



Australian Government

UEP12 Electricity Supply Industry - Generation Sector Training Package

Release: 2.1

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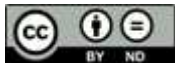
Modification History

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UEP12 Electricity Supply Industry - Generation Sector Training Package Version 1

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Electricity Supply Industry - Generation Sector Industry Training Package (UEP12)

Version modification history

The version details of this endorsed Training Package are in the table below. The latest information is at the top of the table.

Version	Release Date	Authorisation	Comments
UEP12 Version 2.1	06 September 2013	ISC Upgrade	The following qualifications were edited/updated: UEP20112; UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP40512; UEP50112; UEP50312; UEP50412. The following qualifications had metadata updated: UEP40612; UEP50212

			<p>The following units were edited/amended:</p> <p>UEPOPS340B; UEPOPS357B; UEPOPS442B; UEPOPS501B; UEPOPS525B.</p> <p>The following Skill Sets were added:</p> <p>UEPSS00003 – High Voltage Operation – H.V. Switching; UEPSS00004 – High Voltage Operation – Development and co-ordination of H.V. switching programs</p>
UEP12 Version 2		NSSC Endorsement	<p>New Qualification:</p> <p>UEP40612</p> <p>New Units</p> <p>UEPMNT201A; UEPMNT202A; UEPMNT369A; UEPMNT370A; UEPMNT371A; UEPMNT442A; UEPMNT443A; UEPMNT444A; UEPMNT445A; UEPMNT446A; UEPMNT447A; UEPMNT448A; UEPMNT449A; UEPMNT450A.</p> <p>The following qualifications were edited/updated:</p> <p>UEP20112; UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP50112; UEP50212; UEP50312; UEP50412.</p> <p>The following imported unit was updated:</p> <p>BSBWHS501A, CPCCCM2007B</p> <p>The following imported unit was updated to the latest release:</p> <p>LGAWORK404A</p> <p>Editorial amendments:</p> <p>Updated unit title:</p> <p>RIIMPO318B; TAEDEL301A.</p> <p>Corrected unit code:</p> <p>MEM05024B Perform welding</p>

			supervision.
UEP12 Version 1	26 June 2012		<p>The following qualifications were added:</p> <p>UEP20112; UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP40512; UEP50112; UEP50212; UEP50312; UEP50412</p> <p>The following qualifications were deleted:</p> <p>UEP30106; UEP30206; UEP40106; UEP40206; UEP40306; UEP40406; UEP40506; UEP50106; UEP50206; UEP50306; UEP50406</p> <p>The following new units were added:</p> <p>UEPOPS251A; UEPOPS252A; UEPOPS358A; UEPOPS359A; UEPOPS360A; UEPOPS361A; UEPOPS362A; UEPOPS364A; UEPOPS368A; UEPOPS369A; UEPOPS370A; UEPOPS371A; UEPOPS443A; UEPOPS444A; UEPOPS445A; UEPOPS446A; UEPOPS447A; UEPOPS450A; UEPOPS451A; UEPOPS452A; UEPOPS454A; UEPOPS456A; UEPOPS457A; UEPOPS520A; UEPOPS523A; UEPOPS524A; UEPOPS525A; UEPOPS526A; UEPOPS527A; UEPOPS528A; UEPOPS529A; UEPMNT361A; UEPMNT362A; UEPMNT366A; UEPMNT367A; UEPMNT368A; UEPMNT434A; UEPMNT435A; UEPMNT436A; UEPMNT440A; UEPMNT441A; UEPOPL001A; UEPOPL002A</p> <p>The following units were removed:</p> <p>UEPOPS201A; UEPOPS208A; UEPOPS212A; UEPOPS213A; UEPOPS214A; UEPOPS215A; UEPOPS216A; UEPOPS217A; UEPOPS218A; UEPOPS219A; UEPOPS220A; UEPOPS221A; UEPOPS222A; UEPOPS223A;</p>

		<p> UEPOPS224A; UEPOPS225A; UEPOPS226A; UEPOPS227A; UEPOPS228A; UEPOPS229A; UEPOPS230A; UEPOPS231A; UEPOPS233A; UEPOPS234A; UEPOPS235A; UEPOPS236A; UEPOPS239A; UEPOPS250A; UEPOPS302A; UEPOPS303A; UEPOPS341A; UEPOPS348A; UEPOPS350A; UEPOPS353A; UEPMNT301A; UEPMNT306A; UEPMNT316A; UEPMNT321A; UEPMNT322A; UEPMNT323A; UEPMNT324A; UEPMNT325A; UEPMNT326A; UEPMNT327A; UEPMNT328A; UEPMNT329A; UEPMNT330A; UEPMNT331A; UEPMNT332A; UEPMNT333A; UEPMNT334A; UEPMNT335A; UEPMNT336A; UEPMNT337A; UEPMNT338A; UEPMNT341A; UEPMNT342A; UEPMNT343A; UEPMNT344A; UEPMNT349A; UEPMNT353A; UEPMNT354A; UEPMNT360A; UEPOPS415A; UEPOPS401A; UEPOPS418A; UEPOPS421A; UEPOPS427A; UEPOPS429A; UEPOPS436A; UEPOPS438A; UEPMNT405A; UEPMNT409A; UEPMNT418A; UEPMNT420A; UEPMNT423A; UEPOPS503A; UEPOPS504A; UEPOPS506A </p> <p>The following units were amended including editorial changes (see below)</p> <p> UEPOPS202B; UEPOPS203B; UEPOPS204B; UEPOPS205B; UEPOPS206B; UEPOPS207B; UEPOPS209B; UEPOPS210B; UEPOPS211B; UEPOPS232B; UEPOPS237B; UEPOPS238B; UEPOPS240B; UEPOPS241B; UEPOPS242B; UEPOPS243B; UEPOPS244B; UEPOPS245B; UEPOPS246B; UEPOPS247B; UEPOPS248B; UEPOPS249B; UEPOPS301B; UEPOPS304B; </p>
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			<p>UEPMNT303B; UEPMNT304B; UEPMNT305B; UEPMNT307B; UEPMNT308B; UEPMNT309B; UEPMNT310B; UEPMNT311B; UEPMNT312B; UEPMNT313B; UEPMNT314B; UEPMNT315B; UEPMNT317B; UEPMNT318B; UEPMNT319B; UEPMNT320B; UEPMNT339B; UEPMNT340B; UEPMNT345B; UEPMNT346B; UEPMNT347B; UEPMNT348B; UEPMNT350B; UEPMNT351B; UEPMNT352B; UEPMNT355B; UEPMNT356B; UEPMNT357B; UEPMNT358B; UEPMNT359B; UEPMNT401B; UEPMNT402B; UEPMNT403B; UEPMNT404B; UEPMNT406B; UEPMNT407B; UEPMNT408B; UEPMNT410B; UEPMNT411B; UEPMNT412B; UEPMNT413B; UEPMNT414B; UEPMNT415B; UEPMNT416B; UEPMNT417B; UEPMNT419B; UEPMNT421B; UEPMNT422B; UEPMNT424B; UEPMNT425B; UEPMNT426B; UEPMNT427B; UEPMNT428B; UEPMNT429B; UEPMNT430B; UEPMNT431B; UEPMNT432B; UEPMNT433B; UEPMNT501B; UEPMNT502B; UEPMNT503B; UEPMNT504B</p> <p>Relevant EKAS Clauses have been included in all Units as required for upload to Training.gov.au</p> <p>The following imported units were added to UEP12 Version 1:</p> <p>BSBFLM312C; BSBWOR402A; CPCCCM2007A; CPCCLDG3001A; CPCCLHS3001A; CPCCLHS3002A; CPCCLRG3001A; CPCCLRG3002A; CPCCLRG4001A; CPCCLSF2001A; CPCCLSF3001A; CPCCLSF4001A; LGAWORK404A; MEM05005B; MEM05011D; MEM05015D; MEM05016C; MEM05017D; MEM05018C; MEM05019D; MEM05020C; MEM05022C;</p>
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			<p>MEM05024B; MEM05025C; MEM05026C; MEM05036C; MEM05042B; MEM05043B; MEM05044B; MEM05045B; MEM05046B; MEM05047B; MEM05048B; MEM05049B; MEM05050B; MEM05051A; MEM05052A; MEM07006C; MEM07007C; MEM07008D; MEM07011B; MEM07012B; MEM07021B; MEM09002B; MEM09003B; MEM09004B; MEM09005B; MEM09006B; MEM12003B; MEM12007D; MEM12023A; MEM12024A; MEM18001C; MEM18002B; MEM18003C; MEM18006C; MEM18007B; MEM18009B; MEM18010C; MEM18018C; MEM18019B; MEM18020B; MEM18021B; MEM18022B; MEM18055B; NWP318A; NWP319A; NWP320B; RIIHAN309A; RIIMPO304B; RIIMPO308A; RIIMPO309A; RIIMPO318B; RIIMPO319A; TAEDEL301A; TLILIC0012A; TLILIC2005A; TLILIC3006A; UEENEEC001B; UEENEEC005B; UEENEEC010B; UEENEEED101A; UEENEEED104A; UEENEEEEE101A; UEENEEEEE102A; UEENEEEEE104A; UEENEEEEE105A; UEENEEEEE107A; UEENEEEEE117A; UEENEEEEE124A; UEENEEEEE137A; UEENEEEF102A; UEENEEEF105A; UEENEEEG006A; UEENEEEG033A; UEENEEEG063A; UEENEEEG101A; UEENEEEG102A; UEENEEEG106A; UEENEEEG108A; UEENEEEG109A; UEENEEI101A; UEENEEI107A; UEENEEI108A;</p> <p>The following imported units were removed from UEP12 Version 1:</p> <p>BSBADM304A; BSBADM305A; BSBCMN108A; BSBCMN203A; BSBCMN209A; BSBCMN213A; BSBCMN310A; BSBCMN311A;</p>
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			<p>BSBCMN404A; BSBCMN411A ; BSBFLM302A; BSBFLM304A; BSBFLM402A; BSBFLM404A; BSBFLM502A; BSBFLM504A;</p> <p>The following Imported Units have been updated to current versions:</p> <p>BSBCUS401B; BSBCUS501C; BSBFLM303C ; BSBFLM305C; BSBFLM306C; BSBFLM309C; BSBFLM311C; BSBINM401A; BSBINM501A; BSBINN301A; BSBINN502A; BSBLED401A; BSBLED501A; BSBMGT402A; BSBMGT403A; BSBMGT502B; BSBMGT515A; BSBMGT516C; BSBOHS509A; BSBWOR301A; BSBWOR401A; BSBWOR404B; BSBWOR501A; BSBWOR502B; TLILIC2001A;</p> <p>Editorial changes to Endorsed Units.</p> <p>Removal of spaces in any of the unit or qualification codes.</p> <p>Replace 'Version No in all footers across the whole Training Package.</p> <p>For all Units:</p> <p>Change all Unit suffixes for version 1 units from 'A' to 'B'</p> <p>Add '1.1 Descriptor' as a new title</p> <p>Move '3.1 License to practise' to position 1.2</p> <p>Move the sub-heading '2.1 Competencies' from the left hand column to the right hand column</p> <p>Move the sub-heading '2.2 Literacy and Numeracy skills' from the left hand column to the right hand column</p> <p>Include '3) Employability Skills' and text therein as a whole new section</p> <p>Revise the numbering of all subsequent sections to accommodate the inclusion of the Employability Skills section at 3)</p> <p>Include "All knowledge and skills</p>
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			<p>detailed in this unit should be contextualised to current industry practices and technologies" as a new paragraph in '7) Required Skills and Knowledge'</p> <p>Change all references to sections within a unit to reflect the correct section (may require change as a result of the inclusion of the Employability Skills section at 3).</p> <p>Completely remove the 'Key Competencies' and 'Skills Enabling Employment' sections.</p>
UEP06 Version 1.1.	8/10/10	ISC Upgrade Authorised by NQC to meet Packaging Rule requirements and the inclusion of Sustainability Skills in qualifications.	<p>Modification of the following qualifications to comply with NQC Packaging Rules.</p> <p>UEP20110 Certificate II in ESI Generation (Operations Support)</p> <p>Imported Units identified by industry added:</p> <p>MEM07005C Perform general machining</p> <p>MEM05012C Perform routine manual metal arc welding</p> <p>MEM05007C Perform manual heating and thermal cutting</p> <p>MEM05004C Perform routine oxy acetylene welding</p> <p>TLILIC108ALicence to operate a forklift truck</p>
UEP06 Version 1	22 Nov 2006	NQC	Primary Release of Revised Training Package replacing UTP98

Preliminary Information

Preliminary Information

The Electricity Supply Industry - Generation Sector

The Generation sector of the industry produces electricity for use in industry, business and private homes. The industry is supported primarily by large, state-owned or privatised power stations.

The Electricity Generation Sector encompasses all activities from the point of supply/acceptance of energy resources and consumables to the point of exit of electrical energy and by-products of the generation processes.

Within these boundaries it includes all operations, maintenance, systems support, scientific, engineering and design support, management, marketing and administration functions required to establish and meet business objectives.

The Generation Industry is primarily one of manufacturing and process control, insomuch as the Generation plant produces electricity and the plant operations are controlled through some form of computerised and communication technology systems where the operator need not necessarily interface with the technical functions of the plant. People working in the sector may be involved in a wide range of tasks, including the following:

- Operation of the plant from the control room
- Local operation of plant systems
- Management and coordination of unit or station operations
- Mechanical maintenance
- Electrical maintenance
- Electronic/Instrumentation maintenance
- Installation of new plant.

The Electricity Generation Sector rapidly diversifying and the sector has been characterised by a sustained period of privatisation of many State owned energy corporations and enterprises. Outsourcing of many functions and activities required for the production of electricity is prevalent. As a consequence of this restructuring, employment in the industry has been significantly reduced and the shift to contractors has seen organisations utilise the skills of tradespersons from industry sectors other than Generation to meet construction and maintenance requirements.

Even though the industry has undergone rapid and significant changes in work methods, staffing levels, management approaches and the sub-contracting of many work functions to external contractors, it still maintains a strong commitment to training and safety and it is now embracing the spirit of the National Training Reform Agenda.

The main activities of the industry are the operation and maintenance, diagnosis and repair of electricity production plant and equipment in relation to:

- large coal or gas fired steam generation plant
- smaller gas fired steam turbine cogeneration plant
- diesel fired internal combustion engine driven generation plant
- hydro generation plant
- wind driven generation plant.
- emerging renewable energy technologies

Industry coverage

The formal industry coverage for the Electricity Supply Industry is under ANZSIC Code 3610 in which the sector is defined as consisting of plant and equipment mainly engaged in the generation, transmission or distribution of electricity.

Generation encompasses all activities from the point of supply/acceptance of energy resources and consumables to the point of exit of electrical energy and by-products of the generation processes. Within these boundaries it includes all operations, maintenance, systems support, scientific, engineering and design support, management, marketing and administration functions required to establish and meet business objectives.

Technological innovation and the range of work activities within the vocations involved in Electricity Supply Industry – Generation Sector systems provide excellent career opportunities. There are three specific areas that provide individuals with the opportunity to enter a career in the Generation sector and gain nationally recognized qualifications.

Operations

'Operations' is a generic term used to describe employees who undertaking a wide range of functions within an electricity generation power station. Those who work in Operations ensure the electricity generation plant is functioning to optimum capacity. Individuals may be specific plant operators or multi-purpose operators. Operators also undertake some maintenance functions within the power station.

System Operations

System Operations refers to those occupations that control the production of electricity to meet consumer demand. They require the individual to have an excellent understanding of the operations and technical capabilities of the generation plant.

Maintenance

Entry to a maintenance career path within the Generation Sector will require the individual to have completed a recognised trade qualification through the Electrotechnology or Metals and Engineering Training Packages or equivalent before embarking on further training in the maintenance requirements of electricity generation plant and equipment.

Regulatory arrangements

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, commission, operate, program, test or repair of; steam generation systems, plant and equipment; networks; systems; circuits; equipment; components; appliances; facilities and the like in the field of electricity. 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 covering the industrial environment in which they operate.

Where possible, relevant and current regulatory requirements have been incorporated into this Training Package to assure outcomes are complementary to regulation. Where regulatory requirements are amended or introduced such outcomes are to be incorporated in training and assessment delivery. Continuous improvement and maintenance arrangements included in this Training Package will endeavour to maintain pace with changes.

Statutes, regulations and codes of practice

Federal, State and Territory Gas, Electricity, Telecommunications, Anti discrimination, Occupational Health and Safety and Work Cover Acts and Regulations typically cover the Industry. Additionally, there are many Australian/New Zealand and International Standards, codes of practices and regulations that apply and to which observance is essential for assuring life, property and commerce. Thus, relevant legislative, regulatory codes of practice, guidelines and advisory standard requirements form an integral part of the obligatory requirements in the vocational standards found in this Training Package.

Other Industry Standards

It is recognised that the ESI - Generation Industry Standards do not cover all the competencies which are likely to be required and applied within ESI - Generation Industry workplaces. Nationally endorsed competency standards from other industries will be used where appropriate and the concept of cross-industry disciplinary standards will be encouraged. Specific rules have been included within this Training Package to address these arrangements.

Overview

What is a Training Package?

A Training Package is an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework (AQF) qualifications for a specific industry, industry sector or enterprise.

Each Training Package:

- provides a consistent and reliable set of components for training, recognising and assessing peoples skills, and may also have optional support materials

- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

The National Skills Framework applies nationally, is endorsed by the Ministerial Council for Vocational and Technical Education, and comprises the Australian Quality Training Framework 2010 (AQTF 2010), and Training Packages endorsed by the National Quality Council (NQC).

How are Training Packages developed?

Training Packages are developed by Industry Skills Councils or enterprises to meet the identified training needs of specific industries or industry sectors. To gain national endorsement of Training Packages, developers must provide evidence of extensive research, consultation and support within the industry area or enterprise.

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace without prescribing how people should be trained.

Training Packages acknowledge that people can achieve vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification, without completing a formal training program.

With Training Packages, assessment and training may be conducted at the workplace, off-the-job, at a training organisation, during regular work, or through work experience, work placement, work simulation or any combination of these.

Who can deliver and assess using Training Packages?

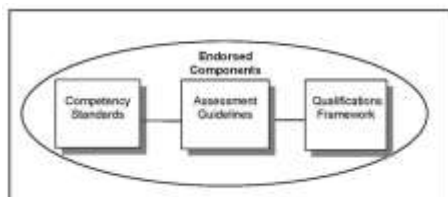
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2010.

Training Package Components

Training Packages are made up of mandatory components endorsed by the NQC, and optional support materials.

Training Package Endorsed Components

The nationally endorsed components include the Competency Standards, Assessment Guidelines and Qualifications Framework. These form the basis of training and assessment in the Training Package and, as such, they must be used.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes.

Assessment Guidelines

The Assessment Guidelines provide an industry framework to ensure all assessments meet industry needs and nationally agreed standards as expressed in the Training Package and the AQTF 2010. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

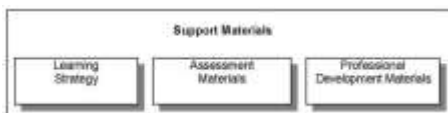
Qualifications Framework

Each Training Package provides details of those 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 in the Training Package are referred to as the ‘packaging rules’. The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

Training Package Support Materials

The endorsed components of Training Packages are complemented and supported by optional support materials that provide for choice in the design of training and assessment to meet the needs of industry and learners.

Training Package support materials can relate to single or multiple units of competency, an industry sector, a qualification or the whole Training Package. They tend to fall into one or more of the categories illustrated below.



Training Package support materials are produced by a range of stakeholders such as RTOs, individual trainers and assessors, private and commercial developers and Government agencies.

Training Package, Qualification and Unit of Competency Codes

There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, **and with the code always before the title.**

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example XYZ08. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example XYZ10108. Qualification codes are developed as follows:

- the first three letters identify the Training Package;
- the first number identifies the qualification level (noting that, in the qualification titles themselves, arabic numbers are **not** used);
- the next two numbers identify the position in the sequence of the qualification at that level; and
- the last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications as they identify the year in which those particular qualifications were endorsed.)

Unit of Competency Codes

Within each Training Package, each unit of competency has a unique code. Unit of competency codes are assigned when the Training Package is endorsed, or when new units of competency are added to an existing endorsed Training Package. Unit codes are developed as follows:

- a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in UEPOPS232B
- the first three characters signify the Training Package – UEPOPS232B Transport plant and equipment – in the above example and up to eight characters, relating to an industry sector, function or skill area, follow;
- the last character is always a letter and identifies the unit of competency version. An ‘A’ at the end of the code indicates that this is the original unit of competency. ‘B’, or another incremented version identifier means that minor changes have been made. Typically this would mean that wording has changed in the range statement or evidence guide, providing clearer intent; and
- where changes are made that alter the outcome, a new code is assigned and the title is changed.

Training Package, Qualification and Unit of Competency Titles

There are agreed conventions for titling Training Packages and their components. Always use the correct titles, exactly as they appear in the Training Package, and with the code always placed before the title.

Training Package Titles

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

Qualification Titles

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, Vocational Graduate Certificate, or Vocational Graduate Diploma;
- this is followed by the words 'in' for Certificates I to IV, and 'of' for Diploma, Advanced Diploma, Vocational Graduate Certificate and Vocational Graduate Diploma;
- then, the industry descriptor, for example Telecommunications; and
- then, if applicable, the occupational or functional stream in brackets, for example (Computer Systems).

For example:UEP20112 Certificate II in ESI Generation (Operations Support)

Unit of Competency Titles

Each unit of competency title is unique. Unit of competency titles describe the competency outcome concisely, and are written in sentence case.

For example:UEPOPS232B Transport plant and equipment

Introduction to the UEP12 Electricity Supply Industry - Generation Sector Training Package

See 'The Electricity Supply Industry - Generation Sector Training Package' section

The Electricity Supply Industry - Generation Sector Training Package

The Electricity Supply Industry - Generation Sector Training Package

The Training Package for the Electricity Supply Industry – Generation Sector Industry (UEP12) has been developed on behalf of the EnergyUtilities Industry and community stakeholders from all States/Territories of Australia by EE-Oz Training Standards, with the support of the Department of Innovation, Industry, Science and Research and Tertiary Education (DIISRTE). EE-Oz Training Standards operates under a charter from DIISRTE as the declared National Industry Skills Council for the ElectroComms and EnergyUtilities Industry. EnergyUtilities, Industry practitioners, regulators, government agencies and community stakeholders contributed much effort, support and knowledge in its development.

