders
- Prepare and interpret work procedures
- Estimate materials and resource requirements
- Monitor team performance
- Apply data analysis techniques and tools

UEPOPS032 Coordinate team activities

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Interpersonal skills techniques
- Team goals setting techniques
- Performance management techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Meeting leadership techniques
- Competency identification of team members
- Dispute resolution procedures
- Meeting procedures
- Communication procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply interpersonal skills techniques
- Apply team goals setting techniques
- Apply performance management techniques
- Promote team unity
- Communicate effectively with team and others
- Develop work plan
- Maximise and utilise team potential
- Identify skill shortages and training needs of team
- Resolve differences within the team
- Monitor team activities
- Provide team support
- Promote personal and personnel safety awareness

- Apply data analysis techniques and tools

UEPOPS108 Operate and monitor system equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Transformers types and characteristics
- Equipment status
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Operate screen based equipment
- Identify equipment status
- Plan and prioritise work
- Communicate effectively
- Apply data analysis techniques and tools
- Identify and respond to abnormal equipment operating conditions

UEPOPS060 Monitor and coordinate the operation of a combined cycle gas turbine unit

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics

- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- Fan types and characteristics
- AC generators types and characteristics
- Transformer types and characteristics
- Generator excitation and cooling systems, types and characteristics
- Gas turbine principle of operation
- Gas turbine air intake, types and characteristics
- Gas turbine air inlet cooling and heating systems, types and characteristics
- Gas turbine exhaust, types and characteristics
- Gas turbine lubrication systems, types and characteristics
- Gas turbine control oil systems, types and characteristics
- Gas turbine water wash systems, types and characteristics
- Gas turbine cooling systems, types and characteristics
- Gas turbine water/steam injection systems, types and characteristics
- Gas turbine combustion system, types and characteristics
- Principles of control of steam temperature and pressure throughout the full range of heat recovery steam generation (HRSG) operation up to and including maximum continuous rating
- HRSG efficiency
- Arrangement of the HRSG gas path and water and steam circuits
- Fuel conditioning and supplementary firing equipment
- HRSG system components and their interaction with other plant and equipment external to that covered by this competency
- AC and DC electrical distribution systems
- Duct burners types and characteristics
- HRSG construction and principles
- Thermodynamics
- Properties of matter
- Steam turbine power and control oil systems, types and characteristics
- Compressed air systems, types and characteristics
- Steam turbine life expenditure and control
- Steam turbine bypass system types and characteristics
- Vacuum raising and turbine gland sealing systems
- Steam turbine types and characteristics
- Steam turbine lubrication systems types and characteristics
- Steam turbine condensate and feedwater systems
- Feedwater heating types and characteristics
- Drainage systems, types and characteristics

- Steam turbine circulating water system, types and characteristics
- Steam turbine condenser systems, types and characteristics
- Plant status
- Supervisory control and data acquisition (SCADA) systems
- Computers and software
- Supervisory, alarm, protection and control equipment
- Principles of generator and system stability
- Systems components and interactions
- Principles of electricity generation
- Lubrication and bearings
- Liquid pumping systems
- Power plant cycle
- Fuel type and properties
- Fuel conditioning and fuel firing equipment
- Air extraction systems
- High voltage (HV) systems
- HV switching procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Coordinate power generation
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools
- Coordinate the operation of interacting systems
- Coordinate the operation of plant and equipment
- Maintain generator unit integrity
- Apply principles of electrical generation

UEPOPS034 Coordinate wind farm operations

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures

- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Wind farm principles
- Wind turbine types and characteristics
- Wind turbine support systems
- Wind turbine generator, types and characteristics
- Wind farm control systems types and characteristics
- Generator control systems
- Electric motor types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- The systems components and interactions
- High voltage (HV) electrical systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Coordinate electrical energy generation
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools
- Coordinate the operation of interacting systems
- Coordinate the operation of plant and equipment
- Apply principles of electrical generation

UEPOPS139 Start and run-up a hydro turbine

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of hydro power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Relevant state and territory regulations
- Plant status hydro machines operational modes
- Hydro machines online condition monitoring equipment and trends
- Automatic governor control systems types and characteristics
- Supervisory control and data acquisition (SCADA) systems
- Hydro turbine, types and characteristics
- Hydro turbine governor, types and characteristics
- Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics
- Hydro alternator types and characteristics
- Alternator performance characteristics
- Speed control systems
- Electrical fundamentals
- Electrical supply and distribution systems
- Heat exchanger types and characteristics
- Lubrication systems and oil conditioning systems
- Equipment behaviours under the influence of high water pressure and/or flows

T2:

- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Run up turbine plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS136 Shut down a hydro turbine

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of hydro power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Relevant state and territory regulations
- Plant status
- Hydro machines operational modes
- Hydro machines online condition monitoring equipment and trends
- Automatic governor control types and characteristics
- Supervisory control and data acquisition (SCADA) systems
- Hydro turbine, types and characteristics
- Hydro turbine governor, types and characteristics
- Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics
- Hydro alternator types and characteristics
- Alternator performance characteristics
- Speed control systems
- Electrical fundamentals
- Electrical supply and distribution systems
- Heat exchanger types and characteristics
- Lubrication systems and oil conditioning systems
- Equipment behaviours under the influence of high water pressure and/or flows

T2:

- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Shut down turbine plant and equipment
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS103 Operate and monitor hydro unit control and protection systems

T1:

- Relevant environmental and WHS procedures
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of hydro power production plant
- Relevant plant and equipment and its location and operating parameters
- Hydro power plant protection systems types and characteristics
- Hydro power plant control system types and characteristics
- Automatic voltage regulators types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Control and data acquisition systems
- Generator/alternator types and characteristics
- Generator/alternator performance characteristics
- Programmable logic controller (PLC) types and characteristics
- Electrical fundamentals
- Generator/alternator theory of operation

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS029 Coordinate photovoltaic solar power plant operations

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of photovoltaic (PV) solar power plant
- Relevant plant and equipment, its location and operating parameters
- PV solar power plant operating parameters
- Relevant performance targets
- Relevant plant reliability targets
- PV solar power plant efficiency
- Problem-solving techniques
- Data collection and recording techniques
- Risk management principles
- PV solar power plant operating parameters
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Communication principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS035 Coordinate workplace communication

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Meeting communication principles
- Document writing principles
- Enterprise communication equipment and procedures
- Enterprise documentation procedures
- Enterprise meeting agenda requisites

- Enterprise recording procedures
- Enterprise communication procedures

T2:

- Interpret instructions
- Write meeting minutes
- Facilitate meetings
- Extract information
- Communicate effectively

UEPOPS033 Coordinate the use of contingency plans

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Enterprise recording procedures
- Enterprise procedure
- Communication procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Communicate effectively
- Use data analysis techniques and tools
- Use diagnostic techniques
- Plan and prioritise work
- Develop contingency plans

UEPOPS013 Conduct operational checks and carry out corrective action on in-service electrical plant

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Electric motor types and characteristics

- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical fundamentals
- Transformers, types and characteristics
- Isolation procedures
- Modification techniques
- Test and measurement instruments
- Circuit plan appreciation
- Engineering and workshop practice
- Plant status
- Enterprise recording procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for checks
- Communicate effectively
- Maintain plant integrity
- Apply data analysis techniques and tools
- Recognise abnormal plant operating conditions
- Apply or determine appropriate corrective actions required
- Carry out appropriate corrective actions
- Plan and prioritise work

UEPOPS031 Coordinate response to critical incidents

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Plant status
- Enterprise recording procedures
- System/network characteristics
- Contingency plans
- Supervisory, alarm, protection and control equipment
- Load shedding principles
- Supervisory control and data acquisition (SCADA) systems
- Switching practices and procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Manager and control system/network
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Identify and respond to abnormal system operating conditions
- Plan and prioritise work
- Coordinate the operation of system/network to maintain plant integrity, personnel safety, continuity of supply and optimum efficiency
- Apply stress management techniques
- Direct and coordinate personnel
- Select appropriate load shedding
- Apply diagnostic techniques

UEPOPS124 Perform switching to a switching program

T1:

- Relevant environmental WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Risk management
- Leadership techniques
- Plant status
- Enterprise recording procedures
- Switching operations and procedures
- System diagrams
- Systems (network)
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures

- Identify plant status
- Communicate effectively
- Acquire and analyse information relevant to system operation
- Recognise abnormal plant/system operating conditions
- Determine appropriate corrective actions required
- Plan and prioritise work
- Acquire and analyse information relevant to system operation
- Recognise abnormal plant/system operating conditions
- Apply leadership techniques
- Determine appropriate corrective actions required

UEPOPS019 Control electrical energy production

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics types and characteristics
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- Principles of generator and system stability
- System components and interactions
- Auxiliary supply systems
- High voltage (HV) systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status