The first Training Package for this industry was released in 1998, as the Training Package for the Generation Industry (UTP98). At that time it broke new ground for setting nationally recognised qualifications comprised of Competency Standard Units as they related to work performance. It assisted in benchmarking the design of training and assessment processes and practices. Since its initial release, it has undergone one version change. The change incorporated the Advanced Diploma qualification as well as other minor amendments.

In its revised form, the ESI – Generation Sector Training Package has gone even further in improving currency, flexibility and relevance to industry by enhancing the range of qualifications and Competency Standard Units available. It includes an array of new and revised Competency Standard Units, pathways and design features. The previous Units have been revamped, reorganised and updated to include 225 current Generation Industry Competency Standards Units, across AQF four levels. The result is a Training Package that is more relevant to the industry and that readily responds to the needs and responsibilities of the future, both in technology and work organisation.

New skilled career pathways have also been developed that suit employment-based new entrants, as well as the existing workforce or those with pre-existing skill sets.

The Training Package can be used by all those involved in the delivery and assessment of competencies that cover Generation Operations; Maintenance; Wind Generator Plants; Control Centres; Solar Generator Plants; SCADA and Systems Operations.

Users of this Industry Training Package include:

- large multi-energy utilities companies
- State Training and Recognition Authorities which will use the Training Package as the pre-eminent industry's advice to government; and as a statement of the minimum requirements to be satisfied by Registered Training Organisations in the delivery of services.
- State/Territory Industry Training Bodies/Industry Skills Councils which will use the Training Package to underpin their relationship with, and support for, the State training and recognition authorities quality systems, including providing advice
- Registered Training Organisations which will issue qualifications and or statements of attainment, based on the requirements outlined in the Training Package which contains the vocational standards for industry
- Individual candidates/trainees/learners who will use the provisions of the Training Package to establish their responsibilities and to protect their prerogatives
- Organisations in mapping their human resource processes and arrangements to the National benchmark Competency Standard Units in this Training Package.

Summary of AQF qualifications in the UEP12 Version 1 Training Package

Table 1 AQF qualifications in this Training Package

AQF	Qualification Code	Qualification Title
2	UEP20112	Certificate II in ESI Generation (Operations Support)
3	UEP30112	Certificate III in ESI Generation (Systems Operations)

AQF	Qualification Code	Qualification Title
3	UEP30212	Certificate III in ESI Generation (Operations)
4	UEP40112	Certificate IV in ESI Generation (Systems Operations)
4	UEP40212	Certificate IV in ESI Generation (Operations)
4	UEP40312	Certificate IV in ESI Generation Maintenance (Mechanical)
4	UEP40412	Certificate IV in ESI Generation Maintenance (Fabrication)
4	UEP40512	Certificate IV in ESI Generation Maintenance (Electrical/Electronic)
4	UEP40612	Certificate IV in Large Scale Wind Generation - Electrical
5	UEP50112	Diploma of ESI Generation (Systems Operations)
5	UEP50212	Diploma of ESI Generation (Operations)
5	UEP50312	Diploma of ESI Generation (Maintenance)
5	UEP50412	Diploma of ESI Generation (Electrical/Electronic)

Table 2 — Qualifications Mapping of this Training Package UEP12 -Version 2 to the former Training Package UEP12 -Version 1

AQF Code	Certificate IV Qualifications (UEP12 V2)	Certificate IV Qualifications (UEP12 – V1)	E = Equivalent N = Not Equivalent
UEP40512	Certificate IV in Large Scale Wind Generation - Electrical	New Qualification	N

Table 3 — Qualifications Mapping of this Training Package UEP12 -Version 1 to the former Training Package UEP06-Version 1.1

AQF Code	Certificate II Qualifications (UEP12 V1)	Certificate II Qualifications (UEP06 – V1.1)	E = Equivalent N = Not Equivalent
UEP20112	CII in ESI Generation (Operations Support)	UEP20110 CII in ESI Generation (Operations Support)	E

AQF Code	Certificate III Qualifications (UEP12 V1)	Certificate III Qualifications (UEP06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEP30106 CIII in ESI Generation (Systems Operations)	N
	Deleted	UEP30206 CIII in ESI Generation (Operations)	N
UEP30112	CIII in ESI Generation (Systems Operations)	New Qualification	N
UEP30212	CIII in ESI Generation (Operations)	New Qualification	N

AQF Code	Certificate IV Qualifications (UEP12 V1)	Certificate IV Qualifications (UEP06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEP40106 CIV in ESI Generation (Systems Operations)	N
	Deleted	UEP40206 CIV in ESI Generation (Operations)	N
	Deleted	UEP40306 CIV in ESI Generation Maintenance (Mechanical)	N
	Deleted	UEP40406 CIV in ESI Generation Maintenance (Fabrication)	N
	Deleted	UEP40506 CIV in ESI Generation Maintenance (Electrical/Electronics)	N
UEP40112	CIV in ESI Generation (Systems Operations)	New Qualification	N
UEP40212	CIV in ESI Generation (Operations)	New Qualification	N
UEP40312	CIV in ESI Generation Maintenance (Mechanical)	New Qualification	N
UEP40412	CIV in ESI Generation Maintenance (Fabrication)	New Qualification	N
UEP40512	CIV in ESI Generation Maintenance (Electrical/Electronics)	New Qualification	N

AQF Code	Diploma Qualifications (UEP12 V1)	Diploma Qualifications (UEP06 – V1.1)	E = Equivalent N = Not Equivalent
	Deleted	UEP50106 Diploma of ESI Generation (Systems Operations)	N
	Deleted	UEP50206 Diploma of ESI Generation (Operations)	N
	Deleted	UEP50306 Diploma of ESI Generation (Maintenance)	N
	Deleted	UEP50406 Diploma of ESI Generation Electrical/Electronic)	N
UEP50112	Diploma of ESI Generation (Systems Operations)	New Qualification	N
UEP50212	Diploma of ESI Generation (Operations)	New Qualification	N
UEP50312	Diploma of ESI Generation (Maintenance)	New Qualification	N
UEP50412	Diploma of ESI Generation Electrical/Electronic)	New Qualification	N

Table 4 — Qualifications Mapping of UEP06 Version 1.1 to the previous Version UEP06 version 1

Detailed below is a summary qualifications mapping of the former ESI - Generation Industry Training Package (UTG98) to the new ESI - Generation Sector Training Package. Note only Qualifications which have been revised are included.

UEP06 Version 1.1 Qualifications	Nature of Relationship to UEP06 Version 1.0	Equivalent -full, part, or no
UEP20110 Certificate II in ESI Generation (Operations Support)	Update on the previous UEP20106 Certificate II in ESI Generation (Operations Support) New structure to comply with NQC Policy	E

Table 5 - Detailed below is a summary qualifications mapping of the former ESI - Generation Industry Training Package UTP98 and UEP06 -Version 1 to this ESI - Generation Sector Training Package.

UEP06 Qualifications	Nature of Relationship to UTP98	Equivalent -full, part, or no
UEP20106 Certificate II in ESI Generation (Operations Support)	Update on the previous Certificate II in ESI – Generation (Operations) UTP20198 New structure and a range of new units of competency available.	None
UEP30106 Certificate III in ESI Generation (Systems Operations)	New Qualification New structure and a range of new units of competency available.	None
UEP30206 Certificate III in ESI Generation (Operations)	Update on the previous Certificate III in ESI – Generation UTP30298 New structure and a range of new units of competency available.	None
UEP40106 Certificate IV in ESI Generation (Systems Operations)	Update on the previous Certificate IV in ESI – Generation (System Operations) UTP40398 New structure and a range of new units of competency available.	None
UEP40206 Certificate IV in ESI Generation (Operations)	Update on the previous Certificate IV in ESI – Generation (Operations) UTP40298 New structure and a range of new units of competency available.	None
UEP40306 Certificate IV in ESI Generation Maintenance (Mechanical)	Update on the previous Certificate IV in ESI – Generation (Mechanical) UTP40398 New structure and a range of new units of competency available.	None
UEP40406 Certificate IV in ESI Generation Maintenance (Fabrication)	New Qualification New structure and a range of new units of competency available.	None
UEP40506 Certificate IV in ESI Generation Maintenance (Electrical/Electronic)	Update on the previous Certificate IV in ESI – Generation (Electrical/Electronic) UTP40198 New structure and a range of new units of competency available.	None
UEP50106	New Qualification	None

UEP06 Qualifications	Nature of Relationship to UTP98	Equivalent -full, part, or no
Diploma of ESI Generation (Systems Operations)	New structure and a range of new units of competency available.	
UEP50206 Diploma of ESI Generation (Operations)	Update on the previous Diploma of ESI – Generation (Operations) UTP50298 New structure and a range of new units of competency available.	None
UEP50306 Diploma of ESI Generation (Maintenance)	New Qualification New structure and a range of new units of competency available.	None
UEP50406 Diploma of ESI Generation (Electrical/Electronic)	Update on the previous Diploma of ESI – Generation (Electrical/Electronic) UTP50198 New structure and a range of new units of competency available.	None

Summary of Units of Competency in the UEP12 Version 1 Training Package

Table 6 – UEP12 ESI - Generation Sector Training Package - Competency Standard Units

UNIT DISCIPLINE	UNIT CODE	No. of CSUs
Power Generation Operations AQF 2	OPS2	24
Power Generation Operations AQF 3	OPS3	61
Power Generation Operations AQF 4	OPS4	45
Power Generation Operations AQF 5	OPS5	20
Power Generation Maintenance AQF 2	MNT2	2
Power Generation Maintenance AQF 3	MNT3	39
Power Generation Maintenance AQF 4	MNT4	42
Power Generation Maintenance AQF 5	MNT5	4
High Risk Licensing Units	OPL	2
Total CSUs		239

Full details of the Competency Standards Units in this Training Package including: Unit Code, Title, Weighting Points, AQF Level, Pre-requisites and Qualification Mapping, are contained in the Index of Competency Standard Units, in Part 1.2.09 Competency Standards Index of this Training Package.

A mapping Competency Standard Units including the relationship between units which have been amended, added or deleted from versions of Generation Sector Training Package and equivalences is included in Part 1.2.10 Competency Standards Index of this Training Package.

Table 7 - Imported Units of Competency in the UEP12 Training Package Version 1

Training Package	Training Package Title	Version	No. of Units
BSB07	Business Services Training Package	5	26
CPC08	Construction, Plumbing and Services Training Package	6.1	10
LGA04	Local Government Training Package	2.2	1
MEM05	Metal and Engineering Training Package	4	56
NWP07	Water Training Package	2	3
RII09	Resources and Infrastructure Industry Training Package	2	6
TAE10	Training and Education Training Package	1	1
TLI10	Transport and Logistics Training Package	1.1	4
UET12	ESI- Transmission Distribution and Rail	2	2
UEE11	Electrotechnology Training Package	1	48
Total Imported CSUs			157

Full details of the Imported Units in this Training Package including: Unit Code, Title, Weighting Points, AQF Level, Pre-requisites and Qualification Mapping, are contained in the Index of Competency Standard Units in Part 1.2.09 Competency Standards Index of this Training Package.

Please consult the source Training Package for information, including equivalences, in relation to new and updated imported units included in this version of the Generation Sector Training Package.

Language, Literacy, Numeracy

The Competency Standards have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements. A new and specific section related to literacy and numeracy skills has been included in the Competency Standard Units for the purposes of providing advice to RTOs on the entry requirements for each unit. It characterises how participants are to be best equipped to achieve the required, writing and numeracy skill levels.

A specific section for Literacy and Numeracy Skills and Employability Skills has been included in Part 2.3.1 of this Training Package. In addition, there is an explanation of their relationship to the Performance Criteria and their assessment in accordance with the critical aspects of evidence within each Competency Standard Unit.

Access, Equity and Cultural Diversity

The skills required of employees in the ESI - Generation Industry sector of the Energy Utilities Industry are comprehensive, with many employment opportunities available. The Competency Standards reflect the range of knowledge and skills and their application, required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented community groups and to minimise unintentional bias.

As a matter of policy in the ESI - Generation Industry and in this Training Package there is no exclusion of any persons from participating in competency development, training and employment. This includes encouraging under-represented groups such as indigenous peoples, people with disabilities, women, and people from rural and remote areas or cultural diversity to join the Industry.

Acknowledgments

The Board of Directors of the ElectroComms and Energy Utilities Industry Skills Council Ltd trading as EE-Oz Training Standards wishes to acknowledge the important developmental roles played by training advisory and delivery organisations, enterprises, employer and employee representatives, industry practitioners, regulatory authorities, individuals and community stakeholders. Without their level of commitment and support this Training Package would not exist in its current form. The Board acknowledges and thanks the following organisations and individuals:

- ESI - Generation Sector Training Package Training Advisory Group
- ESI - Generation Sector Training Package Review Technical Advisory Committees
- the Chairs, Executive Officers, and Members of the EE-Oz Training Standards State and Territory Network (ITABs) and their various sub-committees
- the State and Territory Training Authorities
- the State and Territory Regulatory Authorities
- industry sector RTOs and practitioners for contributing to and being supportive of the project
- industry sector practitioners for contributing to and being supportive of the project.
-

Outline of this Training Package

Outline of this Training Package

The endorsed components of the Training Package are contained in two volumes. Volume 1 covers the overall Package framework and completion requirements for qualifications, and Volume 2 the content details for respective parts and sub-sections of Volume 1. Both volumes form an integrated whole and are not to be used independently of each other.

Volume 1: Structure and Overview

Qualification Framework

This section describes how the qualifications, scope/descriptions, composition and content are structured. Completion and issuance requirements are provided as well as advice on flexibility arrangements, with entry and exit pathways and articulation arrangements. Titles and codes of the list of qualifications to be issued are also included.

Competency Standards

This section describes how the competency standards were developed (in broad terms), the industry coverage they apply to, as well as the format and construction of the individual Competency Standard Units. The index of Competency Standard Units and their scope/description is included in this part. Matters related to language, literacy and numeracy, access, equity and cultural diversity and regulatory arrangements, for which the Competency Standard Units may apply, is also included. The Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Training Package link directly to the Competency Standard Units and no Unit is to be used in isolation or exported without these interrelated components.

Part 3 – Assessment Guidelines

This section outlines how the assessment guidelines inform a Registered Training Organisation (RTO) on the infrastructure requirements they will need to enable them to carry out training delivery assessment activities related to the Training Package. The guidelines include assessment systems, the role of RTOs, assessment pathways, recognition arrangements, assessor qualifications and sources of information.

Volume 2: Competency Standard Units — Content and scope

Volume 2 contains the Competency Standard Units in their respective disciplines.

Volume 2 also contains the Essential Knowledge and Associated Skills, a Matrix mapping the essential knowledge and associated skills (EKAS) to the Unit and to the Definitions/Glossary section, which provides a description of relevant terms and vocabulary that appear in this Package. Also included are definitions relating to literacy and numeracy skills.

Note: The two volumes form an integrated whole and must not be used independently of each other.

Electricity Supply Industry – Generation Sector Training Package Layout

The revised Electricity Supply Industry – Generation Sector Training Package has been developed, reviewed and validated through extensive industry consultation. It reflects the views of a wide cross-section of the industry and its key stakeholders/practitioners throughout Australia.

The Training Package has been constructed as a two volume set. Volume 1 covers the overall package framework and completion requirements for qualifications. Volume 2 includes the content details of parts and sub-sections of Volume 1. The two volumes form an integrated whole and are not to be used independently of each other.

Volume 1

Preliminary Information

The Generation Industry

Overview of Training Packages

ESI – Generation Sector Training Package

Part 1 Qualifications Framework

Part 2 Competency Standards Overview and Index

Part 3 Assessment Guidelines

Appendix A — New Apprenticeships

Appendix B — Sample Assessment Instruments

Enclosures:

- Enclosure A: List of Sample Assessment Instruments
- Enclosure B: Administrative Forms
- Enclosure C: Glossary of Terms

Volume 2

Preliminary Information

Part 1 Definitions/Glossary

Part 2 Competency Standards

2.1 Competency Standard Units

2.1.1 Operations Units UEPOPS202B – UEPOPS252A

2.1.2 Operations Units UEPOPS301B – UEPOPS371A

2.1.3 Maintenance Units UEPMNT302B – UEPMNT368A

2.1.4 Operations Units UEPOPS402B – UEPOPS457A

2.1.5 Maintenance Units UEPMNT401B – UEPMNT441A

2.1.6 Operations Units UEPOPS501B – UEPOPS529A

2.1.7 Maintenance Units UEPMNT501B – UEPMNT504B

2.1.8 Imported Units

2.2 Essential Knowledge and Associated Skills

Part 3 Language, Literacy and Numeracy

Important Note to Users

Training Packages are not static documents. They are amended periodically to reflect the latest industry practices and are version controlled. It is essential that the latest version is always used.

Check the version number before commencing training or assessment

This Training Package is Version 1 – check whether this is the latest version by going to the Training Information Service (www.training.gov.au) and locating information about the Training Package. Alternatively, contact the Training Package developer and technical content custodian ElectroComms and EnergyUtilities Industry Skills Council Ltd, trading as EE-Oz Training Standards <http://www.eeoz.com.au/> to obtain relevant content advice and confirm the latest version number.

Explanation of version number conventions

The primary release Training Package is Version 1. When changes are made to a Training Package, sometimes the version number is changed and sometimes it is not, depending on the extent of the change. When a Training Package is reviewed, it is considered to be a new Training Package for the purposes of version control and is Version 1. Do not confuse the version number with the Training Package's national code (which remains the same during its period of endorsement).

Explanation of the review date

The review date (shown on the title page and in the footer of each page) indicates when the Training Package is expected to be reviewed to meet changes in technology and other circumstances. The review date is not an expiry date. Endorsed Training Packages and their components remain current until they are reviewed or replaced.

1.0.00 Qualification Framework

Volume 1 Part 1

Qualification Framework

1.1.00 The Australian Qualification Framework

1.0 The Australian Qualification Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the AQF Implementation Handbook.

http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

The 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 it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications:

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the AQF Implementation Handbook, the AQTF 2010 Essential Standards for Initial and Continuing Registration and VET Quality Framework (Standards and Requirements)".

Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current AQF Implementation Handbook the AQTF 2010 Essential Standards for Initial and Continuing Registration and VET Quality Framework (Standards and Requirements)".

Under the AQTF 2010 and VET Quality Framework (Standards and Requirements)", RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The AQF Implementation Handbook provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;

- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to Australian environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available. Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints. Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature. Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop Australian criteria and procedures for performing current practices and provision of some leadership and guidance to others

in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality

parameters

- take some responsibility for the achievement of group outcomes

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of Australian criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters

Regulatory Arrangements

Competency Standard Units, Skill Sets and Qualifications in this Training Package have been developed in consultation with the relevant industry technical and business Regulators 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 Qualifications, Units or Skill Sets contained within this Training Package for respective licensing, registration or accreditation purposes. In constructing these qualifications, EE-Oz Training Standards and respective Regulators have given consideration to the link between the issuance of the qualification and the respective regulatory requirements. It is expected that the assessment and preferred training regime which meets the competency outcomes of the qualification and assessment, will therefore meet the regulatory requirements.

In recognising this interrelationship, every effort has been made to ensure currency in regulatory requirements, thus RTOs must ensure they are observed. This includes utilising any recommended industry training program designed to meet the Competency Standard Units and/or Qualification outcomes related to licensing/registration applications. As RTO's registered under the Australian Quality Training Framework (AQTF) and VET Quality Framework (Standards and Requirements) "requirements are given full responsibility for deeming a learner/apprentice competent for the respective Competency Standard Units making up a Training Package Qualification or Skill Set, the RTO shall also provide all the necessary documentation (including results preferably percentile based) as required by the regulatory authority to support an application of eligibility for a relevant license, registration or accreditation.

It should be noted that regulatory authorities have advised that the quality of Registered Training Organisations issuing a qualification for regulatory purposes will be monitored. Where deficiencies are identified, regulators may deem it necessary to introduce appropriate actions, including an additional 'external' assessment following the issuing of the qualification to satisfy eligibility requirements for issuing the licence.

Exporting ESI - Generation Industry CSUs from this Training Package

Competency Standard Units in this Training Package are interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills. This also includes information related to language, literacy and numeracy, access, equity, cultural diversity and any regulatory arrangements for which the Competency Standard Units may apply. No Competency Standard Unit can be used in isolation or exported without these interrelated components.

1.1.01 Electricity Supply Industry - Generation Sector Qualification Framework

1.1 ESI - Generation Industry Qualification Framework

The qualifications listed in this Training Package adhere to the advice provided in the current version of AQF Implementation Handbook. See www.aqf.edu.au.

The qualifications have been designed to comply with the provisions of and comply with the National Quality Council's (NQC) requirements for Flexibility of Training Package Qualifications to include:

- One Third or more of total units required to gain a VET qualification will be electives.
- The choice of Elective units can be broadened, to allow one sixth of total units to be included from other qualifications in a Training Package, other Training Packages and accredited courses.
- All units as either core or electives.

See:

http://www.nqc.tvetaustralia.com.au/__data/assets/pdf_file/0006/52269/National_Quality_Council_communique.pdf

It should be noted that under these provisions Licensed and trade occupations are exempt from these measures.

Application of the NQC Flexibility Formula

Industry has obtained formal agreement to the continued use of its unit weighting system for valuing individual competency standards and the effort required to achieve a qualification under these provisions.

Thus, for the qualifications in this Training Package, the term "total units required to gain a qualification" and the fractions thereof referred to above are calculated using the weighting points assigned to respective Competency Standard Units (CSU) rather than by a count of individual units. The Qualification Completion Values table below provides the relevant weighting points value of each qualification in order to satisfy the packaging rules in accordance with the NSSC Policy.

To allow for the inclusion of units imported from other qualifications and other Training Packages and accredited courses under this weighting points system, industry also gained agreement to the following process for importing and valuing such imported units, as follows:

Customisation of these qualifications is permitted in order to meet learner's individual needs, their current, intended or future work context, and a variety of possible industry environments.

For this purpose, the importation of units up to one sixth of the total points value required for completion of the qualification is permitted from any one or a combination of the following three sources:

- Elsewhere in this Training Package
- Other Training Packages
- Accredited Courses

Units selected for importation under these provisions shall be first packaged in the source Training Package or Accredited Course at the AQF level of the target qualification.

The importation of units from these sources shall be within the boundaries of the integrity of the intended qualification outcomes, the requirements of the Australian Qualifications Framework, the Australian Quality Training Framework and all regulatory requirements applicable to the imported unit and/or the target qualification.