- Prepare plant/equipment for operation
- Organise resources
- Coordinate power generation
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools
- Coordinate the operation of interacting systems
- Coordinate the operation of plant and equipment
- Maintain generator unit integrity
- Apply principles of electrical generation

UEPOPS058 Manage work health and safety policy and procedures

T1:

- Introduction to and typical arrangements of power production plant
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Meeting leadership techniques
- Competency identification of team members
- Hazard identification and control techniques
- Licensing and certification requirements applicable to state and/or territory legislation including WHS, dangerous goods, hazardous substances and power generation regulatory requirements
- National plant and certification standards
- Isolation, access, lockout and permit procedures
- Hierarchy of control
- Relevant statutory legislation
- Relevant enterprise/site safety procedures, including identification of hazards and controlling of risks
- Enterprise/site emergency procedures and techniques
- Environmental legislation
- Plant status
- Enterprise participative arrangements for WHS
- Provision of WHS training
- Maintenance of WHS records

T2:

- Apply relevant WHS regulations
- Apply hazard identification and control techniques
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Locate and/or identify relevant plant and equipment
- Identify plant status
- Develop and review standard operating procedures
- Conduct formal meetings and produce minutes
- Prepare written reports including recommendations
- Communicate effectively verbally and in writing
- Management/supervision of staff

UEPOPS055 Manage permit to work system

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Hazard identification and control techniques
- Incident investigated techniques
- Plant status
- Enterprise recording procedures
- Computers and software
- Auditing procedures and techniques
- Investigation and evaluating techniques
- Communication principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Relevant statutory legislation
- Relevant enterprise/site safety procedures
- Communicate effectively
- Apply data analysis techniques and tools

- Develop and manage permit to work systems
- Conduct audits and review incident reports

UEPOPS129 Produce maintenance strategies for generation production plant

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Project management techniques
- Project planning techniques
- Leadership techniques
- Contract management
- Liaising with contractors and clients
- Maintenance strategy development techniques
- Measurement and analysis system and procedures
- Maintenance philosophies and work practices
- Physical properties and failure modes of materials
- Engineering principles and development processes
- Business plan objectives and principles of application
- Computer systems
- Quality assurance and/or quality control
- Risk management techniques
- Maintenance planning principles

T2:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Apply risk management principles
- Apply quality assurance/quality control principles
- Prioritise options and work

- Solve problems
- Communicate effectively
- Analyse relevant information
- Apply data analysis techniques and tools
- Produce maintenance strategies
- Apply business planning principles
- Produce maintenance schedules and plans

UEPOPS015 Conduct project management

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Enterprise recording procedures
- Quality assurance and control procedures
- Enterprise financial and contractual procedures
- Project management principles and concepts
- Work scope coordination and preparation
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Project management techniques
- Project planning techniques
- Leadership techniques
- Contractual principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Identify interactions and conflict of plant and work scope
- Respond to deviations from original plans
- Apply quality assurance/ andor quality control procedures
- Work scope coordination and preparation
- Manage human resources
- Communicate effectively
- Apply contractual procedures
- Monitor income and expenditure
- Manage time and resources
- Apply project management principles
- Contribute to and/or prepare project plans
- Coordinate a project plan

UEPOPS048 Manage commissioning and decommissioning

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Principles of commissioning
- Conducting or controlling meetings with diverse groups
- Formal reporting procedures
- Manufacturers' requirements for performance limits of plant and equipment
- Contingency management
- Decommissioning procedures
- Recommissioning procedures
- Test and measurement equipment

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply decommissioning procedures
- Apply recommissioning procedures
- Use test and measuring equipment
- Analyse relevant data
- Identify relevant plant or equipment
- Communicate effectively

UEPOPS056 Manage quality control procedures

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Project management techniques

- Relevant international and industry standards
- Quality control procedures, processes and techniques
- Statistical analysis
- Monitoring equipment
- Inspection techniques
- Data analysis

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant international and Australian Standards, statutory requirements and codes of practice
- Apply quality control procedures, processes and techniques
- Monitor quality control processes and techniques
- Perform statistical analysis
- Conduct inspections
- Identify variances to specifications
- Communicate effectively

UEPOPS066 Monitor power generation plant reliability

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Plant performance characteristics
- Control and data acquisition systems
- Computers and software
- Plant monitoring procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Identify plant status
- Record, analyse and use data
- Apply problem-solving techniques
- Communicate effectively
- Plan and prioritise work
- Write reports
- Apply data analysis techniques and tools
- Determine plant reliability performance