Minimum points (10) will be allocated to units imported from sources other than those managed by EE-Oz Training Standards. Advice on the valuation of units selected for importation from sources other than EE-Oz Training Packages shall be sought from the relevant EE-Oz Technical Advisory Committee.

Advice shall be sought from the relevant state/territory registration and accreditation body to determine if there is a requirement for an extension to a Registered Training Organisation's scope of registration in relation to the inclusion of such imported unit/s into a qualification.

Advice shall be sought from the relevant registration and accreditation body regarding the requirement to record and report the inclusion of units imported under these provisions for the purposes of awarding a qualification.

Where units have been imported under these provisions, this shall be reported to EE-Oz Training Standards so that industry is aware of such units and can consider the endorsement of these into the relevant qualification(s).

Qualification Mapping

Please refer to Preliminary Information for:

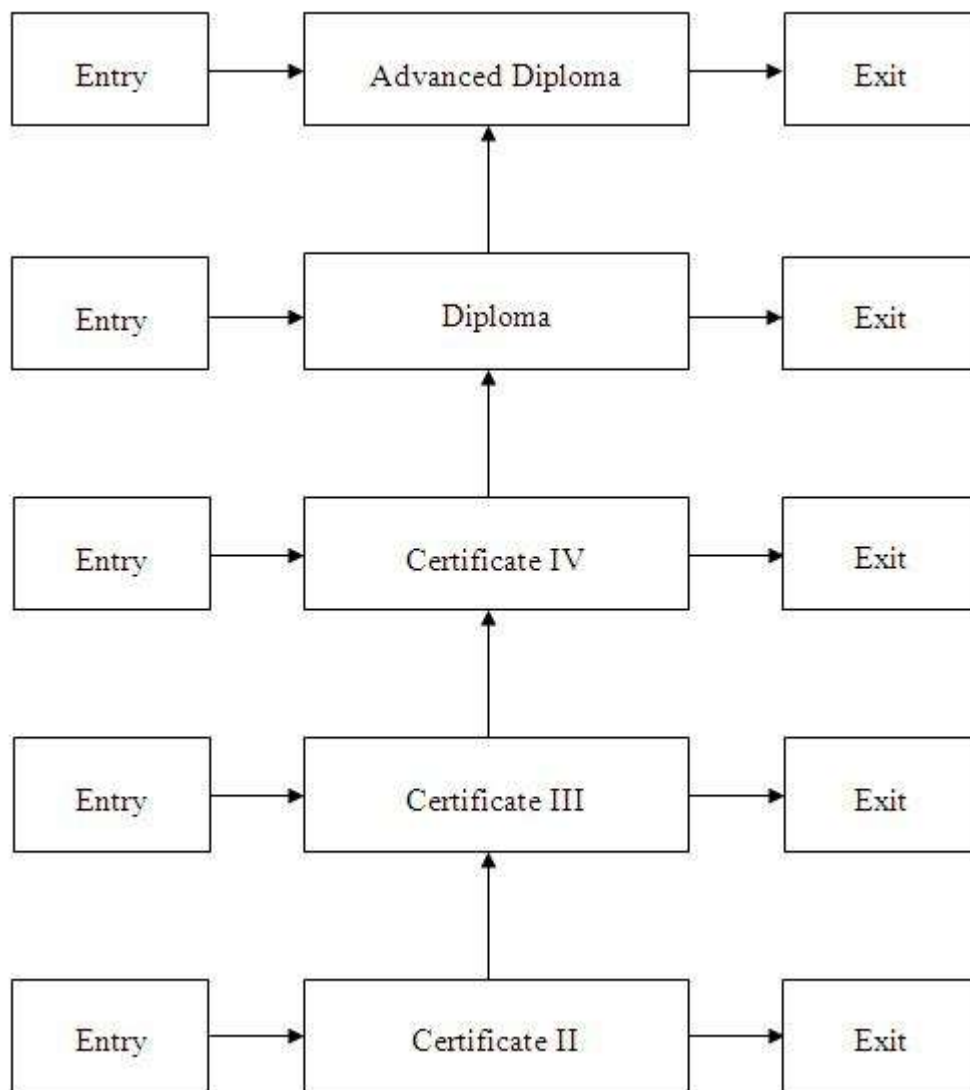
- Modifications History of Qualifications in this Training Package
- Mapping of the qualifications in this version of the ESI - Generation Sector Training Package to previous versions, including equivalences.
-

1.1.02 Qualification Pathways

1.2 Qualification Pathways

This Training Package provides open entry at each of the AQF levels. Arrows indicate the pathways that can be followed no matter at which qualification level you enter.

Entry and Exit Points for ESI – Transmission, Distribution and Rail Sector Industry Qualifications



For more information on the latest Training Package vocational standards qualifications and qualification pathways visit ElectroComms and EnergyUtilities Industry Skills Council Ltd trading as EE-Oz Training Standards at www.ee-oz.com.au

Articulation pathways

Qualification articulation and entry and exit arrangements are based on the specific training and education requirements endorsed by the industry. The construction of the Competency standard units and the group of units that make up an individual qualification are of particular significance to the operational, regulatory and safety arrangements of the industry. Each qualification provides a unique vocational outcome that can be used for Australian apprentices as entry-level contracted employees.

All qualifications are open entry and open exit and are available for use as Australian Apprenticeship entry-level contracted employment. Australian apprenticeship arrangements are subject to State/Territory statutory requirements, prescriptions within industrial instruments and policies of State/Territory training authorities and RTOs. Reference to what applies should therefore be made from respective statutory bodies in the first instance.

Australian Apprenticeship arrangements therefore apply to all qualifications; however, they are subject to State/Territory statutory requirements, prescriptions within industrial instruments and policies of State/Territory training authorities.

Open entry is provided into all qualifications, Open entry is available at all levels provided the prospective learner's general education and competency level is equivalent to the outcome of four to five years of secondary school. Additionally, entry levels provide an option for potential learners to choose a qualification suited to their needs while providing flexibility for recruitment action by employers. What must be satisfied for entry is that any listed prerequisite Competency Standard Unit requirements are met. Entry into all qualifications is also available through Recognised Prior Learning (RPL) arrangements.

School Based Australian Apprenticeships

Australian Apprenticeships are declared in each State or Territory according to the particular processes of the jurisdiction and requirements identified by industry in the State or Territory.

Declarations for particular qualifications as either Traineeships or Apprenticeships are made accordingly and therefore the same qualification may be classified differently between jurisdictions.

Whilst EE-Oz has no control over these processes and declarations, it would recommend that the following qualifications be considered when addressing School based Australian Apprenticeships:

Qualification Code	Qualification Title
Nil	Nil

Access, Equity and Cultural Diversity

The skills required of employees in the Generation Sector are comprehensive. The qualifications in this Training Package reflect the range of competencies required and are written in a non-exclusive manner so as to increase the participation rates of all equity and disadvantaged groups and to minimise unintentional bias.

Language, Literacy and Numeracy

A specific section related to language, literacy and numeracy skills has been included in each Competency standard unit to provide advice on the entry requirements for each unit. It provides Registered Training Organisations (RTOs), industry and career aspirants with relevant language, literacy and numeracy entry-level advice for each Competency standard unit that would maximise an individual's prospects for successful completion of the unit and, where appropriate, the qualification.

The language, literacy and numeracy definitions and requirements are described in more detail in Part 2.3.1 — Language, Literacy and Numeracy Skills. Each Competency standard unit in references the respective language, literacy and numeracy skills that apply.

Australian Apprenticeship – Application

Australian Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. For further information regarding Australian Apprenticeships and their application in relation to this Training Package refer to Appendix A - Australian Apprenticeship – application. Appendix A is located at the end of Part 1.3.15 – Assessment Guidelines.

1.1.03 Qualification Employability Skills Statements

1.3 Qualification Employability Skills Statements

The Employability Skills facets for each AQF level are described below. These are broad industry requirements that may vary depending on qualification packaging rules and electives selected.

Employability Skills Summary for all Qualifications at AQF Level 2.

The following table contains a summary of the Employability Skills required by the ESI - Generation Industry for all UEP12 ESI - Generation Training Package qualifications at AQF level 2. The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging rules and options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Co-operate with other workers/customers and report outcomes and/or any problems
Access, read and comprehend safety instructions and procedures
Share information via speech and in writing
Prepare time sheets
Teamwork
Work with others to generate and review ideas
Work effectively as an individual and as a member of a team
Work with others and in a team to identify work needs and review ideas against those needs
Relate to people from a range of social, cultural and ethnic backgrounds and physical

and mental abilities
Contribute to a positive culture of compliance within an organisation
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Provide feedback
Problem Solving
Apply lateral thinking ideas to generate solutions in response to work problems
Anticipate or clarify problems to avoid interruptions to work flows and processes
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Identify and comply with all requirements and standards for work in the ESI - Generation Industry
Apply enterprise best practice and quality systems
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Identify related industry compliance requirements
Maintain relevant industry and work records
Establish clear implementation goals and deliverables
Collect, analyse and organise work task information
Apply time management prioritising techniques
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices

and systems
Seek learning opportunities
Take control and manage own learning
Adopt a open approach to new ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology related to the particular work tasks including tools, devices, instruments and materials
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the ESI - Generation Industry
Be willing to gain knowledge and skills relevant to new and emerging technologies

The Employability Skills described above are representative of the ESI - Generation Industry in general and may not reflect enterprise specific requirements or job roles.

Learning and assessment strategies for each qualification should be based on the requirements of the units of competency comprising the qualification and the Assessment Guidelines, Part 1.3.00.

Employability Skills Summary for all Qualifications at AQF Level 3.

The following table contains a summary of the Employability Skills required by the ESI - Generation Industry for all UEP12 ESI - Generation Training Package qualifications at AQF level 3,

The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging rules and options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate ideas, information and advice to co-workers/clients to enable confirmation of product/work requirements and specifications

Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Collect, organise and understand information related to a work task and its relevant safety procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Document work quotations and tender support schedules
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers
Teamwork
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others and in a team to identify work needs and review ideas against those needs
Work with other and in a team to evaluate and report on work tasks and outcomes
Work with others and in a team to present information to a client and/or co-worker
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for implementation and maintenance of industry standards in relation to workplace computer systems
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Apply lateral thinking ideas to generate solutions in response to work problems
Apply operational research and research management skills
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Clarify problems and enterprise ideas to avoid interruptions to work flow/processes
Use testing techniques to anticipate or clarify problems to avoid interruptions to work flows and process

Generate ideas and alternatives
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Be proactive and apply strategies to overcome work blockages
Adopt proactive relationships with clients and co-workers
Identify and comply with all requirements and standards for work in the ESI - Generation Industry
Apply enterprise best practice and quality systems
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of the industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records

Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to new ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to communicate with the client, document and present information
Use electronic information systems to communicate with co-workers and/or other related personnel
Use workplace technology related to the particular work tasks including tools, devices, instruments and materials
Use work place technology to collate, organise and maintain work documentation and information
Attain and maintain required technical accreditation/authority under the industry

standards
Attain and maintain IT skills relevant to the ESI - Generation Industry
Be willing to learn new IT skills
Be willing gain knowledge and skills relevant to new and emerging technologies

The Employability Skills described above are representative of the ESI - Generation Industry in general and may not reflect enterprise specific requirements or job roles.

Learning and assessment strategies for each qualification should be based on the requirements of the units of competency comprising the qualification and the Assessment Guidelines, Part 1.3.00.

Employability Skills Summary for all Qualifications at AQF Level 4.

The following table contains a summary of the Employability Skills required by the ESI - Generation Industry for all UEP12 ESI - Generation Training Package qualifications at AQF level 4.

The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging rules and options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Share essential business information
Document work quotations and tender support schedules
Process approvals/authorities for industry activities
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers or other related personnel

Teamwork
Work with others by recognising dependencies and using co-operative approaches to optimise work flow and productivity
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others to identify work needs and review ideas against those needs
Work with others to evaluate and report on work tasks and outcomes
Work with others to present information to a client and/or co-worker(s)
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Use testing and analysis techniques to anticipate and/or clarify problems and plan around them to avoid interruptions to work flows/processes
Apply lateral thinking to generate solutions in response to work problems
Apply analytical techniques to anticipate design issues and product needs
Apply operational research and research management skills
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Create new opportunities for the enterprise
Be proactive and apply strategies to overcome work blockages
Adopt a proactive relationship with clients/co-workers
Identify work needs by applying research techniques
Identify and comply with all requirements and standards for work in the ESI - Generation Industry
Apply best practice and quality systems

Apply computer systems and applications to ensure quality and efficiency of work tasks and documentation
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Plan and organise activities to enable the most appropriate testing/analysis procedures to be implemented
Plan activities to enable choice of the best computer systems/programs for application on a particular work task
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation
Self Management
Plan own work within given task parameters

Maintain current knowledge of computer systems and capabilities
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Maintain current knowledge of computer systems programs and there relevant applications
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to new ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to document and present information
Use workplace technology to communicate with clients, co-workers and/or other related personnel
Use workplace technology related to particular work tasks including tools, equipment, devices, instruments and materials
Use workplace technology for data analysis/investigation
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the ESI - Generation Industry
Be willing to learn new IT skills
Use workplace technology to collate, organise and maintain work documentation and

information
Use computer applications as a management tool

The Employability Skills described above are representative of the ESI - Generation Industry in general and may not reflect enterprise specific requirements or job roles.

Learning and assessment strategies for each qualification should be based on the requirements of the units of competency comprising the qualification and the Assessment Guidelines, Part 1.3.00.

Employability Skills Summary for all Qualifications at AQF Level 5.

The following table contains a summary of the Employability Skills required by the ESI - Generation Industry for all UEP12 ESI – Generation Training Package qualifications at AQF level 5,

The Employability Skills facets described here are broad industry requirements that may vary depending on qualification packaging rules and options.

Communication
Collect, organise and understand information related to the work task and its relevant safety procedures
Communicate ideas and information to enable confirmation of work requirement and specifications
Communicate information using drawing, diagrams, schedules and manuals
Communicate and/or report work outcomes and/or any problems
Communicate effectively in oral and written form
Access, read and comprehend safety instructions and procedures
Undertake negotiations if there are conflicts in work requirements and/or priorities
Share industry information
Share essential business information
Document work quotations and tender support schedules
Process approvals/authorities for industry activities
Prepare time sheets
Prepare documentation on particular work tasks including evaluations, reports, timesheets and costings
Prepare and present formal reports to clients and/or co-workers or other related personnel
Use aesthetic ideas to plan visual presentation material

Teamwork
Work with others by recognising dependencies and using co-operative approaches to optimise work flow and productivity
Work with others to generate ideas and review
Work effectively as an individual and as a member of a team
Work with others to identify work needs and review ideas against those needs
Work with others to evaluate and report on work tasks and outcomes
Work with others to present information to a client and/or co-worker(s)
Relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Influence individuals and teams
Develop and maintain networks for the implementation and maintenance of industry knowledge, standards and requirements
Coach/mentor others and provide feedback
Problem Solving
Use testing and analysis techniques to anticipate and/or clarify problems and plan around them to avoid interruptions to work flows/processes
Apply lateral thinking to generate solutions in response to work problems
Apply analytical techniques to anticipate design issues and product needs
Apply operational research and research management skills
Apply contingency management techniques to variable circumstances
Clarify and identify work issues and apply processes to avoid interruptions to work flow/processes
Analyse information to identify opportunities to develop solutions
Identify, assess and prioritise work risks to maintain efficiency, quality, productivity and work place safety at all times
Initiative & Enterprise
Recognise and respond to circumstances outside instructions or personal competence
Create new opportunities for the enterprise
Be proactive and apply strategies to overcome work blockages
Adopt a proactive relationship with clients/co-workers
Identify work needs by applying research techniques
Identify and comply with all requirements and standards for work in the ESI - Generation Industry

Apply best practice and quality systems
Apply computer systems and applications to ensure quality and efficiency of work tasks and documentation
Generate ideas and translate into workplace actions and outcomes
Interact effectively with both internal and external industry stakeholders
Initiate and follow through on the implementation of industry standards in the workplace
Translate ideas into action
Planning & Organising
Plan and organise activities including the maintenance and layout of own worksite and obtain equipment and materials to avoid work flow interruptions or wastage
Plan and organise activities to enable choices of maintenance methods of equipment, tools and related work documentation
Plan activities to enable choice of analysis/testing techniques of work outcomes and systems
Plan and organise activities to enable the most appropriate testing/analysis procedures to be implemented
Plan activities to enable choice of the best computer systems/programs for application on a particular work task
Develop industry work plans including key performance indicators
Use mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Use computing capabilities that enable the use of mathematical ideas and techniques to correctly complete measurements, calculate quantities, estimate material, labour and overhead requirements and accurately cost the product/service
Identify related industry compliance requirements
Identify, access and allocate required implementation resources
Maintain relevant industry and work records
Maintain relevant industry/work record systems
Maintain industry related records
Understand computer systems, their relationships and applications in the workplace
Establish clear implementation goals and deliverables
Monitor and optimise resource utilisation

Self Management
Plan own work within given task parameters
Set, monitor and satisfy personal work goals
Accept responsibility for given tasks
Clarify and confirm work instructions
Clarify own roles, goals, prerogatives and limitations in relation to the industry
Take responsibility for industry obligations
Evaluate and monitor own performance
Apply systematic and effective time management
Learning
Satisfy the competency requirements for the job
Maintain current knowledge of tools, devices, instruments, materials, work practices and systems
Maintain current knowledge of computer systems programs and there relevant applications
Seek learning opportunities
Provide technical instruction and learning assistance to assigned apprentices, trainees or other less experienced workers
Take control and manage own learning
Adopt a open approach to new ideas and techniques
Commit to and promote a culture of continuous learning
Set realistic learning goals for self development
Monitor and respond to learning process achievements
Technology
Use workplace technology to document and present information
Use workplace technology to communicate with clients, co-workers and/or other related personnel
Use workplace technology related to particular work tasks including tools, equipment, devices, instruments and materials
Use workplace technology for data analysis/investigation
Attain and maintain required technical accreditation/authority under the industry standards
Attain and maintain IT skills relevant to the ESI - Generation Industry

Be willing to learn new IT skills
Use workplace technology to collate, organise and maintain work documentation and information
Use computer applications as a management tool

The Employability Skills described above are representative of the ESI - Generation Industry in general and may not reflect enterprise specific requirements or job roles.

Learning and assessment strategies for each qualification should be based on the requirements of the units of competency comprising the qualification and the Assessment Guidelines, Part 1.3.00.

1.1.04 Qualification Scopes

1.4 Qualification Scopes

The qualifications described in this section of the Training Package have been designed and structured by industry in consultation with a range of stakeholders including regulators, RTOs and the community. They address identified work functions and work environments and facilitate worthwhile career pathways within the industry.

The qualification structures that follow must be read in conjunction with Part 1.2.03 — Competency Standards, Unit Construction.

UEP20112 Certificate II in ESI Generation (Operations Support)

Those gaining this qualification will be able to complete work functions such as:

- Local operation of non critical plant systems, lubrication of plant, undertake minor maintenance of both electrical and mechanical equipment, plant cleaning, and the operation of mobile load shifting plant and equipment, observation of safe working practices and environmental procedures.

UEP30112 Certificate III in ESI Generation (Systems Operation)

Those gaining this qualification will be able to complete work function such as:

- Local operation of plant systems, isolation of plant systems for work, operation of plant systems, operation of network equipment via Data Acquisition Systems, observation of safe working practices and environmental procedures.

UEP30212 Certificate III in ESI Generation (Operations)

Those gaining this qualification will be able to complete work function such as:

- Local operation of plant systems, isolation of plant systems for work, operation of plant systems, routine observation and maintenance of plant and equipment in operation, observation of civil plant and infrastructure observation of safe working practices and environmental procedures.

UEP40112 Certificate IV in ESI Generation (Systems Operation)

Those gaining this qualification will be able to complete work function such as:

- Remote operation of network equipment and isolation of plant and equipment for work, coordination of work activities, cost estimations, Observation of safe working practices and environmental procedures. Supervision of others and coordination of work activities of individuals and/or teams

UEP40212 Certificate IV in ESI Generation (Operations)

Those gaining this qualification will be able to complete work function such as:

- Operation of plant systems, isolation of plant systems, start-up and shut down of boilers, turbines, reciprocating engines, start-up and shut down of gas turbines, start-up and shut down of hydro plant, Observation of safe working practices and environmental procedures. Supervision of others and coordination of work activities of individuals and/or teams

UEP40312 Certificate IV in ESI Generation Maintenance (Mechanical)

Those gaining this qualification will be able to complete work function such as:

- Installation, repair and maintenance of plant and mechanical systems, maintenance planning and scheduling.
- Observation of safe working practices and environmental procedures. Supervision of others and coordination of work activities of individuals and/or teams

UEP40412 Certificate IV in ESI Generation Maintenance (Fabrication)

Those gaining this qualification will be able to complete work function such as:

- Installation, fabrication repair and maintenance of industrial pressure vessels and associated pipe work, coded welding, coded welding, welding supervision, general fabrication.
- Observation of safe working practices and environmental procedures. Supervision of others and coordination of work activities of individuals and/or teams

UEP40512 Certificate IV in ESI Generation Maintenance (Electrical/Electronic)

This qualification provides competencies to:

- manufacture, fit, assemble, erect, operate, test, fault find, alter, repair electrical equipment, electronic, instrumentation systems, and includes electrical wiring work only if that work is associated with assembling, maintaining, terminating or altering the wiring between electrical components within a power generating plant or machinery, maintenance planning and scheduling and supervision of others and coordination of work activities of individuals and/or teams.
- Electrical equipment means any appliance, article, accessory, wire, fitting, cable, conduit or apparatus that generates, uses, conveys or controls (or that is intended to generate, use, convey or control) electricity above extra low voltage.

This qualification does not authorise the holder to install any electrical wiring systems

within an electrical installation as prescribed by definitions contained in AS/NZS 3000.

UEP40612 Certificate IV in Large Scale Wind Generation - Electrical

This qualification provides competencies to operate, test, fault find, alter, repair electrical equipment and systems associated with large scale wind power generation. It includes the requirements for an 'Electrical Fitter licence'.

UEP50112 Diploma of ESI Generation (Systems Operation)

Those gaining this qualification will be able to complete work function such as:

- Remote operation of network systems. Isolation of plant systems for work. Develop operational procedures and systems. Manage the start-up and shut down of boilers and turbines, hydro plant, gas turbines. Implementation of safe working practices and environmental procedures. Management and supervision of others and coordination of work activities of individuals and/or teams

UEP50212 Diploma of ESI Generation (Operations)

Those gaining this qualification will be able to complete work function such as:

- Develop operational procedures and systems. Manage the start-up and shut down of boilers and turbines, hydro plant, gas turbines. Implementation of safe working practices and environmental procedures. Management and supervision of others and coordination of work activities of individuals and/or teams

UEP50312 Diploma of ESI Generation (Maintenance)

Those gaining this qualification will be able to complete work function such as:

- Development of maintenance Schedules and project management. Development of operational procedures and systems, Implementation of safe working practices and environmental procedures. Management and supervision of others and coordination of work activities of individuals and/or teams

UEP50412 Diploma of ESI Generation (Electrical/Electronic)

Those gaining this qualification will be able to complete work function such as:

- The manufacture, fitting, assembly, erection, operation, testing, fault finding, alteration and , repair of electrical equipment, electronic, instrumentation systems, and including electrical wiring work only if that work is associated with assembling, maintaining, terminating or altering the wiring between electrical components within a power generating plant or machinery.
- Development of maintenance schedules and project management. Implementation of safe working practices and environmental procedures. Management and supervision of others and coordination of work activities of individuals and/or teams.
- Electrical equipment means any appliance, article, accessory, wire, fitting, cable, conduit or apparatus that generates, uses, conveys or controls (or that is intended to generate, use, convey or control) electricity above extra low voltage.

This qualification does not authorise the holder to install any electrical wiring systems within an electrical installation as prescribed by definitions contained in AS/NZS 3000.

There are no Advanced Diploma Qualifications in this Training Package.

1.1.05 Qualifications and Packaging Rules

1.5 Qualifications and Packaging Rules

The following table details the full range of qualifications in this version of the ESI – Generation Sector Training Package, the completion requirements for each qualification and their respective structure and composition. These qualifications have been designed to comply with the National Quality Council’s Packing Rules for Flexibility initiative.

Each qualification is described by the number of core and elective weighted points required for completion and issue of the qualification under the AQF.

Respective qualifications have at least two Elective Groups from which elective competencies may be drawn. Where a range of weighting points is set for a group e.g. 60-120, the lower number indicates both the minimum weighting points required from that particular elective group for completion and the larger number is the maximum required weighting points which may be selected from that group for a valid qualification completion.

Where the lower number for a group is 0 no competencies are required to be selected from that group, however, sufficient weighted points must be selected from other groups to meet the required total elective weighted points for completion.

Note: Individuals may select elective units to a weighting point total greater than the maximum specified for completion from a particular group. Where this is done weighted points in excess of the specified maximum cannot be counted for completion of the qualification.

Where a Competency Standard Unit has pre-requisite Competency Standards Unit requirements, such pre-requisite units shall be completed and their weighted points counted toward qualification completion.

Full details of each qualification follow Table 1 -Qualification Completion Values, below.

Table 1 - Qualification Completion Values

Qualification Code	Qualification Title	Total Core	Total Elective	Elective Units Groups				
				Group A	Group B	Group C	Group D	Group E
UEP20112	CII in ESI Generation (Operations Support)	140	220	0-60	160-220			
UEP30112	CIII in ESI Generation (Systems Operations)	330	630	0-160	470-630			
UEP30212	CIII in ESI Generation (Operations)	340	620	0-160	460-620			
UEP40112	CIV in ESI Generation (Systems Operations)	480	800	0-220	0-700	100-800		
UEP40212	CIV in ESI Generation (Operations)	520	760	0-220	0-620	140-760		
UEP40312	CIV in ESI Generation Maintenance (Mechanical)	770	510	0-220	0-310	200-510		
UEP40412	CIV in ESI Generation Maintenance	750	530	0-220	0-410	120-530		

	(Fabrication)							
UEP40512	CIV in ESI Generation Maintenance (Electrical/Electronics)	820	460	0-220	0220	240-460		
UEP40612	CIV in Large Scale Wind Generation - Electrical	900	380	0-60	0-120	260-380		
UEP50112	Diploma of ESI Generation (Systems Operations)	640	960	0-270	0-660	0-100	200-920	
UEP50212	Diploma of ESI Generation (Operations)	690	910	0-270	0-490	0-180	240-910	
UEP50312	Diploma of ESI Generation (Maintenance)	590	1010	0-270	0-770	0-120	180-880	
UEP50412	Diploma of ESI Generation (Electrical/Electronic)	1000	600	0-270	0-180	0-240	180-540	

1.1.06 Skill Sets

1.6 Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording ‘these competencies meet [insert skill set title or identified industry area] need’ on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment. See:

http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

Identified Skill Sets

The following Skill Sets have been developed to meet the requirements for High Risk Licences to operate Steam Turbines and Reciprocating Steam Engines. The High Risk Licensing units in these Skill Sets are included in qualifications.

1.2 Competency Standards Index**Volume 1 - Part 2****1.2.00 Competency Standards****2.0 Introduction**

This section outlines how the competency standards were developed in broad terms. The industry coverage they can apply to, as well as the format and construction of the individual Competency Standard Units is provided. Matters related to language, literacy and numeracy, access and equity and the regulatory environment in which the units may apply is also covered, as is the interrelated Essential Knowledge and Associated Skills. Competency Standard Units in this Training Package are interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections. No Competency Standard Unit can be used in isolation or exported without these interrelated components.

A definitions/glossary to complement the Competency Standard Units is included in Part 2.1. It provides a description of the words used in the Competency Standard Units to define terms in more detail. It also forms an integral part of each unit. An Essential Knowledge and Associated Skills section follows the Competency Standard Units and also forms an integrated part of each unit.

Included in this section is:

- an index of the Competency Standard Units with their weighting points
- a list of imported Competency Standard Units

1.2.01 Development of Competency Standards for the ESI - Generation Sector

2.1 Development of Competency Standards for the ESI - Generation Sector

Competency Standards were initially developed for Generation Production Plant in 1996. These competency standard units were updated and incorporated into the new Training Package framework and were endorsed in 1998 as the Training Package for the Electricity Supply Industry – Generation Sector of the Utilities Industry (UTP98). Subsequent amendments were made to qualifications, and variations and additions to competency standard units have been completed since 1998. As a result, these units have again been revised to now make up the group of units within this Training Package (UEP12). They cover a broad range of knowledge and skills applied in the Generation industry.

The development project satisfied the following characteristics:

- EE-OZ Training Standards and its nationwide focus groups were appropriately representative of the industry throughout Australia.
- Development, consultation, and validation included appropriate processes with a wide range of industry employer/employee, practitioners, providers, stakeholders/community, and regulatory and government agency representatives.
- The draft standards were distributed throughout the national, State and Territory ITAB network and to industry stakeholders and, feedback from other industries was also actively encouraged.
- The competency standards have been subject to further scrutiny during the process of developing this Training Package that contains vocational standards for the Industry.

1.2.02 Industry Coverage

2.2 Industry Coverage

The Electricity Supply Industry Generation Sector (ANZSIC Code 3610) is defined as consisting of plant and equipment that is mainly engaged in the generation, transmission or distribution of electricity.

Generation encompasses all activities from the point of supply/acceptance of energy resources and consumables to the point of exit of electrical energy and by-products of the generation processes. Within these boundaries it includes all operations, maintenance, systems support, scientific, engineering and design support, management, marketing and administration functions required to establish and meet business objectives.

The sector has been characterised during the last few years by reductions in the size of the workforce, the privatisation of many enterprises and the out-sourcing of many functions and activities.

Notwithstanding these changes these Competency Standards cover approximately one third of the Electricity Supply Industry's direct workforce of 47,000 employees. The Standards may also provide coverage for the increasing contractor workforce, which is required to support sector activities.

The preceding statements should not be construed as the national ESI – Generation Sector Training Package has having coverage of any particular industry or sector of industry. The intent of the national ESI – Generation Sector Training Package is to describe the skills and knowledge, which pertain to vocations within the field of Generation, and to offer a choice and range of qualifications or competency standard units through appropriate training for organisations, and personnel seeking formal recognition of respective skills and knowledge. It is recognised that other training pathways may exist in the form of other Training Packages and arrangements.

The Generation Industry contributes greatly to the economic and future needs of Australia. Appendix 2 – The Electricity Generation Industry describes the Industry in detail.

Other industry standards

It is recognised that the ESI - Generation Industry Standards do not cover all the competencies, which are likely to be required and applied within organisations and workplaces. Nationally endorsed competency standards from other industries can be used where appropriate, provided they are imported in accordance with the criteria outlined in this Training Package.

Language, literacy, numeracy

The competency standards have been written to reflect the technical and operational needs of industry and include appropriate language, literacy and numeracy requirements.

Access and equity

The knowledge and skill required of employees in the ESI - Generation Industry is comprehensive. The Competency Standards reflect the range of knowledge and skills required and are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

Contextualisation

In the Competency Standard Units, 'notes' have been placed against respective aspects that include scope, Performance Criteria, Range Statement and Essential Knowledge and associated skills and other related sections. The insertion of these 'notes' is primarily to provide users and support material developers with examples of the form and type of technical content principles, technology, equipment or processes required. The examples should be treated as information that adds clarity and provides guidance regarding the depth and breadth of learning objectives.

As the type, form, process or technique of technology and equipment may change it is expected and indeed incumbent on RTOs to be current in the content and delivery arrangements. It is therefore appropriate for RTOs to use the notes as advisory information. In these instances RTOs should aim to accommodate the adoption of improved and new technologies in the scope/range and essential knowledge and associated skills of the Competency Standard Units by varying the context examples given in the referenced 'notes' to the Performance Criteria, Range Statement and Essential knowledge and associated skills. However, the contextualisation must not be such that the outcome of the Competency Standard Units is altered in any way.

Where contextualisation of the notes varies the outcome of the Competency Standard Unit and its related content, RTOs should consult with EE-Oz Training Standards to explore options for incorporating and/or covering the new arrangements, so that currency of the Training package is maintained.

It should be noted that any need to alter a Competency Standard Units from its intended outcome requires a new or varied Competency Standard Units. Such changes are to be undertaken through the continuous improvement processes required of Training Packages, which in relation to this Training Package is managed by EE-Oz Training Standards.

Also refer to Part 1.0.00 — Qualifications Framework, of this ESI - Generation Industry Training Package.

1.2.03 Unit Construction

2.3 Unit Construction

Competency Standard Units that have been successfully attained by learners are to be acknowledged. Some units have been constructed in a manner that will allow reporting without further explanation. However, there are units from related Utilities Industry Training Packages that have been constructed in a manner that requires further reporting of relevant transferable information, i.e. a reporting statement of information that is meaningful for maximum recognition and skills transfer. Generally this would be any endorsement or subset of the unit, as well as detailed formal advice about essential knowledge and skills.

If, in future developments of this Training Package, endorsements are included, further information will be provided. Information can be found in the ESI - Generation Sector Training Package or the Electrotechnology Training Package.

Pre-requisites

It is important to note that in relation to training delivery of pre-requisites Competency Standard Units, training and formative staged assessments may be delivered for all, or part of the sequence of Competency Standard Units concurrently and at a different stage to the final assessment of each unit. However, the final assessment event and judgement for attributing competence for each unit is to follow the prerequisite sequence.

Exporting CSUs from this Training Package

No Standard Competency Unit from this Training Package is to be used in isolation or exported without including all relevant interrelated components such as definitions, glossary, essential knowledge and skills, matters related to language, literacy and numeracy, access, equity, cultural diversity or any regulatory arrangements that apply.

1.2.04 Assessment Guidelines

2.4 Assessment Guidelines

The ESI - Generation Industry has developed guidelines for the assessment of these standards. The guidelines are included at Part 1.3.00 of this Training Package.

1.2.05 National Qualifications

2.5 National Qualifications

The ESI - Generation Industry has identified qualifications, which are linked to and use the competency standards. These are included in Part 1.0.00 — Qualifications Framework of this Training Package.

A list of the qualification titles contained in this Training Package is provided in Part 1.1.05. Included in this section are details of the content and composition of the qualifications, the Industry Qualifications Framework, completion requirements and the rules for structuring and flexibility arrangements and the qualifications structure for each qualification. Further, there is a full description provided for each qualification, which explains its application and gives added meaning to the group of units making up the respective qualification.

1.2.06 Regulatory Arrangements — ESI - Generation Sector

2.6 Regulatory Arrangements — ESI - Generation Sector

The ESI - Generation Sector is subject to a high level of regulation and codes of practice related to the supply of electricity and the operation of equipment, apparatus and the like in the supply of such services. The regulations and codes of practice are based on principles of the supply of electricity involving equipment, apparatus and systems, public safety, safety and health of individuals who work on systems and apparatus/equipment and other codes and practices related to the environment in which they are installed and maintained.

Competency Standard Units in this Training Package have been developed in consultation with the relevant industry technical and business Regulators 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 Competency Standard Units contained within this Training Package for respective licensing, registration or accreditation purposes. In constructing these Competency Standard Units, EE-Oz Training Standards and respective Regulators have given consideration to the link between the delivery and assessment of Competency Standard Units and the respective regulatory requirements. It is expected that the assessment and preferred training regime which meets a Competency Standard Unit's delivery and assessment requirements will therefore meet the relevant regulatory requirements.

In recognising this interrelationship, every effort has been made to ensure currency in regulatory requirements, thus RTOs must ensure they are observed. This includes utilising any recommended industry training program designed to meet Competency Standard Units which are related to licensing/registration applications.

As RTO's registered under the Australian Quality Training Framework (AQTF) and VET Quality Framework (Standards and Requirements)" requirements are given full responsibility for deeming a learner/apprentice competent for the respective Competency Standard Units within this Training Package. The RTO shall also provide all the necessary documentation (including results preferably percentile based) as required by the regulatory authority to support an application of eligibility for a relevant license, registration or accreditation.

It should be noted that regulatory authorities have advised that the quality of Registered Training Organisations awarding Competency Standard Units for regulatory purposes will be monitored. Where deficiencies are identified, regulators may deem it necessary to introduce appropriate actions, including an additional 'external' assessment following the issuing of the qualification to satisfy eligibility requirements for issuing the licence.

Statutes, regulations and codes of practice

The ESI - Generation Industry is covered by Federal, State and Territory Gas Safety, Telecommunications, Occupational Health and Safety and Work Cover Acts as well as other statutes, regulations, industrial instruments, codes of practice, guidelines and advisory standards, Australian/New Zealand and International Standards.

State and Territory Regulators

Jurisdiction	Organisation	Website	Telephone Number
Australian Capital Territory	ACT Planning and Land Authority	www.actpla.act.gov.au	02 6207 1923
New South Wales	Office of Fair Trading	www.fairtrading.nsw.gov.au	133 220
Northern Territory	NT WorkSafe	www.worksafe.nt.gov.au	1800 019 115
Queensland	Department of Mines and Energy	http://www.dme.qld.gov.au/Energy/gas.cfm	07 3237 1626
South	Office of the	http://www.sa.gov.au/government/entities	08 8226

Australia	Technical Regulator	ty/959	5500
South Australia	Office of Consumer and Business Affairs	www.ocba.sa.gov.au	08 8204 9696
Tasmania	WorkCover Tasmania	www.workcover.tas.gov.au	1300 776 572
Tasmania	Workplace Standards Tasmania	http://www.wst.tas.gov.au/industries/gas	1300 135 513
Victoria	Energy Safe Victoria	www.esv.vic.gov.au	03 9203 9700
Western Australia	Department of Consumer and Employment Protection - Energy Safety	www.energysafety.wa.gov.au	08 9422 5282
Western Australia	Office of Energy	http://www.energy.wa.gov.au/2/3176/64/gas.pm	08 9420 5600

Other Bodies

Organisation	Website
Standards Australia	www.standards.org.au
Department of Education, Employment and workplace Relations	http://www.deewr.gov.au/
SafeWork Australia	http://safeworkaustralia.gov.au/
Training.gov.au	http://training.gov.au/

1.2.07 Maintenance of Competency Standards

2.7 Maintenance of Competency Standards

The ESI - Generation Industry competency standards were developed by, and are therefore owned by, the industry. However, it is acknowledged that copyright ownership with respect to this material rests with the Commonwealth.

The competency standards must be maintained so that they reflect the ongoing needs of the ESI - Generation Industry and respond in a timely manner to changed technologies and circumstances.

The parties (as detailed in the Introduction to this Training Package) who constitute the ESI - Generation Industry sector of the ElectroComms and EnergyUtilities Industry Skills Council share responsibility for the maintenance of the Competency Standards:

- Competency Standards maintenance will be coordinated and managed by ElectroComms and EnergyUtilities Industry Skills Council Ltd trading as EE-Oz Training Standards or its successor.
- Suggestions and proposals for changes from all parties are welcomed. These should be documented and submitted to EE-Oz Training Standards in accordance with its policies and procedures.
-

1.2.08 What is Competency?

2.8 What is Competency?

The broad concept of industry competency concerns the ability to perform particular tasks and duties to the standard of performance expected in the workplace. Competency requires the application of specified skills, knowledge and attitudes relevant to effective participation in an industry, industry sector or enterprise.

Competency covers all aspects of workplace performance and involves performing individual tasks; managing a range of different tasks; responding to contingencies or breakdowns; and, dealing with the responsibilities of the workplace, including working with others. Workplace competency requires the ability to apply relevant skills, knowledge and attitudes consistently over time and in the required workplace situations and environments. In line with this concept of competency Training Packages focus on what is expected of a competent individual in the workplace as an outcome of learning, rather than focussing on the learning process itself.

Competency standards in Training Packages are determined by industry to meet identified industry skill needs. Competency standards are made up of a number of units of competency each of which describes a key function or role in a particular job function or occupation. Each unit of competency within a Training Package is linked to one or more AQF qualifications.

Contextualisation of Units of Competency by RTOs

Registered Training Organisations (RTOs) may contextualise units of competency in this endorsed Training Package to reflect required local outcomes. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.

Any contextualisation of units of competency in this Training Package must be within the bounds of the following advice:

- RTOs must not remove or add to the number and content of elements and performance criteria.
- RTOs can include specific industry terminology in the range statement.
- Any amendments and additions to the range statement made by RTOs must not diminish the breadth of application of the competency, or reduce its portability.
- RTOs may add detail to the evidence guide in areas such as the critical aspects of evidence or required resources and infrastructure—but only where these expand the breadth of the competency and do not limit its use.
-

Components of Units of Competency

The components of units of competency are summarised below, in the order in which they appear in each unit of competency.

Unit Title

The unit title is a succinct statement of the outcome of the unit of competency. Each unit of competency title is unique, both within and across Training Packages.

Unit Descriptor

The unit descriptor broadly communicates the content of the unit of competency and the skill area it addresses. Where units of competency have been contextualised from units of competency from other endorsed Training Packages, summary information is provided. There may also be a brief second paragraph that describes its relationship with other units of competency, and any licensing requirements.

Employability Skills

This sub-section contains a statement that the unit contains Employability skills.

Pre-requisite Units (optional)

If there are any units of competency that must be completed before the unit, these will be listed.

Application of the Unit

This sub-section fleshes out the unit of competency's scope, purpose and operation in different contexts, for example, by showing how it applies in the workplace.

Competency Field (Optional)

The competency field either reflects the way the units of competency are categorised in the Training Package or denotes the industry sector, specialisation or function. It is an optional component of the unit of competency.

Sector (optional)

The industry sector is a further categorisation of the competency field and identifies the next classification, for example an elective or supervision field.

Elements of Competency

The elements of competency are the basic building blocks of the unit of competency. They describe in terms of outcomes the significant functions and tasks that make up the competency.

Performance Criteria

The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge that enables competent performance. They are usually written in passive voice. Critical terms or phrases may be written in bold italics and then defined in range statement, in the order of their appearance in the performance criteria.

Required Skills and Knowledge

The essential skills and knowledge are either identified separately or combined. Knowledge identifies what a person needs to know to perform the work in an informed and effective manner. Skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

Range Statement

The range statement provides a context for the unit of competency, describing essential operating conditions that may be present with training and assessment, depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. As applicable, the meanings of key terms used in the performance criteria will also be explained in the range statement.

Evidence Guide

The evidence guide is critical in assessment as it provides information to the Registered Training Organisation (RTO) and assessor about how the described competency may be demonstrated. The evidence guide does this by providing a range of evidence for the assessor to make determinations, and by providing the assessment context. The evidence guide describes:

- conditions under which competency must be assessed including variables such as the assessment environment or necessary equipment;
- relationships with the assessment of any other units of competency;
- suitable methodologies for conducting assessment including the potential for workplace simulation;
- resource implications, for example access to particular equipment, infrastructure or situations;
- how consistency in performance can be assessed over time, various contexts and with a range of evidence; and
- the required underpinning knowledge and skills
-

Employability Skills in Units of Competency

The detail and application of Employability Skills facets will vary according to the job-role requirements of each industry. In developing Training Packages, industry stakeholders are consulted to identify appropriate facets of Employability Skills which are incorporated into the relevant units of competency and qualifications.

Employability Skills are not a discrete requirement contained in units of competency (as was the case with Key Competencies). Employability Skills are specifically expressed in the context of the work outcomes described in units of competency and will appear in elements, performance criteria, range statements and evidence guides. As a result, users of Training Packages are required to review the entire unit of competency in order to accurately determine Employability Skills requirements.

How Employability Skills relate to the Key Competencies

The eight nationally agreed Employability Skills now replace the seven Key Competencies in Training Packages. Trainers and assessors who have used Training Packages prior to the introduction of Employability Skills may find the following comparison useful.

Employability Skills	Key Competencies
Communication	Communicating ideas and information
Teamwork	Working with others and in teams
Problem solving	Solving problems Using mathematical ideas and techniques
Initiative and enterprise	
Planning and organising	Collecting, analysing and organising information Planning and organising activities
Self-management	
Learning	
Technology	Using technology

When analysing the above table it is important to consider the relationship and natural overlap of Employability Skills. For example, using technology may involve communication skills and combine the understanding of mathematical concepts.

Explicitly embedding Employability Skills in units of competency

This Training Package seeks to ensure that industry-endorsed Employability Skills are explicitly embedded in units of competency. The application of each skill and the level of detail included in each part of the unit will vary according to industry requirements and the nature of the unit of competency.

Employability Skills must be both explicit and embedded within units of competency. This means that Employability Skills will be:

- embedded in units of competency as part of the other performance requirements that make up the competency as a whole
- explicitly described within units of competency to enable Training Packages users to identify accurately the performance requirements of each unit with regards to Employability Skills.

This Training Package also seeks to ensure that Employability Skills are well-defined and written into units of competency so that they are apparent, clear and can be delivered and assessed as an essential component of unit work outcomes.

Sample unit of competency components showing Employability Skills

The following table shows the sequence of a unit of competency, and each cell contains text taken from a range of units. It provides examples of where and how various Employability Skills could be embedded in each component.