UEPOPS143 Tune process plant and equipment

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Valve, damper and actuator types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- Interaction between multiple control loops
- Instrumentation principles and practices
- Instrument calibration techniques
- Enterprise recording procedures
- Plant processes and process dynamics
- Plant capability limitations
- Tuning processes and techniques
- Tuning algorithms

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Locate relevant plant and equipment
- Operate plant within design parameters
- Identify plant status
- Use enterprise documentation procedures

- Solve problems
- Set up and use test and/or tuning equipment
- Coordinate testing operations
- Communicate effectively
- Prepare engineering programmes, procedures and/or reports
- Analyse test results and translate to tuning settings for optimal system response
- Apply testing and tuning techniques
- Apply data analysis techniques and tools

UEPOPS052 Manage high voltage network system

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Relevant state and territory regulations
- Plant status
- Enterprise recording procedures
- System/network types and characteristics
- Contingency plans
- Problem-solving techniques
- Supervisory, alarm, protection and control equipment
- Load shedding principles
- Supervisory control and data acquisition (SCADA) systems
- Computers and software
- Switching practices and procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Manage and control system/network

- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Identify and respond to abnormal system operating conditions
- Plan and prioritise work
- Apply stress management techniques
- Direct and coordinate personnel
- Select appropriate load shedding
- Apply diagnostic techniques

UEPOPS053 Manage operational crisis to maintain or restore power system integrity

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Interpersonal skills techniques
- Stakeholder management techniques
- Leadership techniques
- Liaising with contractors and clients
- Plant status
- Enterprise recording procedures
- Supervisory, alarm, protection and control equipment
- Computers and software
- Communication equipment
- Communication principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant statutory legislation
- Apply relevant enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Apply diagnostic techniques
- Apply data analysis techniques and tools

- Recognise abnormal plant operating conditions
- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Interpret remote indication of plant status and condition
- Delegate to and manage staff
- Apply stress management techniques

UEPOPS020 Control hydro generation pumping

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Pump and compressor types and characteristics
- Valve, damper and actuator types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Transformers types and characteristics
- Tail races, types and characteristics
- Dam, types and characteristics
- Principles of hydro electric generation
- Hydro turbine, types and characteristics
- Hydro turbine governor, types and characteristics
- Hydro generator types and characteristics
- Bypass and relief valves, types and characteristics
- Auxiliary plant, types and characteristics
- Equipment status
- Enterprise recording procedures
- Communication principles
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Operate plant within design parameters
- Identify plant status

- Prepare plant/equipment for operation
- Communicate effectively
- Apply data analysis techniques and tools
- Recognise abnormal plant operating conditions
- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Interpret remote indication of plant status and condition

UEPOPS030 Coordinate power generation

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics types and characteristics
- Plant status
- Enterprise recording procedures
- Systems components and interactions

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Communicate effectively
- Coordinate the operation of plant and equipment
- Maintain generator unit integrity
- Apply principles of electrical generation
- Apply data analysis techniques and tools
- Recognise abnormal plant operating conditions

- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Coordinate the operation of equipment to maintain plant integrity, personnel safety and continuity of supply
- Coordinate the operation of equipment to maintain optimum efficiency
- Interpret remote indication of plant status and condition

UEPOPS038 Evaluate cost estimations and initiate appropriate solutions

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Enterprise recording procedures
- Costing and quotation techniques and procedures
- Employment awards and agreements
- Penalty and transfer pricing procedures and systems
- Enterprise evaluation procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Communicate effectively
- Apply data analysis techniques and tools
- Compile data
- Identify cause and consequence of potential cost excursions
- Produce quotations
- Produce cost options
- Develop solutions

UEPOPS049 Manage critical incidents

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Plant status

- Enterprise recording procedures
- System/network characteristics
- Contingency plans
- Supervisory, alarm, protection and control equipment
- Load shedding principles
- Supervisory control and data acquisition (SCADA) systems
- Switching practices and procedures

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply enterprise recording procedures
- Manager and control system/network
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Identify and respond to abnormal system operating conditions
- Plan and prioritise work
- Coordinate the operation of system/network to maintain plant integrity, personnel safety, continuity of supply and optimum efficiency
- Apply stress management techniques
- Direct and coordinate personnel
- Select appropriate load shedding
- Apply diagnostic techniques