Please note that in the example, the bracketed Employability Skills are provided for clarification only and would not be present in units of competency within this Training Package.

Unit Title	Give formal presentations and take part in meetings (Communication)
Unit Descriptor	This unit covers the skills and knowledge required to promote the use and implementation of innovative work practices to effect change. (Initiative and enterprise)
Element	Proactively resolve issues. (problem solving)
Performance Criteria	Information is organised in a format suitable for analysis and dissemination in accordance with organisational requirements. (Planning and organising)
Range Statement	Software applications may include email, internet, word processing, spreadsheet, database or accounting packages. (technology)
Required Skills and Knowledge	Modify activities depending on differing workplace contexts, risk situations and environments. (Learning) Work collaboratively with others during a fire emergency. (teamwork) Instructions, procedures and other information relevant the maintenance of vessel and port security. (Communication)
Evidence Guide	Evidence of having worked constructively with a wide range of community groups and stakeholders to solve problems and adapt or design new solutions to meet identified needs in crime prevention. In particular, evidence must be obtained on the ability to: assess response options to identified crime-prevention needs and determine the optimal action to be implemented in consultation with relevant others, design an initiative to address identified issues. (Initiative and enterprise).

Employability Skills Summaries and units of competency

An Employability Skills Summary exists for each qualification. Summaries include broad advice on industry expectations with regard to Employability Skills at the qualification level. Summaries should be used by trainers and assessors to assist in identifying the Employability Skills requirements contained within units of competency.

1.2.09 Index of Competency Standard Units

2.9 Index of Competency Standard Units

Power Generation Operations AQF 2 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS202B	Apply Quality Systems To Work	20	2	Nil	UEP20112; UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP50112; UEP50212	UEP40512
UEPOPS203B	Operate and Monitor Communications Systems	20	2	Nil		UEP20112; UEP30112; UEP30212; UEP40112; UEP40212
UEPOPS204B	Maintain and Utilise Records	20	2	Nil	UEP20112; UEP30212; UEP30112	
UEPOPS205B	Conduct Minor Mechanical Maintenance	40	2	Nil		UEP20112;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEP30212; UEP30112
UEPOPS206B	Conduct Minor Electrical Maintenance	40	2	Nil		UEP20112; UEP30212; UEP30112
UEPOPS207B	Perform Plant Lubrication	20	2	Nil		UEP20112; UEP30212; UEP30112
UEPOPS209B	Perform Process Plant Inspections	30	2	Nil	UEP20112; UEP30212; UEP30112	
UEPOPS210B	Conduct First Response within a Workplace Team	30	2	Nil		UEP20112
UEPOPS211B	Clean Plant and Equipment	20	2	Nil		UEP20112; UEP30212; UEP30112
UEPOPS232B	Transport Plant and Equipment	20	2	UEENEEE101A		UEP20112
UEPOPS237B	Perform Tool Store Duties	20	2	Nil		UEP20112
UEPOPS238B	Maintain Battery Banks and Cells	30	2	Nil		UEP20112

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS240B	Operate and Monitor Fuel Supply (Coal)	40	2	Nil		UEP20112
UEPOPS241B	Operate and Monitor Ash and Dust Disposal Plant	40	2	Nil		UEP20112
UEPOPS242B	Operate and Monitor Dust Collection Plant	40	2	Nil		UEP20112
UEPOPS243B	Operate Air Conditioning Plant	30	2	Nil		UEP20112
UEPOPS244B	Operate and Monitor Site Services Water Systems	30	2	Nil		UEP20112
UEPOPS245B	Conduct Chemical Batching Operations	30	2	Nil		UEP20112
UEPOPS246B	Operate Waste and Contaminated Water Plant	30	2	Nil		UEP20112
UEPOPS247B	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	40	2	Nil		UEP20112
UEPOPS248B	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine	40	2	Nil		UEP20112

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS249B	Liaise with Stakeholders	20	2	Nil	UEP30212; UEP30112	UEP20112
UEPOPS251A	Conduct Routine Wind Turbine Maintenance	40	2	Nil		UEP20112
UEPOPS252A	Undertake Local Systems Operations	30	2	Nil	UEP20112; UEP30212; UEP30112; UEP40112; UEP40212	

Power Generation Operations AQF 3 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS301B	Conduct Single Energy Source Isolation Procedures for Permit to Work	40	3	UEEENEEE101A	UEP30112; UEP30212; UEP40112; UEP40212; UEP50212	UEP50412; UEP50312; UEP50112; UEP40512; UEP40412; UEP40312; UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS304B	Make and Spread a Stockpile	40	3	UEENEEE101A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS305B	Operate & Monitor Briquette Coal Cooling Plant	40	3	UEENEEE101A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS306B	Operate & Monitor Briquette Coal Drying Plant	40	3	UEENEEE101A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS307B	Operate & Monitor Briquette Coal Press Plant	40	3	UEENEEE101A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS308B	Perform Briquette Laboratory Tests	40	3	UEENEEE101A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS309B	Operate and Monitor Air Conditioning Equipment and Ventilation Systems	20	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS310B	Operate Bulk Coal Handling Plant	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS311B	Operate Fabric Filter Dust Collection Plant	20	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS312B	Operate and Monitor Fuel Supply	20	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS313B	Operate and Monitor Boiler Draught System	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS314B	Operate and Monitor Fuel Firing Plant (Gas or Oil)	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS315B	Operate and Monitor Fuel Firing Plant (Coal)	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS316B	Operate and Monitor Boiler Steam/Water Cycle	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS317B	Operate and Monitor Fixed Fire Protection Systems	30	3	Nil	UEP30112	UEP30212; UEP40112; UEP40212; UEP50112;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEP50212
UEPOPS318B	Operate and Monitor Compressed Gas Systems	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS319B	Operate and Monitor Gas Production Plant	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS320B	Operate and Monitor Compressed Air Systems	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS321B	Operate and Monitor Water Treatment Plant	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS322B	Operate and Monitor Alkalinity Reduction Plant	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS323B	Operate and Monitor Reverse Osmosis Plant	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS324B	Operate and Monitor Brine Concentrator Plant	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEP50112; UEP50212
UEPOPS325B	Operate and Monitor Water Quality Control Systems	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS326B	Operate and Monitor Oil Systems	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS327B	Monitor and Maintain Civil Assets	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS328B	Undertake Dam Safety Surveillance	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS329B	Operate and Monitor Auxiliary Steam Systems	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS330B	Operate and Monitor Heat Exchangers	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS331B	Operate and Monitor Water Systems (Condensate & Feedwater)	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEP50112; UEP50212
UEPOPS332B	Operate and Monitor Condensing and Cooling Water System	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS333B	Operate and Monitor H.R.S.G. Hot Gas Control System	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS334B	Operate and Monitor a Wind Generator	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS335B	Operate A Hydro Generator/Synchronous Condenser / Pump Unit	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS336B	Manage Operate and Monitor a Gas Turbine Unit	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS337B	Maintain Quality Systems within the Team	20	3	UEPOPS202B	UEP40112; UEP40212; UEP50112; UEP50212; UEP40312; UEP40412; UEP50412; UEP50312	UEP30112; UEP30212; UEP40512

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS338B	Facilitate Effective Workplace Communication	20	3	Nil	UEP40312; UEP40512; UEP50112; UEP50312; UEP50412	UEP30112; UEP30212; UEP40112; UEP40212; UEP40412; UEP50112; UEP50212
UEPOPS339B	Operate and Monitor a Boiler Unit	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS340B	Operate and Monitor a Steam Turbine	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS342B	Interpret and Analyse Single Operation Protection Devices	60	3	Nil	UEP30112; UEP40112; UEP40212; UEP50212	UEP30212; UEP50112
UEPOPS343B	Operate Hydro-Electric Generating Plant and Auxiliary Equipment	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS344B	Conduct Water Conveyance and Control	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS345B	Implement Dam Safety Surveillance Procedures	30	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS346B	Conduct Non-Routine Operational Testing	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS347B	Operate and Monitor Supervisory, Control and Data Acquisition Systems	40	3	Nil	UEP30112; UEP40112; UEP40212	UEP30212 UEP50112; UEP50212
UEPOPS349B	Operate local H.V. Switchgear	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS351B	Operate H.V. Condition Changing Apparatus	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS352B	Conduct Operational Checks on In-Service Mechanical Plant	40	3	UEENEEE101A	UEP30212;	UEP30112; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS354B	Operate and Monitor Dual Fuel-Firing Plant	80	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS355B	Monitor the Implementation of Under Frequency Load Shedding	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS356B	Apply Environmental and Sustainable Energy Procedures	20	3	Nil	UEP20112; UEP30112; UEP30212; UEP50112	UEP40112; UEP40212; UEP50212
UEPOPS357B	Operate H.V. Secondary Switchgear	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS358A	Monitor and Maintain Wind Farm Civil Assets	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS359A	Monitor Climatic Conditions for Renewable Energy Production	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS360A	Operate and Monitor a Hydro Turbine	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS361A	Operate and Monitor Hydro Plant Auxiliary Systems	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS362A	Operate and Monitor Generator/Alternator	60	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS364A	Ensure Compliance with Occupational Health and Safety policy and procedures	20	3	UEENEEE101A	UEP30112; UEP30212	UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS368A	Operate manual systems	30	3	UEPOPS252A		UEP30112; UEP30212; UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS369A	Respond to a critical incident	40	3	Nil	UEP30212; UEP40112; UEP50112	UEP30112; UEP40212; UEP50212
UEPOPS370A	Facilitate the use of contingency plans	60	3	Nil	UEP50112	UEP30112; UEP30212; UEP40112; UEP40212; UEP50212
UEPOPS371A	Carry out operational checks on in-service electrical plant	40	3	Nil	UEP30212; UEP40212; UEP40512 UEP50412	UEP30112; UEP40112; UEP40212; UEP50112; UEP50212

Power Generation Operations AQF 4 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
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Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS402B	Conduct Multiple Energy Source Isolation Procedures for Permit to Work	40	4	UEPOPS301B UEENEEE101A	UEP40212; UEP50212	UEP40112; UEP40312; UEP40412; UEP40512; UEP40612 UEP50112; UEP50312; UEP50412
UEPOPS403B	Coordinate Permit to Work System	40	4	UEPOPS402B UEENEEE101A	UEP40212; UEP50212	UEP40112; UEP50112
UEPOPS404B	Coordinate First Response Team Operation	20	4	UEPOPS210B		UEP40112; UEP40212; UEP50112; UEP50212;
UEPOPS405B	Operate and Monitor AC Electrical Systems	30	4	Nil	UEP40212	UEP40112; UEP50112; UEP50212
UEPOPS406B	Operate and Monitor DC Electrical Systems	30	4	Nil	UEP40212; UEP50212	UEP40112; UEP50112

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS407B	Start and Run Up A Gas Turbine	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS408B	Shut Down a Gas Turbine	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS409B	Start-Up A Boiler Unit	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS410B	Shut Down A Boiler Unit	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS411B	Run Up A Steam Turbine	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS412B	Undertake Operations Commissioning /	30	4	Nil		UEP40112; UEP40212;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	Decommissioning					UEP50112; UEP50212
UEPOPS413B	Coordinate Operational Strategies for Power Production	20	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS414B	Perform Risk Analysis of Generation Plant	20	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS416B	Monitor the Implementation of the Enterprise's Production / Maintenance Quality Control procedures	20	4	UEPOPS338B	UEP50312	UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS417B	Monitor and Implement Environmental Plans and Procedures	20	4	Nil	UEP40112; UEP40212; UEP40312; UEP40412; UEP40512; UEP50112; UEP50212; UEP50312; UEP50412	
UEPOPS419B	Shut down a steam turbine	60	4	Nil		UEP40112; UEP40212; UEP50112;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
						UEP50212
UEPOPS420B	Coordinate the Network/System	40	4	Nil	UEP40112; UEP50112	UEP40212; UEP50212
UEPOPS422B	Schedule Generation	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS423B	Plan a Scheduled Outage	40	4	Nil	UEP40112	UEP40212; UEP50112; UEP50212
UEPOPS424B	Coordinate Local H.V. Networks	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS425B	Produce Maintenance Plans For Generation Production Plant	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS426B	Interpret and Analyse Multi-Operation Protection Devices	40	4	UEPOPS342B	UEP40112; UEP40212; UEP50112; UEP50212	

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS428B	Develop H.V. Switching Programs	40	4	Nil	UEP40112; UEP50112	UEP40212; UEP50212
UEPOPS430B	Control Permit to Work Operations	30	4	Nil	UEP50412; UEP50312; UEP40512; UEP40412; UEP40312	UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS431B	Collect and Analyse Hydrological and Meteorological Data	20	4	UEPOPS209B		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS432B	Start up a Heat Recovery Steam Generator Unit	30	4	UEPOPS333B		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS433B	Operate and Monitor a Heat Recovery Steam Generator Unit	20	4	UEPOPS333B; UEPOPS407B; UEPOPS432B		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS434B	Shutdown an Heat Recovery Steam Generator Unit	30	4	UEPOPS333B; UEPOPS408B		UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS435B	Operate and Monitor Flue Gas NOx Mitigation Systems	30	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS437B	Manage System Re-Start	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212;
UEPOPS439B	Plan and Organise Work	30	4	Nil	UEP40112; UEP40212; UEP40312; UEP40412; UEP50212; UEP50312; UEP50412	UEP50112; UEP40512
UEPOPS440B	Co-ordinate Team Activities	30	4	Nil	UEP40112; UEP40212; UEP50112; UEP50212; UEP50312	UEP50412
UEPOPS441B	Operate and Monitor System Equipment	30	4	Nil	UEP50112	UEP40112; UEP40212; UEP50212
UEPOPS442B	Monitor and Co-ordinate the Operation of a Combined Cycle	60	4	UEPOPS314B; UEPOPS333B; UEPOPS336B;		UEP40112; UEP40212; UEP50112;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	Gas Turbine Unit			UEPOPS342B		UEP50212
UEPOPS443A	Coordinate Wind Farm Operations	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS444A	Start and Run-up a Hydro Turbine	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS445A	Shut Down a Hydro Turbine	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS446A	Operate and monitor hydro unit control and protection systems	80	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS447A	Coordinate photovoltaic solar power plant operations	60	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS450A	Coordinate effective workplace communication	40	4	UEPOPS338B		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS451A	Coordinate the use of contingency plans	40	4	UEPOPS370A		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS452A	Conduct operational checks and carry out corrective action on in-service electrical plant	40	4	Nil		UEP40112; UEP40212; UEP50112; UEP50212
UEPOPS454A	Coordinate response to critical incidents	30	4	UEPOPS369A	UEP40212; UEP50112; UEP50212	UEP40112
UEPOPS456A	Perform switching to a switching program	30	4	Nil	UEP50112	UEP40112; UEP40212; UEP50212
UEPOPS457A	Control electrical energy production	40	4	Nil	UEP50212	UEP40112; UEP40212; UEP50112

Power Generation Operations AQF 5 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS501B	Manage Occupational Health and Safety Policy and Procedures	40	5	UEENEEE117A	UEP50112; UEP50212; UEP50312; UEP50412	
UEPOPS502B	Manage Permit to Work System	40	5	UEPOPS403B UEPOPS402B UEENEEE101A	UEP50212	UEP50112; UEP50312
UEPOPS505B	Produce maintenance strategies for generation production plant	80	5	UEPOPS425B	UEP50312	UEP50112; UEP50212
UEPOPS507B	Conduct project management	60	5	Nil	UEP50412; UEP50312	UEP50112; UEP50212
UEPOPS508B	Manage commissioning/ decommissioning	80	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
UEPOPS509B	Manage quality control procedures	40	5	Nil	UEP50412; UEP50212	UEP50112; UEP50312
UEPOPS510B	Monitor power generation plant reliability	60	5	Nil		UEP50112; UEP50212; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS511B	Tune Process Plant and Equipment	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412;
UEPOPS512B	Manage the Network/System	80	5	UEPOPS420B	UEP50112	UEP50212; UEP50312
UEPOPS513B	Manage Operational Crisis to Maintain/Restore Power System Integrity	60	5	Nil	UEP50112; UEP50212	UEP50312
UEPOPS514B	Control hydro generation/pumping	60	5	Nil		UEP50112; UEP50212
UEPOPS515B	Coordinate power generation	40	5	Nil	UEP50112	UEP50212; UEP50312
UEPOPS520A	Evaluate cost estimations and initiate appropriate solutions	40	5	UEENEEC005B		UEP50112; UEP50212; UEP50312
UEPOPS523A	Manage critical incidents	60	5	UEPOPS369A UEPOPS454B		UEP50112; UEP50212; UEP50312
UEPOPS524A	Evaluate the scheduling of generation	60	5	UEPOPS422B		UEP50112; UEP50212; UEP50312
UEPOPS525A	Coordinate and direct switching program	60	5	UEPOPS456A		UEP50112; UEP50212; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPS526A	Coordinate electrical energy production	60	5	UEPOPS457A		UEP50112; UEP50212; UEP50312
UEPOPS527A	Manage first response team	40	5	UEPOPS404B UEPOPS210B		UEP50112; UEP50212; UEP50312
UEPOPS528A	Manage environmental management systems	40	5	UEPOPS417B		UEP50112; UEP50212; UEP50312
UEPOPS529A	Manage operational strategies for power production	80	5	Nil		UEP50112; UEP50212; UEP50312

Power Generation Maintenance AQF 2 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT201A	Carry out routine work activities in an electricity supply industry generation industry	40	2	UEENEEEE101A		UEP20112
UEPMNT202A	Carry out work in an ESI large scale wind generation environment	20	2	UEENEEEE101A	UEP40612	

Power Generation Maintenance AQF 3 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT302B	Install and Maintain Industrial Pipework	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B	UEP40412	UEP40312; UEP50312
UEPMNT303B	Maintain Mechanical Valves	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312;; UEP50312
UEPMNT304B	Maintain Mechanical Pumps	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312;
UEPMNT305B	Maintain Industrial Fans	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT307B	Maintain Industrial Screens, Strainers and Filters	20	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT308B	Maintain Conveyors and Associated Equipment	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT309B	Maintain Material Feeders	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C;		UEP40312; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18055B		
UEPMNT310B	Maintain Material Crushers	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT311B	Maintain Fuel Transport Equipment	80	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT312B	Maintain Industrial Pressure Vessels	80	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT313B	Maintain Internal Combustion Engines	100	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312;
UEPMNT314B	Maintain Hydro Turbines	100	3	Nil		UEP40312; UEP50312
UEPMNT315B	Maintain Wind Turbines	100	3	Nil		UEP40312;; UEP50312; UEP50412
UEPMNT317B	Diagnose and Repair Faults in Mechanical Equipment	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT318B	Conduct Generator Mechanical Maintenance	80	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312;; UEP50312
UEPMNT319B	Maintain and Test Fixed Fire Protection Systems	20	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT320B	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312
UEPMNT339B	Perform sheet metal work	60	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP40412
UEPMNT340B	Fabricate metal structures and components	40	3	MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP40412
UEPMNT345B	Install electronic equipment	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEE137A; UEENEEG006A; UEENEEG033A;		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A; UEENEEG109A		
UEPMNT346B	Maintain electrical equipment	40	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT347B	Maintain complex electrical equipment	60	3	UEPMNT346A		UEP40512; UEP50412
UEPMNT348B	Maintain electrical electronic equipment	40	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT350B	Modify electrical equipment	40	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A;		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG102A; UEENEEG106A		
UEPMNT351B	Test and commission electrical equipment	40	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT352B	Test and commission electronic electrical equipment	40	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT355B	Install complex electronic/instrumentation equipment	40	3	UEENEEI108A; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT356B	Maintain instrumentation equipment	40	3	UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT357B	Diagnose and repair faults in	60	3	UEENEEI101A;		UEP40512;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	instrumentation equipment			UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP50412
UEPMNT358B	Modify instrumentation equipment	40	3	UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT359B	Test and Commission Instrumentation Systems	40	3	UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT361A	Maintain Wind Turbine Mechanical Systems	60	3			UEP50412
UEPMNT362A	Maintain Wind Turbine Control Systems	60	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT366A	Maintain power plant inverter systems	60	3	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT367A	Install and commission stationary gas fuelled reciprocating engines	60	3	UEENEEE101A Or CPCCOHS1001A and HLTCPR201A		UEP40312
UEPMNT368A	Repair and maintain stationary gas fuelled reciprocating engines	60	3	UEENEEE101A Or CPCCOHS1001A and HLTCPR201A		UEP40312
UEPMNT369A	Monitor Climatic Conditions for Renewable Energy Power Generation	40	3	UEENEEE101A		UEP40612
UEPMNT370A	Maintain and monitor wind farm civil assets	40	3	UEENEEE101A; UEENEEE102A; UEENEEK142A		UEP40612
UEPMNT371A	Maintain large scale wind turbine generators	60	3	UEENEEE101A	UEP40612	