UEPOPS039 Evaluate scheduling of generation plant

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Plant design parameters
- Plant status
- Planning techniques
- Risk management techniques
- Power plant operating parameters
- Enterprise recording procedures
- Systems operating instructions
- Relationships that weather, social and industrial variables have on system demand

- Economic operating criteria including fuel strategies
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant statutory legislation
- Apply enterprise/site safety procedures
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Schedule plant within design parameters to meet demand
- Identify plant status
- Communicate effectively
- Apply data analysis techniques and tools
- Plan and prioritise work
- Evaluate the scheduling of generating units to maintain optimum system efficiency
- Operate screen-based equipment

UEPOPS022 Coordinate and direct switching program

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- AC generators types and characteristics
- Transformers types and characteristics
- Risk management
- Leadership techniques
- Plant status
- Enterprise recording procedures
- Switching operations and procedures
- System diagrams
- Systems (network)
- Computers and software

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Communicate effectively
- Acquire and analyse information relevant to system operation
- Recognise abnormal plant/system operating conditions
- Determine appropriate corrective actions required
- Plan and prioritise work
- Acquire and analyse information relevant to system operation
- Recognise abnormal plant/system operating conditions
- Apply leadership techniques
- Determine appropriate corrective actions required

UEPOPS023 Coordinate electrical energy production

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory regulations
- Electric motor types and characteristics
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- Process control principles
- Plant process control systems
- AC generators types and characteristics
- Transformers types and characteristics
- Generator excitation and cooling systems, types and characteristics types and characteristics
- Enterprise recording procedures
- Supervisory control and data acquisition (SCADA) systems
- Supervisory, alarm, protection and control equipment
- Principles of generator and system stability
- System components and interactions
- Auxiliary supply systems
- High voltage (HV) systems

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Identify plant status
- Prepare plant/equipment for operation
- Organise resources
- Coordinate power generation
- Apply diagnostic and testing techniques
- Identify and respond to abnormal plant operating conditions
- Plan and prioritise work
- Use relevant hand tools
- Communicate effectively
- Apply data analysis techniques and tools
- Coordinate the operation of interacting systems
- Coordinate the operation of plant and equipment
- Maintain generator unit integrity
- Apply principles of electrical generation

UEPOPS051 Manage first response team

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Relevant state and territory first response regulations
- Interpersonal skills techniques
- Performance management techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Meeting leadership techniques
- Enterprise/site emergency procedures and techniques
- Plant status
- Site communications systems
- First aid
- Appropriate warning signs
- Equipment appropriate for the task
- Operation and maintenance of emergency response equipment

- Operation of emergency stations
- Roles of the first response team and its members
- Classifications of fires and emergencies
- Roles and responsibilities of emergency services
- Firefighting and rescue principles and techniques
- Communication principles
- Safety data sheets (SDS) and emergency services

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply state and territory regulations
- Apply enterprise/site emergency procedures and techniques
- Locate plant and equipment
- Prepare emergency plant/equipment for operation
- Communicate effectively
- Plan and prioritise work
- Identify and operate appropriate emergency communications equipment

UEPOPS050 Manage environmental management systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment and its location and operating parameters
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Project management techniques
- Project planning techniques
- Leadership techniques
- Relevant environmental statutory requirements (acts, legislation, regulations) and codes of practice
- Environmental awareness and impact
- Environmental planning/management
- Sources of pollution
- Pollution minimisation
- Resource usage
- Engineering practices

- Communication principles
- Strategic planning
- Risk management techniques
- Enterprise environmental strategies
- Responding to environmental issues

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply statutory requirements and codes of practice
- Recognise potential environmental issues
- Carry out environmental planning/strategy development
- Carry out risk management
- Research environmental reports
- Develop environmental strategies
- Identify sources of pollution
- Apply pollution minimisation procedures
- Manage resources
- Monitor environmental procedures/requirements
- Recommend strategy change
- Communicate effectively
- Apply data analysis techniques and tools

UEPOPS054 Manage operational strategies for power production

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Interpret plant drawings and manufacturers' manuals
- Apply relevant state and territory regulations
- Apply relevant statutory legislation
- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS008 Operate and monitor control room site in a multi-function environment

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location, and operating parameters
- Relevant state and territory regulations
- Enterprise procedures
- Computers and software
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Apply enterprise/site emergency procedures and techniques

- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS146 Operate and monitor hydro plant systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location, and operating parameters
- Relevant state and territory regulations
- Enterprise procedures
- Computers and software
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques

- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS148 Co-ordinate grid operations control centre

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location, and operating parameters
- Relevant state and territory regulations
- Enterprise procedures
- Computers and software
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS150 Operate and monitor multiple facilities from a single control room

- T1:
- Relevant environmental and WHS legislation and regulations
 - Enterprise procedures
 - Plant drawings and manufacturers' manuals
 - Introduction to and typical arrangements of power production plant

- Relevant plant and equipment, its location, and operating parameters
- Relevant state and territory regulations
- Enterprise procedures
- Computers and software
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques
- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques
- Apply risk management principles
- Apply data analysis techniques and tools

UEPOPS152 Operate renewable wind, solar and hydro systems

T1:

- Relevant environmental and WHS legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers' manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location, and operating parameters
- Relevant state and territory regulations
- Enterprise procedures
- Computers and software
- Operational strategies principles
- Interpersonal skills techniques
- Stakeholder management techniques
- Time-management techniques

- Leadership techniques
- Liaising with contractors and clients
- Data collection and analysing techniques
- Plant status
- Enterprise recording procedures
- Measurement and analysis systems and procedures
- Risk management principles

T2:

- Apply enterprise/site emergency procedures and techniques
- Apply enterprise recording procedures
- Identify plant status
- Apply problem solving
- Plan and prioritise work
- Communicate effectively
- Apply stakeholder management techniques
- Apply time-management techniques
- Apply leadership techniques
- Apply risk management principles
- Apply data analysis techniques and tools

ATTACHMENT G: COMPANION VOLUME IMPLEMENTATION GUIDE

Quality Assurance Process

A CVIG is initiated in accordance with the requirements of the National Skills Standard Council (NSSC) Standards for Training Packages.

The steps in the Quality Assurance (QA) process as they apply to the CVIG are:

The CVIG is developed by Australian Industry Standards (AIS) in accordance with Standards 11 and 12 (NSSC Standards for Training Packages):

- **Standard 11:** A quality assured Companion Volume Implementation Guide (CVIG) produced by the Training Package developer is available at the time of endorsement and complies with the Companion Volume Implementation Guide template
 - **Standard 12:** Training Package developers produce other quality assured companion volumes to meet the needs of their stakeholders as required
1. Content is validated and amended as part of the validation stage in the implementation of the Standards.
 2. The CVIG is submitted for external QA with Training Package changes to ensure it is available at the time of endorsement.
 3. As the implementation of the Standards continues for the Training Package, the CVIG is reviewed by AIS to ensure mapping tables are updated and any additional information is added, as required. Proposed changes are subject to industry validation as part of the Endorsement process.
 4. Where changes are made to a Training Package and if minor amendments are required for the CVIG, AIS will include the amendments as part of the validation phase and incorporate the reference in the Modification History at the front of the CVIG.

ATTACHMENT H: COMPANION VOLUME IMPLEMENTATION GUIDE TEMPLATE

COMPANION VOLUME IMPLEMENTATION GUIDE FOR UEP - Electricity Supply Industry - Generation Sector

Mandatory field

OVERVIEW INFORMATION

Mandatory field

- Version control and Modification History.
- List of AQF qualifications, Skill Sets and Units of Competency in the Training Package.
- Unit mapping information, including equivalence table linking old to new Units of Competency.
- Qualification mapping information, including equivalence table linking old to new qualification.
- List of imported and prerequisite units in the Training Package.
- Key work and training requirements in the industry.
- Regulation and licensing implications for implementation.

IMPLEMENTATION INFORMATION

Mandatory field

- Information on the key features of the Training Package and the industry that will impact on the selection of training pathways.
- Industry sectors and occupational outcomes of qualifications.
- Explanation of any mandatory entry requirements for qualifications.
- Pathways advice, particularly in line with requirements of the AQF Pathways Policy.
- Access and equity considerations.
- Foundation Skills.
- Advice on any health and safety implications in the industry.
- Resource and equipment lists relevant to the Training Package.
- Legal considerations for learners in the workplace/on placements.
- Other information relevant to implementation of the Training Package.

LINKS

Optional field

- Resources supporting the companion volume implementation guide.
- Other companion volumes as required including:
 - Learning strategies guidance, describing the diversity of learners and learning strategies.
 - Knowledge guidance, identifying contextual information such as knowledge requirements and resources.

	○ Assessment strategies, providing guidance on implementation of assessment requirements. • Training Package developer's quality assurance process for companion volumes.
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