Power Generation Maintenance AQF 4 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT401B	Install and Maintain Complex Mechanical Seals	40	4	UEPMNT304B; MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT402B	Conduct Complex Levelling and Alignment	40	4	MEM18009B; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B; MEM18006C		UEP40312; UEP50312
UEPMNT403B	Maintain Complex Mechanical Valves	40	4	UEPMNT303B; MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT404B	Maintain Complex Mechanical Pumps	40	4	UEPMNT304B; MEM18006C; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B		UEP40312; UEP50312
UEPMNT406B	Install and Maintain a Steam Turbine	100	4	UEPMNT402B; MEM18009B; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B; MEM18006C		UEP40312; UEP50312
UEPMNT407B	Install and Maintain a Gas Turbine	100	4	UEPMNT402B; MEM18009B; MEM9002B; MEM12023A; MEM18001C;		UEP40312; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18002B; MEM18003C; MEM18055B; MEM18006C		
UEPMNT408B	Install Hydro Turbines	100	4	UEPMNT402B; MEM18009B; MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B; MEM18006C		UEP40312; UEP50312
UEPMNT410B	Diagnose and Repair Faults in Electronic Equipment	60	4	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT411B	Diagnose and Repair Faults in Complex Electrical Equipment	60	4	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT412B	Modify Complex Electrical Equipment	60	4	UEPMNT350B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A;		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		
UEPMNT413B	Modify Electronic Electrical Equipment	60	4	UEPMNT350B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT414B	Test and Commission Complex Electrical Equipment	60	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT415B	Diagnose and Repair Faults in Complex Refrigeration / Air Conditioning Equipment	60	4	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT416B	Overhaul Electrical Generators	80	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT417B	Inspect Electrical Generators and Diagnose Faults	80	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512; UEP50412
UEPMNT419B	Perform Civil Drafting MEM09002B	60	4	UEENEEE107A; UEENEEE101A or MEM09002B		UEP40312; UEP50312
UEPMNT421B	Conduct Technical Inspection of Process Plant and Equipment	60	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A	UEP50312	UEP40312; UEP40412; UEP40512; UEP50412
UEPMNT422B	Conduct Performance Testing on Process	60	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A;		UEP40312; UEP40412; UEP40512;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	Plant and Equipment			UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP50312; UEP50412
UEPMNT424B	Monitor Efficiency of Thermal Steam Cycle Power Plant	60	4	UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40312; UEP40412; UEP40512; UEP50312; UEP50412
UEPMNT425B	Maintain Complex Instrumentation Equipment	80	4	UEPMNT356B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT426B	Maintain Electronic Instrumentation Equipment	80	4	UEPMNT356B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT427B	Diagnose and Repair Faults in Complex Instrumentation Equipment	80	4	UEPMNT357B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT428B	Modify Complex Instrumentation Equipment	80	4	UEPMNT358B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT429B	Modify Electronic Instrumentation Equipment	80	4	UEPMNT358B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT430B	Test and Commission Complex Instrumentation Equipment	80	4	UEPMNT359B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT431B	Test and Commission Electronic Instrumentation Equipment	80	4	UEPMNT359B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP40512; UEP50412
UEPMNT432B	Write Programs for Control Systems	80	4	UEPMNT351B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512
UEPMNT433B	Conduct Routine Generation Electrical Maintenance	60	4	UEPMNT346B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT434A	Diagnose and Repair Faults in Wind Turbine Control Systems	80	4	UEPMNT362A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512
UEPMNT435A	Diagnose and Repair Faults in Wind Turbine Mechanical Systems	80	4	UEPMNT361A		UEP50312
UEPMNT436A	Test and Commission Wind Turbine Control Systems	80	4	UEPMNT362A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512
UEPMNT440A	Diagnose and repair faults in power plant inverter systems	60	4	UEPMNT366A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40512
UEPMNT441A	Test and commission power plant inverter	60	4	UEPMNT366A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A;		UEP40512

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	systems			UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		
UEPMNT442A	Maintain wind turbine generator electrical systems	60	4	UEPMNT371A; UEENEEG006A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40612
UEPMNT443A	Maintain wind turbine generator control systems	60	4	UEPMNT371A; UEENEEE101A		UEP40612
UEPMNT444A	maintain wind turbine generator mechanical systems	60	4	UEPMNT371A; UEENEEE101A		UEP40612
UEPMNT445A	Diagnose and repair faults in large scale wind turbine generators	60	4	UEPMNT371A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40612
UEPMNT446A	Coordinate maintenance on a wind	60	4	UEPMNT445A; UEPMNT448B; UEPMNT449B; UEPMNT371A; UEENEEG108A; UEENEEE101A;		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	farm			UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEG107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEPMNT443A; UEENEEE107A; UEPMNT444A		
UEPMNT447A	Diagnose and repair faults in wind turbine generator electrical systems	60	4	UEPMNT371A; UEPMNT442A; UEPMNT445A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A		UEP40612
UEPMNT448A	Diagnose and repair faults in wind turbine generator control systems	60	4	UEPMNT371A; UEPMNT443A; UEPMNT445A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40612
UEPMNT449A	Diagnose and repair mechanical systems faults in wind turbine generators	60	4	UEPMNT371A; UEPMNT444A; UEPMNT445A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A;		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		
UEPMNT450A	Test and commission wind turbine generators	60	4	UEPMNT371A; UEPMNT444A; UEPMNT443A; UEPMNT448A; UEPMNT449A; UEPMNT445A; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP40612

Power Generation Maintenance AQF 5 Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPMNT501B	Diagnose and Repair Faults in Electrical and Electronic Systems	100	5	UEPMNT410B; UEPMNT411B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		UEP50412
UEPMNT502B	Test and Commission Electronic Electrical Systems	100	5	UEPMNT352B; UEENEEG108A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A;		UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A		
UEPMNT503B	Diagnose and Repair Faults in Instrumentation Systems	100	5	UEPMNT427B; UEPMNT357B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP50412
UEPMNT504B	Test and Commission Instrumentation Systems	100	5	UEPMNT430B; UEPMNT359B; UEENEEI101A; UEENEEE102A; UEENEEE105A; UEENEEE107A		UEP50412

High Risk Licensing Competency Standard Units

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEPOPL001A	Licence to operate a steam turbine	60	4	Nil		UEP40212; UEP50212
UEPOPL002A	Licence to operate a reciprocating steam engine	60	4	Nil		UEP40212; UEP50212

Imported Competency Standard Units

BSB07 Business Services Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
BSBFLM303C	Contribute to effective workplace relationships	40	3	Nil		UEP30212; UEP30112
BSBFLM305C	Support operational plan	40	3	Nil		UEP30212; UEP30112
BSBFLM306C	Provide workplace information and resourcing plans	40	3	Nil		UEP30212; UEP30112
BSBFLM309C	Support continuous improvement systems and processes	40	3	Nil		UEP30212; UEP30112
BSBFLM311C	Support a workplace learning environment	40	3	Nil		UEP30212; UEP30112
BSBFLM312C	Contribute to team effectiveness	40	3	Nil		UEP30112; UEP30212
BSBINN301A	Promote innovation in a team environment	40	3	Nil		UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBWOR301B	Organise personal work priorities	40	3	Nil		UEP30112; UEP30212

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	and development					
BSBCUS401B	Coordinate implementation of customer service strategies	40	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBINM401A	Implement workplace information system	40	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBLED401A	Develop teams and individuals	40	4	Nil		UEP40112; UET40212; UEP40312; UEP40412; UEP40512
BSBMGT402A	Implement operational plan	40	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBMGT403A	Implement continuous improvement	40	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBWOR401A	Establish effective workplace relationships	50	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBWOR402A	Promote team effectiveness	50	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBWOR404B	Develop Work Priorities	40	4	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512
BSBCUS501C	Manage quality customer service	40	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
BSBINM501A	Manage an information or knowledge management system	50	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBINN502A	Build and sustain an innovative work environment	50	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBLED501A	Develop a workplace learning environment	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBMGT502B	Manage people performance	70	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBMGT515A	Manage operational plan	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBMGT516C	Facilitate continuous improvement	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBOHS509A	Ensure a Safe Workplace	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBWOR501B	Manage personal work priorities and professional development	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412
BSBWOR502B	Ensure team effectiveness	60	5	Nil		UEP50112; UEP50212; UEP50312; UEP50412

CPC08 Construction, Plumbing and Services Integrated Framework Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
CPCCCM2007B	Use explosive power tools	15	3	Nil		UEP20112; UEP30112; UEP30212; UEP40312; UEP40412
CPCCLDG3001A	Licence to perform dogging	30	3	Nil		UEP20112; UEP30112; UEP30212; UEP40312; UEP40412
CPCCLHS3001A	Licence to operate a personnel and materials hoist	30	3	Nil		UEP20112; UEP30112; UEP30212
CPCCLHS3002A	Licence to operate a materials hoist	20	3	Nil		UEP20112; UEP30112; UEP30212
CPCCLRG3001A	Licence to perform rigging basic level	40	3	Nil		UEP20112; UEP30112; UEP30212; UEP40312; UEP40412
CPCCLRG3002A	Licence to perform rigging intermediate level	40	3	Nil		UEP20112; UEP30112; UEP30212; UEP40312; UEP40412
CPCCLRG4001A	Licence to perform rigging advanced level	40	3	Nil		UEP30112; UEP30212
CPCCLSF2001A	Licence to erect, alter and dismantle	40	3	Nil		UEP20112; UEP30112;

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	scaffolding basic level					UEP30212; UEP40312; UEP40412
CPCCLSF3001A	Licence to erect, alter and dismantle scaffolding intermediate level	40	3	Nil		UEP20112; UEP30112; UEP30212
CPCCLSF4001A	Licence to erect, alter and dismantle scaffolding advanced level	40	3	Nil		UEP30112; UEP30212;

LGA04 Local Government Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
LGAWORK404A	Manage a civil works project	80	4	Nil		UEP50212

MEM05 Metal and Engineering Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM05004C	Perform routine oxy acetylene welding	20	3	Nil		UEP20112; UEP30112; UEP30212; UEP40112; UEP40312; UEP40412
MEM05005B	Carry out mechanical cutting	20	3	MEM12023A; MEM18001C		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM05007C	Perform manual heating and thermal cutting	20	3	Nil	UEP40412	UEP20112; UEP30112; UEP30212; UEP40112; UEP40312; UEP50312
MEM05011D	Assemble fabricated components	80	3	MEM05015D; MEM05017D; MEM05019D; MEM05022C; OR MEM05005B; MEM12023A; MEM18001C; MEM05005B; MEM09002B; MEM05007C;		UEP40412
MEM05012C	Perform routine manual metal arc welding	20	3	Nil	UEP40412	UEP20112; UEP30112; UEP30212; UEP40112; UEP40312; UEP50312
MEM05015D	Weld using manual metal arc welding process	40	3	MEM05012C MEM05051A	UEP40412	UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM05052A MEM12023A MEM18001C MEM18002B		
MEM05016C	Perform advanced welding using manual metal arc welding process	40	4	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM05015C MEM09002B MEM05007C	UEP40412	UEP50312
MEM05017D	Weld using gas metal arc welding process	40	3	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C	UEP40412	UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18002B MEM05050B		
MEM05018C	Perform advanced welding using gas metal arc welding process	40	3	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM05050B MEM05017D MEM09002B MEM05007C	UEP40412	UEP50312
MEM05019D	Weld using gas tungsten arc welding process	40	3	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM05049B		
MEM05020C	Perform advanced welding using gas tungsten arc welding process	40	4	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM05049B MEM05019D MEM09002B MEM05007C MEM05018C		UEP40412
MEM05022C	Perform advanced welding using oxy acetylene welding process	60	4	MEM05004C MEM05007C MEM05051A MEM05052A MEM09002B MEM18001C		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18002B		
MEM05024C	Perform welding supervision	120	5	MEM05026C	UEP40412	UEP50312
MEM05025C	Perform welding/fabrication inspection	120	4	MEM05026C; MEM12023A		UEP40412
MEM05026C	Apply welding principles	40	3	Nil	UEP40412	UEP50312
MEM05036C	Repair/replace/modify fabrications	40	3	MEM05015D MEM05017D MEM05019D MEM05022C OR MEM05005B MEM12023A MEM18001C MEM09002B MEM05007C MEM05011D		UEP40412
MEM05042B	Perform welds to code standards using flux core arc welding	60	4	MEM05050B MEM05051B		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	process			MEM05052B MEM12023B MEM18001C MEM18002B MEM05047B MEM05007C MEM09002B MEM05048B MEM05026C		
MEM05043B	Perform welds to code standards using gas metal arc welding process	60	4	MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM05050B MEM05017D MEM09002B MEM05007C MEM05018C		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM05026C		
MEM05044B	Perform welds to code standards using gas tungsten arc welding process	60	4	MEM05020C MEM05026C		UEP40412
MEM05045B	Perform pipe welds to code standards using manual metal arc welding process	60	4	MEM05012C MEM05051A MEM05052A MEM12023A MEM18001C MEM18002B MEM05015D MEM09002B MEM05007C MEM05016C MEM05026C		UEP40412
MEM05046B	Perform welds to code standards using manual metal arc welding process	60	4	MEM05012C MEM05051A MEM05052A MEM12023A		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18001C MEM18002B MEM05015D MEM09002B MEM05007C MEM05016C MEM05026C		
MEM05047B	Weld using flux core arc welding process	40	3	MEM05050B MEM05051B MEM05052B MEM12023B MEM18001C MEM18002B		UEP40412
MEM05048B	Perform advanced welding using flux core arc welding process	40	4	MEM05050B MEM05051B MEM05052B MEM12023B MEM18001C		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM18002B MEM05047B MEM05007C MEM09002B		
MEM05049B	Perform routine gas tungsten arc welding	20	3	Nil		UEP40412
MEM05050B	Perform routine gas metal arc welding	20	3	Nil	UEP40412	UEP50312
MEM05051A	Select welding processes	20	3	Nil	UEP40412	UEP50312
MEM05052A	Apply safe welding practices	40	3	Nil	UEP40412	UEP50312
MEM07005C	Perform general machining	80	3	MEM09002B; MEM12023A; MEM18001C	UEP40312	UEP50312
MEM07006C	Perform lathe operations	40	3	MEM09002B; MEM12023A; MEM18001C MEM07005C	UEP40312	UEP50312
MEM07007C	Perform milling operations	40	3	MEM09002B; MEM12023A; MEM18001C MEM07005C	UEP40312	UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM07008D	Perform grinding operations	40	3	MEM09002B; MEM12023A; MEM18001C MEM07005C	UEP40312	UEP50312
MEM07011B	Perform complex milling operations	40	4	MEM09002B; MEM12023A; MEM18001C MEM07005C MEM07007C MEM12024A MEM12003B MEM12023A		UEP40312; UEP50312
MEM07012B	Perform complex grinding operations	40	4	MEM09002B; MEM12023A; MEM18001C MEM07005C MEM07008C MEM12003B		UEP40312; UEP50312
MEM07021B	Perform complex lathe operations	40	4	MEM09002B; MEM12023A; MEM18001C MEM07005C MEM07006C		UEP40312; UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				MEM12023A MEM12023A MEM12003B		
MEM09002B	Interpret technical drawing	40	3	Nil	UEP40312; UEP40412; UEP50312	
MEM09003B	Prepare basic engineering drawing	80	3	MEM09002B		UEP40312
MEM09004B	Perform electrical/electronic detail drafting	80	4	MEM09002B MEM09003B		UEP40312
MEM09005B	Perform basic engineering detail drafting	80	3	MEM09002B MEM09003B		UEP40312
MEM09006B	Perform advanced engineering detail drafting	40	4	MEM09002B MEM09003B MEM09005B		UEP40312
MEM12003B	Perform precision mechanical measurement	20	4	MEM12023A	UEP40312	UEP50312
MEM12007D	Mark off/out structural fabrications and shapes	40	3	MEM12023A		UEP40412

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM12023A	Perform Engineering Measurements	50	3	Nil	UEP40312; UEP40412; UEP50312	
MEM12024A	Perform Computations	30	3	Nil	UEP40312	UEP40412; UEP50312
MEM18001C	Use hand tools	20	3	Nil	UEP40312; UEP40412; UEP50312	
MEM18002B	Use power tools/hand held operations	20	3	Nil	UEP40312; UEP40412; UEP50312	
MEM18003C	Use tools for precision work	40	3	MEM12023A; MEM18001C; MEM18002B	UEP40312	UEP50312
MEM18006C	Repair and fit engineering components	60	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B	UEP40312	UEP50312
MEM18007B	Maintain and repair mechanical drives and mechanical transmission assemblies	40	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C; MEM18009B	UEP40312	UEP50312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM18009B	Perform levelling and alignment of machines and engineering components	40	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C;	UEP40312	UEP50312
MEM18010C	Perform equipment condition monitoring and recording	40	4	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C MEM 18055B		UEP40312; UEP50312
MEM18018C	Maintain pneumatic system components	40	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C;		UEP40312
MEM18019B	Maintain pneumatic systems	40	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C; MEM18018C		UEP40312
MEM18020B	Maintain hydraulic system components	40	4	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C		UEP40312

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
MEM18021B	Maintain hydraulic systems	40	4	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C; MEM18020C		UEP40312
MEM18022B	Maintain fluid power controls	80	4	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C; MEM18018C OR MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C; MEM18055B MEM18006C; MEM18020C		UEP40312
MEM18055B	Dismantle, replace and assemble engineering components	30	3	MEM9002B; MEM12023A; MEM18001C; MEM18002B; MEM18003C	UEP40312	UEP50312

NWP07 Water Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
NWP318A	Monitor and Operate Gated Spillways	50	3	Nil		UEP30112; UEP30212
NWP319A	Monitor and Control Dam Operations	50	3	Nil		UEP30112; UEP30212
NWP320B	Monitor and Implement Dam Maintenance	50	3	Nil		UEP30112; UEP30212

RII09 Resources and Infrastructure Industry Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
RIIMPO304B	Conduct wheel loader operations	40	3	Nil		UEP20112; UEP30112; UEP30212
RIIMPO308B	Conduct tracked dozer operations	40	3	Nil		UEP20112; UEP30112; UEP30212
RIIMPO309A	Conduct wheeled dozer operations	40	3	Nil		UEP20112; UEP30112; UEP30212
RIIMPO318B	Conduct skid steer loader operations	70	3	Nil		UEP30112; UEP30212
RIIMPO319A	Conduct backhoe/loader operations	50	3	Nil		UEP20112; UEP30112; UEP30212
RIIHAN309A	Conduct Telescopic Materials Handler Operations	80	3	Nil		UEP30112; UEP30212; UEP40312; UEP40412

TAE10 Training and Education Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
TAEDEL301A	Provide training through instruction and demonstration of work skills	40	3	Nil		UEP40112; UEP40212; UEP40312; UEP40412; UEP40512

TLI10 Transport and Logistics Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
TLILIC0012A	License to operate a vehicle loading crane (Capacity 10 metre tonnes and above)	40	3	Nil		UEP20112; UEP40312; UEP40412
TLILIC2001A	Licence to operate a forklift truck	40	3	Nil		UEP20112; UEP30112; UEP30212; UEP40312; UEP40412
TLILIC2005A	License to Operate a Boom Type Elevating Work Platform (Boom Length 11 Metres or more)	30	3	Nil		UEP20112; UEP40312; UEP40412
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	60	3	Nil		UEP20112; UEP40312

UEE11 Electrotechnology Training Package

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEENEEC001B	Maintain documentation	20	3	Nil		UEP40512; UEP40612
UEENEEC005B	Estimate electrotechnology projects	40	4	Nil		UEP40112; UEP40512; UEP50112; UEP50412
UEENEEC010B	Deliver a service to customers	20	2	Nil		UEP40512; UEP40612
UEENEEED101A	Use computer applications relevant to a workplace	20	2	Nil		UEP40512; UEP40612
UEENEEED104A	Use software for engineering applications	40	3	Nil		UEP40512
UEENEEEE009B	Comply with scheduled and preventative maintenance program processes	20	3	None		UEP40612
UEENEEEE038B	Participate in development and follow a personal competency development plan	20	2	None	UEP40612	

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEENEEE101A	Apply Occupational Health Safety regulations, codes and practices in the workplace	20	2	Nil	UEP20112; UEP30112; UEP30212; UEP40112; UEP40212; UEP40312; UEP40412; UEP40512; UEP40612; UEP50112; UEP50212; UEP50312; UEP50412	
UEENEEE102A	Fabricate, dismantle, assemble of utilities industry components	40	2	UEENEEE101A	UEP40512; UEP40612; UEP50412	UEP20112; UEP30112; UEP30212
UEENEEE104A	Solve problems in d.c. circuits	80	3	UEENEEE101A	UEP40512; UEP40612; UEP50412	
UEENEEE105A	Fix and secure electrotechnology equipment	20	2	UEENEEE101A	UEP40512; UEP40612; UEP50412	
UEENEEE107A	Use drawings, diagrams, schedules, standards, codes and specifications	40	3	UEENEEE101A	UEP40512; UEP40612; UEP50412	
UEENEEE117A	Implement and monitor energy sector OHS policies and procedures	20	4	Nil	UEP40112; UEP40212; UEP40312; UEP40412; UEP40512; UEP40612; UEP50112; UEP50212;	

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
					UEP50312; UEP50412	
UEENEEE124A	Compile and produce an energy sector detailed report	60	4	Nil		UEP40112 UEP40512; UEP50412
UEENEEE137A	Document and apply measures to control OHS risks associated with electrotechnology work	20	2	UEENEEE101A	UEP40512; UEP40612; UEP50412	
UEENEEE185A	Write work activity reports	20	5	None	UEP40612	
UEENEEF102A	Install and maintain cabling for multiple access to telecommunication services	120	2	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A;		UEP40512; UEP40612
UEENEEF104A	Install and modify performance data communication copper cabling	40	3	UEENEEF102A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A		UEP40612
UEENEEF105A	Install and modify optical fibre performance data	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A;		UEP40512

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	communication cabling			UEENEEE107A; UEENEEF102A		
UEENEEF107A	Set up and configure the wireless capabilities of communications and data storage devices	40	2	UEENEEE101A		UEP40612
UEENEEF108A	Select and arrange equipment for wireless communication networks	40	3	UEENEEE101A		UEP40612
UEENEEF111A	Test, report and rectify faults in data and voice installations	40	3	UEENEEF104A; UEENEEF105A; UEENEEF102A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEE101A		UEP40612
UEENEEG006A	Solve problems in single and three phase low voltage machines	80	3	UEENEEG102A UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG101A; UEENEEG106A;	UEP40512; UEP40612; UEP50412	
UEENEEG033A	Solve problems in single and three phase low voltage electrical apparatus and circuits	60	3	UEENEEG102A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG101A;	UEP40512; UEP40612; UEP50412	

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG106A;		
UEENEEG063A	Arrange circuits, control and protection for general electrical installations	40	3	UEENEEG102A UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG101A; UEENEEG106A;	UEP40512; UEP40612; UEP50412	
UEENEEG101A	Solve problems in electromagnetic devices and related circuits	60	3	UEENEEE104A; UEENEEG101A	UEP40512; UEP40612; UEP50412	
UEENEEG102A	Solve problems in low voltage a.c. circuits	80	3	UEENEEG101A; UEENEEE104A; UEENEEG101A	UEP40512; UEP40612; UEP50412	
UEENEEG106A	Terminate cables, cords and accessories for low voltage circuits	40	3	UEENEEE101A; UEENEEE102A; UEENEEE105A; UEENEEE107B	UEP40512; UEP40612; UEP50412	
UEENEEG108A	Trouble-shoot and repair faults in low voltage electrical apparatus and circuits	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A	UEP40512; UEP40612; UEP50412	

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEENEEG109A	Develop and connect electrical control circuits	80	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A	UEP40512; UEP40612; UEP50412	
UEENEEG110A	Find and repair faults in LV d.c. electrical apparatus and circuits	60	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A		UEP40612
UEENEEG111A	Carry out basic repairs to electrical components and equipment	40	2	UEENEEE101A; UEENEEE102A		UEP40612
UEENEEG116A	Diagnose and rectify faults in traction lift systems	80	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A		UEP40612
UEENEEG129A	Overhaul and repair major switchgear and	60	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A;		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	controlgear			UEENEEE107A; UEENEEG111A; UEENEEG164A		
UEENEEG157A	Conduct electrical tests on LV electrical machines	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG101A; UEENEEG102A; UEENEEG106A AND UEENEEG150A; UEENEEG151A; UEENEEG153A OR UEENEEG033A; UEENEEG063A; UEENEEG108A		UEP40612
UEENEEG159A	Conduct mechanical tests on electrical machines and components	40	3	UEENEEG157A; UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG101A; UEENEEG102A; UEENEEG106A AND UEENEEG150A; UEENEEG151A; UEENEEG153A OR		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEG033A; UEENEEG063A; UEENEEG108A		
UEENEEG164A	Repair and maintain mechanical components of electrical machines	40	3	UEENEEE101A; UEENEEE102A; UEENEEE105A; UEENEEE107A; UEENEEG111A		UEP40612
UEENEEG165A	Maintain and service traction lifts systems and equipment	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A; UEENEEG116A		UEP40612
UEENEEG199A	Conduct compliance and functional verification of electrical apparatus and existing circuits	40	3	UEENEEE101A; UEENEEE102A; UEENEEE104A; UEENEEE105A; UEENEEE107B; UEENEEE137A; UEENEEG006A; UEENEEG033A; UEENEEG063A; UEENEEG101A; UEENEEG102A; UEENEEG106A; UEENEEG108A; UEENEEG109A	UEP40612	
UEENEEH102A	Repairs basic electronic apparatus faults by replacement of components	40	2	UEENEEE102A; UEENEEE101A		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
UEENEEH111A	Troubleshoot single phase input d.c. power supplies	40	3	UEENEEH102A; And UEENEEH114A; UEENEEE104A; UEENEEH169A Or UEENEEE104A; UEENEEG101A; UEENEEG102A;		UEP40612
UEENEEI101A	Use instrumentation drawings, specifications, standards and equipment manuals	40	3	UEENEEE102A; UEENEEE105A; UEENEEE107A;		UEP40512; UEP40612
UEENEEI107A	Install process instrumentation and tubing and control cabling	20	3	UEENEEI101A UEENEEE102A; UEENEEE105A; UEENEEE107A;		UEP40512
UEENEEI108A	Install process control apparatus and associated equipment	20	3	UEENEEI101A UEENEEE102A; UEENEEE105A; UEENEEE107A;		UEP40512
UEENEEI116A	Assemble, enter and verify operating instructions in microprocessor equipped	20	2	UEENEEE101A		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
	devices					
UEENEEI150A	Develop, enter and verify discrete control programs for programmable controllers	60	3	UEENEEE101A		UEP40612
UEENEEK142A	Apply environmentally and sustainable energy procedures in the energy sector	20	2	None		UEP40612
UEENEEK145A	Implement and monitor energy sector environmental and sustainable policies and procedures	20	4	None	UEP40612	
UETTDREL16A	Working safely near live electrical apparatus	20	3	Nil		UEP40612
UETTDRI544A	Perform HV field switching operation to a given schedule	50	3	Common Group UEENEEE101A UEENEEE102A UEENEEE104A UEENEEE105A		UEP40612

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UEENEEE107A UEENEEG101A UEENEEG102A UETTDREL16A Transmission Overhead Pathway UETTDREL11A UETTDREL12A UETTDNIS54A UETTDNTP26A UETTDNTP27A UETTDNTP29A Distribution Overhead Pathway UETTDREL11A UETTDNRP12A UETTDREL12A UETTDNIS41A UETTDNIS42A UETTDNIS52A UETTDNIS54A		

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UETTDNIS56A Rail Traction Pathway UETTDREL11A UETTDREL12A UETTDNIS52A UETTDNIS54A UETTDNRRT21A UETTDNRRT22A UETTDNRRT23A UETTDNRRT27A UETTDNRRT28A Distribution Cable Jointing Pathway UETTDRCJ21A UETTDRCJ26A UETTDRCJ27A UETTDREL11A UETTDREL12A UETTDNIS41A UETTDNIS42A		

Unit Code	Unit Title	Wtg Pts	AQF Level	Prerequisite/s	Qualification Core	Qualification Elective
				UETTDNIS55A Electrical Pathway UEENEEE137A UEENEEG006A UEENEEG033A UEENEEG063A UEENEEG106A UEENEEG108A UEENEEG109A UEENEEK142A UETTDNIS67A		

1.2.10 Mapping Standard Competency Units

2.10 Mapping Standard Competency Units

Included in this Training Package is a summary of:

- Competency Standard Units in the ESI - Generation Industry Training Package
- The relationship to former Competency Standard Units

- Comments to units in the former Training Package
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Table 1 — Mapping Units of Standard Competency UEP12 ESI - Generation Industry Training Package Version 2 and UEP12 ESI - Generation Industry Training Package Version 1

Power Generation Maintenance AQF 2 Competency Standard Units

UEP12 Version 2 Unit Code	UEP12 Version 2 Unit Title	UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	E = Equivalent N = Not Equivalent
UEPMNT202A	Carry out routine work activities in an ESI large scale wind generation environment		New Unit	

Power Generation Maintenance AQF 3 Competency Standard Units

UEP12 Version 2 Unit Code	UEP12 Version 2 Unit Title	UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	E = Equivalent N = Not Equivalent
UEPMNT369A	Monitor Climatic Conditions for Renewable Energy Power Generation		New Unit	
UEPMNT370A	Maintain and monitor wind farm civil assets		New Unit	
UEPMNT371A	Maintain large scale wind turbine generators		New Unit	

Power Generation Maintenance AQF 4 Competency Standard Units

UEP12 Version 2 Unit Code	UEP12 Version 2 Unit Title	UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	E = Equivalent N = Not Equivalent
UEPMNT442A	Maintain wind turbine generator electrical systems		New Unit	
UEPMNT443A	Maintain wind turbine generator control systems		New Unit	
UEPMNT444A	Maintain wind turbine generator mechanical systems		New Unit	
UEPMNT445A	Diagnose and repair faults in large scale wind turbine generators		New Unit	
UEPMNT446A	Coordinate maintenance on a wind farm		New Unit	
UEPMNT447A	Diagnose and repair faults in wind turbine generator electrical systems		New Unit	
UEPMNT448A	Diagnose and repair faults in wind turbine generator control systems		New Unit	
UEPMNT449A	Diagnose and repair mechanical systems faults in wind turbine generators		New Unit	
UEPMNT450A	Test and commission wind turbine generators		New Unit	

Table 2 — Mapping Units of Standard Competency UEP12 ESI - Generation Industry Training Package Version 1 and UEP06 ESI - Generation Industry Training Package Version 1.1

Power Generation Operations AQF 2 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
	Removed	UEPOPS201A	Comply with Occupational Health and Safety Policy and Procedures	
UEPOPS202B	Apply Quality Systems To Work	UEPOPS202A	Apply Quality Systems To Work	E
UEPOPS203B	Operate and Monitor Communications Systems	UEPOPS203A	Operate and Monitor Communications Systems	E
UEPOPS204B	Maintain and Utilise Records	UEPOPS204A	Maintain and Utilise Records	E
UEPOPS205B	Conduct Minor Mechanical Maintenance	UEPOPS205A	Conduct Minor Mechanical Maintenance	E
UEPOPS206B	Conduct Minor Electrical Maintenance	UEPOPS206A	Conduct Minor Electrical Maintenance	E
UEPOPS207B	Perform Plant Lubrication	UEPOPS207A	Perform Plant Lubrication	E
		UEPOPS208A	Operate Local Systems	E
UEPOPS209B	Perform Process Plant Inspections	UEPOPS209A	Perform Process Plant Inspections	E
UEPOPS210B	Conduct First Response within a Workplace Team	UEPOPS210A	Conduct First Response within a Workplace Team	E

UEPOPS211B	Clean Plant and Equipment	UEPOPS211A	Clean Plant and Equipment	E
	Removed	UEPOPS212A	Perform Basic Rigging Work	
	Removed	UEPOPS213A	Perform Intermediate Rigging Work	
	Removed	UEPOPS214A	Perform Dogging Work	
	Removed	UEPOPS215A	Perform Basic Scaffolding	
	Removed	UEPOPS216A	Perform Intermediate Scaffolding	
	Removed	UEPOPS217A	Conduct Elevating Work Platform Operations	
	Removed	UEPOPS218A	Shift and Transfer Materials using a Bulldozer	
	Removed	UEPOPS219A	Shift and Transfer Materials using a Grader	
	Removed	UEPOPS220A	Shift and Transfer Materials using a Scraper	
	Removed	UEPOPS221A	Shift and Transfer Materials using a Front end loader	
	Removed	UEPOPS222A	Shift and Transfer Materials using a Skidsteer loader	
	Removed	UEPOPS223A	Shift and Transfer Materials using a Telescopic materials handler-loader	
	Removed	UEPOPS224A	Shift and Transfer Materials using a Backhoe	
	Removed	UEPOPS225A	Shift and Transfer Materials using an Excavator	

	Removed	UEPOPS226A	Shift and Transfer Materials using Bobcats – wheeled and tracked	
	Removed	UEPOPS227A	Shift and Transfer Materials using Borers and related attachments	
	Removed	UEPOPS228A	Conduct Forklift Operations	
	Removed	UEPOPS229A	Operate Lifting and Load Shifting Equipment for loads less than ten tonnes	
	Removed	UEPOPS230A	Operate Lifting and Load Shifting Equipment for loads greater than ten tonnes	
	Removed	UEPOPS231A	Operate Explosive Powered Tools	
UEPOPS232B	Transport Plant and Equipment	UEPOPS232A	Transport Plant and Equipment	E
	Removed	UEPOPS233A	Perform Machining Operations	
	Removed	UEPOPS234A	Perform Routine Oxyacetylene (fuel Gas) Welding (OAW)	
	Removed	UEPOPS235A	Perform Routine Manual Arc Welding	
	Removed	UEPOPS236A	Perform Manual Heating, Thermal Cutting and Gouging	
UEPOPS237B	Perform Tool Store Duties	UEPOPS237A	Perform Tool Store Duties	E
UEPOPS238B	Maintain Battery Banks and Cells	UEPOPS238A	Maintain Battery Banks and Cells	E
	Removed	UEPOPS239A	Conduct Minor/Basic Electrical Maintenance	
UEPOPS240B	Operate and Monitor Fuel Supply (Coal)	UEPOPS240A	Operate and Monitor Fuel Supply (Coal)	E

UEPOPS241B	Operate and Monitor Ash and Dust Disposal Plant	UEPOPS241A	Operate and Monitor Ash and Dust Disposal Plant	E
UEPOPS242B	Operate and Monitor Dust Collection Plant	UEPOPS242A	Operate and Monitor Dust Collection Plant	E
UEPOPS243B	Operate Air Conditioning Plant	UEPOPS243A	Operate Air Conditioning Plant	E
UEPOPS244B	Operate and Monitor Site Services Water Systems	UEPOPS244A	Operate and Monitor Site Services Water Systems	E
UEPOPS245B	Conduct Chemical Batching Operations	UEPOPS245A	Conduct Chemical Batching Operations	E
UEPOPS246B	Operate Waste and Contaminated Water Plant	UEPOPS246A	Operate Waste and Contaminated Water Plant	E
UEPOPS247B	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	UEPOPS247A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	E
UEPOPS248B	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine	UEPOPS248A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine	E
UEPOPS249B	Liaise with Stakeholders	UEPOPS249A	Liaise with Stakeholders	E
	Removed	UEPOPS250A	Perform Process Plant Inspections	
UEPOPS251A	Conduct Routine Wind Turbine Maintenance		New Unit	
UEPOPS252A	Undertake Local Systems Operations		New Unit	

Power Generation Operations AQF 3 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
UEPOPS301B	Conduct Single Energy Source Isolation Procedures for Permit to Work	UEPOPS301A	Conduct Single Energy Source Isolation Procedures for Permit to Work	E
	Removed	UEPOPS302A	Perform Advanced Rigging Work	
	Removed	UEPOPS303A	Perform Advanced Scaffolding	
UEPOPS304B	Make and Spread a Stockpile	UEPOPS304A	Make and Spread a Stockpile	E
UEPOPS305B	Operate & Monitor Briquette Coal Cooling Plant	UEPOPS305A	Operate & Monitor Briquette Coal Cooling Plant	E
UEPOPS306B	Operate & Monitor Briquette Coal Drying Plant	UEPOPS306A	Operate & Monitor Briquette Coal Drying Plant	E
UEPOPS307B	Operate & Monitor Briquette Coal Press Plant	UEPOPS307A	Operate & Monitor Briquette Coal Press Plant	E
UEPOPS308B	Perform Briquette Laboratory Tests	UEPOPS308A	Perform Briquette Laboratory Tests	E
UEPOPS309B	Operate and Monitor Air Conditioning Equipment and Ventilation Systems	UEPOPS309A	Operate and Monitor Air Conditioning Equipment and Ventilation Systems	E
UEPOPS310B	Operate Bulk Coal Handling Plant	UEPOPS310A	Operate Bulk Coal Handling Plant	E
UEPOPS311B	Operate Fabric Filter Dust Collection Plant	UEPOPS311A	Operate Fabric Filter Dust Collection Plant	E

UEPOPS312B	Operate and Monitor Fuel Supply	UEPOPS312A	Operate and Monitor Fuel Supply	E
UEPOPS313B	Operate and Monitor Boiler Draught System	UEPOPS313A	Operate and Monitor Boiler Draught System	E
UEPOPS314B	Operate and Monitor Fuel Firing Plant (Gas or Oil)	UEPOPS314A	Operate and Monitor Fuel Firing Plant (Gas or Oil)	E
UEPOPS315B	Operate and Monitor Fuel Firing Plant (Coal)	UEPOPS315A	Operate and Monitor Fuel Firing Plant (Coal)	E
UEPOPS316B	Operate and Monitor Boiler Steam/Water Cycle	UEPOPS316A	Operate and Monitor Boiler Steam/Water Cycle	E
UEPOPS317B	Operate and Monitor Fixed Fire Protection Systems	UEPOPS317A	Operate and Monitor Fixed Fire Protection Systems	E
UEPOPS318B	Operate and Monitor Compressed Gas Systems	UEPOPS318A	Operate and Monitor Compressed Gas Systems	E
UEPOPS319B	Operate and Monitor Gas Production Plant	UEPOPS319A	Operate and Monitor Gas Production Plant	E
UEPOPS320B	Operate and Monitor Compressed Air Systems	UEPOPS320A	Operate and Monitor Compressed Air Systems	E
UEPOPS321B	Operate and Monitor Water Treatment Plant	UEPOPS321A	Operate and Monitor Water Treatment Plant	E
UEPOPS322B	Operate and Monitor Alkalinity Reduction Plant	UEPOPS322A	Operate and Monitor Alkalinity Reduction Plant	E
UEPOPS323B	Operate and Monitor Reverse Osmosis Plant	UEPOPS323A	Operate and Monitor Reverse Osmosis Plant	E
UEPOPS324B	Operate and Monitor Brine Concentrator Plant	UEPOPS324A	Operate and Monitor Brine Concentrator Plant	E

UEPOPS325B	Operate and Monitor Water Quality Control Systems	UEPOPS325A	Operate and Monitor Water Quality Control Systems	E
UEPOPS326B	Operate and Monitor Oil Systems	UEPOPS326A	Operate and Monitor Oil Systems	E
UEPOPS327B	Monitor and Maintain Civil Assets	UEPOPS327A	Monitor and Maintain Civil Assets	E
UEPOPS328B	Undertake Dam Safety Surveillance	UEPOPS328A	Undertake Dam Safety Surveillance	E
UEPOPS329B	Operate and Monitor Auxiliary Steam Systems	UEPOPS329A	Operate and Monitor Auxiliary Steam Systems	E
UEPOPS330B	Operate and Monitor Heat Exchangers	UEPOPS330A	Operate and Monitor Heat Exchangers	E
UEPOPS331B	Operate and Monitor Water Systems (Condensate & Feedwater)	UEPOPS331A	Operate and Monitor Water Systems (Condensate & Feedwater)	E
UEPOPS332B	Operate and Monitor Condensing and Cooling Water System	UEPOPS332A	Operate and Monitor Condensing and Cooling Water System	E
UEPOPS333B	Operate and Monitor H.R.S.G. Hot Gas Control System	UEPOPS333A	Operate and Monitor H.R.S.G. Hot Gas Control System	E
UEPOPS334B	Operate and Monitor a Wind Generator	UEPOPS334A	Operate and Monitor a Wind Generator	E
UEPOPS335B	Operate A Hydro Generator/Synchronous Condenser / Pump Unit	UEPOPS335A	Operate A Hydro Generator/Synchronous Condenser / Pump Unit	E
UEPOPS336B	Manage Operate and Monitor a Gas Turbine Unit	UEPOPS336A	Manage Operate and Monitor a Gas Turbine Unit	E
UEPOPS337B	Maintain Quality Systems within the Team	UEPOPS337A	Maintain Quality Systems within the Team	E
UEPOPS338B	Facilitate Effective Workplace Communication	UEPOPS338A	Facilitate Effective Workplace Communication	E
UEPOPS339B	Operate and Monitor a Boiler Unit	UEPOPS339A	Operate and Monitor a Boiler Unit	E

UEPOPS340B	Operate and Monitor a Steam Turbine	UEPOPS340A	Operate and Monitor a Steam Turbine	E
	Removed	UEPOPS341A	Shut Down a Steam Turbine	
UEPOPS342B	Interpret and Analyse Single Operation Protection Devices	UEPOPS342A	Interpret and Analyse Single Operation Protection Devices	E
UEPOPS343B	Operate Hydro-Electric Generating Plant and Auxiliary Equipment	UEPOPS343A	Operate Hydro-Electric Generating Plant and Auxiliary Equipment	E
UEPOPS344B	Conduct Water Conveyance and Control	UEPOPS344A	Conduct Water Conveyance and Control	E
UEPOPS345B	Implement Dam Safety Surveillance Procedures	UEPOPS345A	Implement Dam Safety Surveillance Procedures	E
UEPOPS346B	Conduct Non-Routine Operational Testing	UEPOPS346A	Conduct Non-Routine Operational Testing	E
UEPOPS347B	Operate and Monitor Supervisory, Control and Data Acquisition Systems	UEPOPS347A	Operate and Monitor Supervisory, Control and Data Acquisition Systems	E
	Removed	UEPOPS348A	Respond to Critical Incidents	
UEPOPS349B	Operate H.V. Primary Switchgear	UEPOPS349A	Operate H.V. Primary Switchgear	E
	Removed	UEPOPS350A	Develop Contingency Plans	
UEPOPS351B	Operate H.V. Condition Changing Apparatus	UEPOPS351A	Operate H.V. Condition Changing Apparatus	E
UEPOPS352B	Conduct Operational Checks on In-Service Mechanical Plant	UEPOPS352A	Conduct Operational Checks on In-Service Mechanical Plant	E
UEPOPS354B	Operate and Monitor Dual Fuel-Firing Plant	UEPOPS354A	Operate and Monitor Dual Fuel-Firing Plant	E
UEPOPS355B	Monitor the Implementation of Under Frequency Load Shedding	UEPOPS355A	Monitor the Implementation of Under Frequency Load Shedding	E

UEPOPS356B	Apply Environmental and Sustainable Energy Procedures	UEPOPS356A	Apply Environmental and Sustainable Energy Procedures	E
UEPOPS357B	Operate H.V. Secondary Switchgear	UEPOPS357A	Operate H.V. Secondary Switchgear	E
UEPOPS358A	Monitor and Maintain Wind Farm Civil Assets		New Unit	
UEPOPS359A	Monitor Climatic Conditions for Renewable Energy Production		New Unit	
UEPOPS360A	Operate and Monitor a Hydro Turbine		New Unit	
UEPOPS361A	Operate and Monitor Hydro Plant Auxiliary Systems		New Unit	
UEPOPS362A	Operate and Monitor Generator/Alternator		New Unit	
UEPOPS364A	Ensure Compliance with Occupational Health and Safety policy and procedures		New Unit	
UEPOPS368A	Operate manual systems		New Unit	
UEPOPS369A	Respond to a critical incident		New Unit	
UEPOPS370A	Facilitate the use of contingency plans		New Unit	
UEPOPS371A	Carry out operational checks on in-service electrical plant	UEPOPS353A	Conduct Operational Checks on In-Service Electrical Plant	E

Power Generation Maintenance AQF 3 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
	Removed	UEPMNT301A	Install and Maintain Hydraulic / Pneumatic Components	
UEPMNT302B	Install and Maintain Industrial Pipework	UEPMNT302A	Install and Maintain Industrial Pipework	E
UEPMNT303B	Maintain Mechanical Valves	UEPMNT303A	Maintain Mechanical Valves	E
UEPMNT304B	Maintain Mechanical Pumps	UEPMNT304A	Maintain Mechanical Pumps	E
UEPMNT305B	Maintain Industrial Fans	UEPMNT305A	Maintain Industrial Fans	E
	Removed	UEPMNT306A	Maintain Industrial Transmissions	
UEPMNT307B	Maintain Industrial Screens, Strainers and Filters	UEPMNT307A	Maintain Industrial Screens, Strainers and Filters	E
UEPMNT308B	Maintain Conveyors and Associated Equipment	UEPMNT308A	Maintain Conveyors and Associated Equipment	E
UEPMNT309B	Maintain Material Feeders	UEPMNT309A	Maintain Material Feeders	E
UEPMNT310B	Maintain Material Crushers	UEPMNT310A	Maintain Material Crushers	E
UEPMNT311B	Maintain Fuel Transport Equipment	UEPMNT311A	Maintain Fuel Transport Equipment	E
UEPMNT312B	Maintain Industrial Pressure Vessels	UEPMNT312A	Maintain Industrial Pressure Vessels	E
UEPMNT313B	Maintain Internal Combustion	UEPMNT313A	Maintain Internal Combustion Engines	E

	Engines			
UEPMNT314B	Maintain Hydro Turbines	UEPMNT314A	Maintain Hydro Turbines	E
UEPMNT315B	Maintain Wind Turbines	UEPMNT315A	Maintain Wind Turbines	E
	Removed	UEPMNT316A	Perform Advanced Machining Operations	
UEPMNT317B	Diagnose and Repair Faults in Mechanical Equipment	UEPMNT317A	Diagnose and Repair Faults in Mechanical Equipment	E
UEPMNT318B	Conduct Generator Mechanical Maintenance	UEPMNT318A	Conduct Generator Mechanical Maintenance	E
UEPMNT319B	Maintain and Test Fixed Fire Protection Systems	UEPMNT319A	Maintain and Test Fixed Fire Protection Systems	E
UEPMNT320B	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	UEPMNT320A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	E
	Removed	UEPMNT321A	Weld using Manual Metal Arc Welding Process (MMAW)	
	Removed	UEPMNT322A	Weld using Gas Metal Arc Welding Process (GMAW)	
	Removed	UEPMNT323A	Weld using Gas Tungsten Arc Welding Process (GTAW)	
	Removed	UEPMNT324A	Weld using Oxyacetylene Welding Process (OAW)	
	Removed	UEPMNT325A	Weld using Submerged Arc Welding Process (SAW)	
	Removed	UEPMNT326A	Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW)	

	Removed	UEPMNT327A	Perform Advanced Welding using Gas Metal Arc Welding (GMAW)	
	Removed	UEPMNT328A	Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)	
	Removed	UEPMNT329A	Perform Advanced Welding using Oxyacetylene Welding Process (OAW)	
	Removed	UEPMNT330A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate)	
	Removed	UEPMNT331A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)	
	Removed	UEPMNT332A	Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)	
	Removed	UEPMNT333A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe)	
	Removed	UEPMNT334A	Perform Gas Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe)	
	Removed	UEPMNT335A	Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E	
	Removed	UEPMNT336A	Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)	
	Removed	UEPMNT337A	Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)	

	Removed	UEPMNT338A	Perform Submerged Arc Welding to Weld to AS1796 Certificate 9	
UEPMNT339B	Perform sheet metal work	UEPMNT339A	Perform sheet metal work	E
UEPMNT340B	Fabricate metal structures and components	UEPMNT340A	Fabricate metal structures and components	E
	Removed	UEPMNT341A	Repair/Replace/Modify metal structures and components	
	Removed	UEPMNT342A	Install electrical equipment	
	Removed	UEPMNT343A	Install electrical wiring systems	
	Removed	UEPMNT344A	Install complex electrical equipment	E
UEPMNT345B	Install electronic electrical equipment	UEPMNT345A	Install electronic electrical equipment	E
UEPMNT346B	Maintain electrical equipment	UEPMNT346A	Maintain electrical equipment	E
UEPMNT347B	Maintain complex electrical equipment	UEPMNT347A	Maintain complex electrical equipment	E
UEPMNT348B	Maintain electrical electronic equipment	UEPMNT348A	Maintain electrical electronic equipment	E
	Removed	UEPMNT349A	Diagnose and repair faults in electrical equipment	
UEPMNT350B	Modify electrical equipment	UEPMNT350A	Modify electrical equipment	E
UEPMNT351B	Test and commission electrical equipment	UEPMNT351A	Test and commission electrical equipment	E
UEPMNT352B	Test and commission electronic electrical equipment	UEPMNT352A	Test and commission electronic electrical equipment	E

	Removed	UEPMNT353A	Install instrumentation equipment	
	Removed	UEPMNT354A	Install instrumentation wiring systems	
UEPMNT355B	Install complex/electronic instrumentation equipment	UEPMNT355A	Install complex/electronic instrumentation equipment	E
UEPMNT356B	Maintain instrumentation equipment	UEPMNT356A	Maintain instrumentation equipment	E
UEPMNT357B	Diagnose and repair faults in instrumentation equipment	UEPMNT357A	Diagnose and repair faults in instrumentation equipment	E
UEPMNT358B	Modify instrumentation equipment	UEPMNT358A	Modify instrumentation equipment	E
UEPMNT359B	Test and Commission Instrumentation Systems	UEPMNT359A	Test and Commission Instrumentation Systems	E
	Removed	UEPMNT360A	Terminate fibre optic cables	
UEPMNT361A	Maintain Wind Turbine Mechanical Systems		New Unit	
UEPMNT362A	Maintain Wind Turbine Control Systems		New Unit	
UEPMNT366A	Maintain power plant inverter systems		New Unit	

Power Generation Operations AQF 4 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
	Removed	UEPOPS401A	Monitor Compliance with Occupational Health and Safety Policy and Procedures	
UEPOPS402B	Conduct Multiple Energy Source Isolation Procedures for Permit to Work	UEPOPS402A	Conduct Multiple Energy Source Isolation Procedures for Permit to Work	E
UEPOPS403B	Coordinate Permit to Work System	UEPOPS403A	Coordinate Permit to Work System	E
UEPOPS404B	Coordinate First Response Team Operation	UEPOPS404A	Coordinate First Response Team Operation	E
UEPOPS405B	Operate and Monitor AC Electrical Systems	UEPOPS405A	Operate and Monitor AC Electrical Systems	E
UEPOPS406B	Operate and Monitor DC Electrical Systems	UEPOPS406A	Operate and Monitor DC Electrical Systems	E
UEPOPS407B	Start and Run Up A Gas Turbine	UEPOPS407A	Start and Run Up A Gas Turbine	E
UEPOPS408B	Shut Down a Gas Turbine	UEPOPS408A	Shut Down a Gas Turbine	E
UEPOPS409B	Start-Up A Boiler Unit	UEPOPS409A	Start-Up A Boiler Unit	E
UEPOPS410B	Shut Down A Boiler Unit	UEPOPS410A	Shut Down A Boiler Unit	E
UEPOPS411B	Run Up A Steam Turbine	UEPOPS411A	Run Up A Steam Turbine	E
UEPOPS412B	Undertake Operations Commissioning / Decommissioning	UEPOPS412A	Undertake Operations Commissioning / Decommissioning	E
UEPOPS413B	Coordinate Operational Strategies for Power Production	UEPOPS413A	Coordinate Operational Strategies for Power Production	E

UEPOPS414B	Perform Risk Analysis of Generation Plant	UEPOPS414A	Perform Risk Analysis of Generation Plant	E
	Removed	UEPOPS415A	Perform Cost Estimations	
UEPOPS416B	Monitor the Implementation of the Enterprise's Production / Maintenance Quality Control procedures	UEPOPS416A	Monitor the Implementation of the Enterprise's Production / Maintenance Quality Control procedures	E
UEPOPS417B	Monitor and Implement Environmental Plans and Procedures	UEPOPS417A	Monitor and Implement Environmental Plans and Procedures	E
	Removed	UEPOPS418A	Deliver and Review Training	
UEPOPS419B	Shut down a steam turbine	UEPOPS419A	Reserved	E
UEPOPS420B	Coordinate the Network/System	UEPOPS420A	Coordinate the Network/System	E
	Removed	UEPOPS421A	Manage Critical Incidents	
UEPOPS422B	Schedule Generation	UEPOPS422A	Schedule Generation	E
UEPOPS423B	Plan a Scheduled Outage	UEPOPS423A	Plan a Scheduled Outage	E
UEPOPS424B	Coordinate Local H.V. Networks	UEPOPS424A	Coordinate Local H.V. Networks	E
UEPOPS425B	Produce Maintenance Plans For Generation Production Plant	UEPOPS425A	Produce Maintenance Plans For Generation Production Plant	E
UEPOPS426B	Interpret and Analyse Multi-Operation Protection Devices	UEPOPS426A	Interpret and Analyse Multi-Operation Protection Devices	E
	Removed	UEPOPS427A	Interpret and Analyse Low Voltage and Mechanical Protection Devices	
UEPOPS428B	Develop H.V. Switching Programs	UEPOPS428A	Develop H.V. Switching Programs	E
	Removed	UEPOPS429A	Coordinate and Direct Switching Program	

UEPOPS430B	Control Permit to Work Operations	UEPOPS430A	Control Permit to Work Operations	E
UEPOPS431B	Collect and Analyse Hydrological and Meteorological Data	UEPOPS431A	Collect and Analyse Hydrological and Meteorological Data	E
UEPOPS432B	Start up a Heat Recovery Steam Generator Unit	UEPOPS432A	Start up a Heat Recovery Steam Generator Unit	E
UEPOPS433B	Operate and Monitor a Heat Recovery Steam Generator Unit	UEPOPS433A	Operate and Monitor a Heat Recovery Steam Generator Unit	E
UEPOPS434B	Shutdown an Heat Recovery Steam Generator Unit	UEPOPS434A	Shutdown an Heat Recovery Steam Generator Unit	E
UEPOPS435B	Operate and Monitor Flue Gas NO _x Mitigation Systems	UEPOPS435A	Operate and Monitor Flue Gas NO _x Mitigation Systems	E
	Removed	UEPOPS436A	Operate and Monitor Dual Fuel Firing Plant	
UEPOPS437B	Manage System Re-Start	UEPOPS437A	Manage System Re-Start	E
	Removed	UEPOPS438A	Coordinate Electrical Energy Production	
UEPOPS439B	Plan and Organise Work	UEPOPS439A	Plan and Organise Work	E
UEPOPS440B	Co-ordinate Team Activities	UEPOPS440A	Co-ordinate Team Activities	E
UEPOPS441B	Operate and Monitor System Equipment	UEPOPS441A	Operate and Monitor System Equipment	E
UEPOPS442B	Monitor and Co-ordinate the Operation of a Combined Cycle Gas Turbine Unit	UEPOPS442A	Monitor and Co-ordinate the Operation of a Combined Cycle Gas Turbine Unit	E
UEPOPS443A	Coordinate Wind Farm Operations		New Unit	
UEPOPS444A	Start and Run-up a Hydro Turbine		New Unit	
UEPOPS445A	Shut Down a Hydro Turbine		New Unit	

UEPOPS446A	Operate and monitor hydro unit control and protection systems		New Unit	
UEPOPS447A	Coordinate photovoltaic solar power plant operations		New Unit	
UEPOPS450A	Coordinate effective workplace communication		New Unit	
UEPOPS451A	Coordinate the use of contingency plans		New Unit	
UEPOPS452A	Conduct operational checks and carry out corrective action on in-service electrical plant		New Unit	
UEPOPS454A	Coordinate response to critical incidents		New Unit	
UEPOPS456A	Perform switching to a switching program		New Unit	
UEPOPS457A	Control electrical energy production		New Unit	

Power Generation Maintenance AQF 4 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
UEPMNT401B	Install and Maintain Complex Mechanical Seals	UEPMNT401A	Install and Maintain Complex Mechanical Seals	E
UEPMNT402B	Conduct Complex Levelling and	UEPMNT402A	Conduct Complex Levelling and Alignment	E

	Alignment			
UEPMNT403B	Maintain Complex Mechanical Valves	UEPMNT403A	Maintain Complex Mechanical Valves	E
UEPMNT404B	Maintain Complex Mechanical Pumps	UEPMNT404A	Maintain Complex Mechanical Pumps	E
		UEPMNT405A	Maintain Fluid Power Systems	E
UEPMNT406B	Install and Maintain a Steam Turbine	UEPMNT406A	Install and Maintain a Steam Turbine	E
UEPMNT407B	Install and Maintain a Gas Turbine	UEPMNT407A	Install and Maintain a Gas Turbine	E
UEPMNT408B	Install Hydro Turbines	UEPMNT408A	Install Hydro Turbines	E
	Removed	UEPMNT409A	Conduct Welding Inspection/Supervision	
UEPMNT410B	Diagnose and Repair Faults in Electronic Equipment	UEPMNT410A	Diagnose and Repair Faults in Electronic Equipment	E
UEPMNT411B	Diagnose and Repair Faults in Complex Electrical Equipment	UEPMNT411A	Diagnose and Repair Faults in Complex Electrical Equipment	E
UEPMNT412B	Modify Complex Electrical Equipment	UEPMNT412A	Modify Complex Electrical Equipment	E
UEPMNT413B	Modify Electronic Electrical Equipment	UEPMNT413A	Modify Electronic Electrical Equipment	E
UEPMNT414B	Test and Commission Complex Electrical Equipment	UEPMNT414A	Test and Commission Complex Electrical Equipment	E
UEPMNT415B	Diagnose and Repair Faults in Complex Refrigeration / Air Conditioning Equipment	UEPMNT415A	Diagnose and Repair Faults in Complex Refrigeration / Air Conditioning Equipment	E
UEPMNT416B	Overhaul Electrical Generators	UEPMNT416A	Overhaul Electrical Generators	E
UEPMNT417B	Inspect Electrical Generators and Diagnose Faults	UEPMNT417A	Inspect Electrical Generators and Diagnose Faults	E

	Removed	UEPMNT418A	Perform Mechanical and Fabrication Drafting	
UEPMNT419B	Perform Civil Drafting	UEPMNT419A	Perform Civil Drafting	E
	Removed	UEPMNT420A	Perform Electrical/Electronic Drafting	
UEPMNT421B	Conduct Technical Inspection of Process Plant and Equipment	UEPMNT421A	Conduct Technical Inspection of Process Plant and Equipment	E
UEPMNT422B	Conduct Performance Testing on Process Plant and Equipment	UEPMNT422A	Conduct Performance Testing on Process Plant and Equipment	E
	Removed	UEPMNT423A	Conduct/Implement Condition Monitoring	
UEPMNT424B	Monitor Efficiency of Thermal Steam Cycle Power Plant	UEPMNT424A	Monitor Efficiency of Thermal Steam Cycle Power Plant	E
UEPMNT425B	Maintain Complex Instrumentation Equipment	UEPMNT425A	Maintain Complex Instrumentation Equipment	E
UEPMNT426B	Maintain Electronic Instrumentation Equipment	UEPMNT426A	Maintain Electronic Instrumentation Equipment	E
UEPMNT427B	Diagnose and Repair Faults in Complex Instrumentation Equipment	UEPMNT427A	Diagnose and Repair Faults in Complex Instrumentation Equipment	E
UEPMNT428B	Modify Complex Instrumentation Equipment	UEPMNT428A	Modify Complex Instrumentation Equipment	E
UEPMNT429B	Modify Electronic Instrumentation Equipment	UEPMNT429A	Modify Electronic Instrumentation Equipment	E
UEPMNT430B	Test and Commission Complex Instrumentation Equipment	UEPMNT430A	Test and Commission Complex Instrumentation Equipment	E
UEPMNT431B	Test and Commission Electronic Instrumentation Equipment	UEPMNT431A	Test and Commission Electronic Instrumentation Equipment	E

UEPMNT432B	Write Programs for Control Systems	UEPMNT432A	Write Programs for Control Systems	E
UEPMNT433B	Conduct Routine Generation Electrical Maintenance	UEPMNT433A	Conduct Routine Generation Electrical Maintenance	E
UEPMNT434A	Diagnose and Repair Faults in Wind Turbine Control Systems		New Unit	
UEPMNT435A	Diagnose and Repair Faults in Wind Turbine Mechanical Systems		New Unit	
UEPMNT436A	Test and Commission Wind Turbine Control Systems		New Unit	
UEPMNT440A	Diagnose and repair faults in power plant inverter systems		New Unit	
UEPMNT441A	Test and commission power plant inverter systems		New Unit	

Power Generation Operation AQF 5 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
UEPOPS501B	Manage Occupational Health and Safety Policy and Procedures	UEPOPS501A	Manage Occupational Health and Safety Policy and Procedures	E
UEPOPS502B	Manage Permit to Work System	UEPOPS502A	Manage Permit to Work System	E

	Removed	UEPOPS503A	Manage first response team operations	
	Removed	UEPOPS504A	Develop Implement and Monitor Environmental Management Systems	
UEPOPS505B	Produce maintenance strategies for generation production plant	UEPOPS505A	Produce maintenance strategies for generation production plant	E
	Removed	UEPOPS506A	Establish and Implement Operational Strategies for Power Production	
UEPOPS507B	Conduct project management	UEPOPS507A	Conduct project management	E
UEPOPS508B	Manage commissioning/ decommissioning	UEPOPS508A	Manage commissioning/ decommissioning	E
UEPOPS509B	Manage quality control procedures	UEPOPS509A	Manage quality control procedures	E
UEPOPS510B	Monitor power generation plant reliability	UEPOPS510A	Monitor power generation plant reliability	E
UEPOPS511B	Tune Process Plant and Equipment	UEPOPS511A	Tune Process Plant and Equipment	E
UEPOPS512B	Manage the Network/System	UEPOPS512A	Manage the Network/System	E
UEPOPS513B	Manage Operational Crisis to Maintain/Restore Power System Integrity	UEPOPS513A	Manage Operational Crisis to Maintain/Restore Power System Integrity	E
UEPOPS514B	Control hydro generation/pumping	UEPOPS514A	Control hydro generation/pumping	E
UEPOPS515B	Coordinate power generation	UEPOPS515A	Coordinate power generation	E
UEPOPS520A	Evaluate cost estimations and initiate appropriate solutions		New Unit	
UEPOPS523A	Manage critical incidents		New Unit	
UEPOPS524A	Evaluate the scheduling of generation		New Unit	
UEPOPS525A	Coordinate and direct switching program		New Unit	

UEPOPS526A	Coordinate electrical energy production		New Unit	
UEPOPS527A	Manage first response team		New Unit	
UEPOPS528A	Manage environmental management systems		New Unit	
UEPOPS529A	Manage operational strategies for power production		New Unit	

Power Generation Maintenance AQF 5 Competency Standard Units

UEP12 Version 1 Unit Code	UEP12 Version 1 Unit Title	UEP06 Unit Code – V1.1	UEP06 Unit Title – V1.1	E = Equivalent N = Not Equivalent
UEPMNT501B	Diagnose and Repair Faults in Electrical and Electronic Systems	UEPMNT501A	Diagnose and Repair Faults in Electrical and Electronic Systems	E
UEPMNT502B	Test and Commission Electronic Electrical Systems	UEPMNT502A	Test and Commission Electronic Electrical Systems	E
UEPMNT503B	Diagnose and Repair Faults in Instrumentation Systems	UEPMNT503A	Diagnose and Repair Faults in Instrumentation Systems	E
UEPMNT504B	Test and Commission Instrumentation Systems	UEPMNT504A	Test and Commission Instrumentation Systems	E

Table 2 — Mapping Units of Standard Competency to former Training Packages (UTP98 & UEP06 – Version 1) and Pre-requisites**Schedule 1 Units UEPOPS201A – UEPOPS250A**

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit *	UTP98 UNIT CODE	Equivalence - Full, part or not
UEPOPS201A	Comply with Occupational Health and Safety Policy and Procedures	2	30	None	UTPNEG001A	
UEPOPS202A	Apply Quality Systems To Work	2	30	None	UTPNEG204A	
UEPOPS203A	Operate and Monitor Communications Systems	2	30	None	UTPNEG268A	
UEPOPS204A	Maintain and Utilise Records	2	30	None	UTPNEG270A	
UEPOPS205A	Conduct Minor Mechanical Maintenance	2	30	None	UTPNEG079A	
UEPOPS206A	Conduct Minor Electrical Maintenance	2	30	None	UTPNEG136A	
UEPOPS207A	Perform Plant Lubrication	2	30	None	UTPNEG178A	
UEPOPS208A	Operate Local Systems	2	35	None	UTPNEG189A	
UEPOPS209A	Perform Process Plant Inspections	2	30	None	UTPNEG238A	
UEPOPS210A	Conduct First Response within a Workplace Team	2	40	None	UTPNEG007A	
UEPOPS211A	Clean Plant and Equipment	2	30	None	UTPNEG015A	
UEPOPS212A	Perform Basic Rigging Work	2	30	UEPOPS201A	UTPNEG016A	

UEPOPS213A	Perform Intermediate Rigging Work	2	30	UEPOPS212A	UTPNEG017A	
UEPOPS214A	Perform Dogging Work	2	30	UEPOPS201A	UTPNEG019A	
UEPOPS215A	Perform Basic Scaffolding	2	30	UEPOPS201A	UTPNEG020A	
UEPOPS216A	Perform Intermediate Scaffolding	2	30	UEPOPS215A	UTPNEG021A	
UEPOPS217A	Conduct Elevating Work Platform Operations	2	30	UEPOPS201A	UTPNEG027B	
UEPOPS218A	Shift and Transfer Materials using a Bulldozer	2	40	UEPOPS201A	UTPNEG028Ba	
UEPOPS219A	Shift and Transfer Materials using a Grader	2	40	UEPOPS201A	UTPNEG028Ba	
UEPOPS220A	Shift and Transfer Materials using a Scraper	2	40	UEPOPS201A	UTPNEG028Bb	
UEPOPS221A	Shift and Transfer Materials using a Front end loader	2	40	UEPOPS201A	UTPNEG028Bc	
UEPOPS222A	Shift and Transfer Materials using a Skidsteer loader	2	40	UEPOPS201A	UTPNEG028Bd	
UEPOPS223A	Shift and Transfer Materials using a Telescopic materials handler-loader	2	40	UEPOPS201A	UTPNEG028Be	
UEPOPS224A	Shift and Transfer Materials using a Backhoe	2	40	UEPOPS201A	UTPNEG028Bf	
UEPOPS225A	Shift and Transfer Materials using an Excavator	2	40	UEPOPS201A	UTPNEG028Bg	
UEPOPS226A	Shift and Transfer Materials using Bobcats – wheeled and tracked	2	40	UEPOPS201A	UTPNEG028Bh	

UEPOPS227A	Shift and Transfer Materials using Borers and related attachments	2	40	UEPOPS201A	UTPNEG028Bi	
UEPOPS228A	Conduct Forklift Operations	2	30	UEPOPS201A	UTPNEG029A	
UEPOPS229A	Operate Lifting and Load Shifting Equipment for loads less than ten tonnes	2	30	UEPOPS201A	UTPNEG030A	
UEPOPS230A	Operate Lifting and Load Shifting Equipment for loads greater than ten tonnes	2	35	UEPOPS229A	UTPNEG031A	
UEPOPS231A	Operate Explosive Powered Tools	2	30	UEPOPS201A	UTPNEG032A	
UEPOPS232A	Transport Plant and Equipment	2	30	UEPOPS201A	UTPNEG038A	
UEPOPS233A	Perform Machining Operations	2	35	None	UTPNEG080A	
UEPOPS234A	Perform Routine Oxyacetylene (fuel Gas) Welding (OAW)	2	35	None	UTPNEG080A	
UEPOPS235A	Perform Routine Manual Arc Welding	2	30	None	UTPNEG112A	
UEPOPS236A	Perform Manual Heating, Thermal Cutting and Gouging	2	30	None	UTPNEG113A	
UEPOPS237A	Perform Tool Store Duties	2	30	None	UTPNEG114A	
UEPOPS238A	Maintain Battery Banks and Cells	2	30	None	UTPNEG133A	Full
UEPOPS239A	Conduct Minor/Basic Electrical Maintenance	2	30	None	UTPNEG136A	Full
UEPOPS240A	Operate and Monitor Fuel Supply (Coal)	2	40	None	UTPNEG152A	Full

UEPOPS241A	Operate and Monitor Ash and Dust Disposal Plant	2	40	None	UTPNEG153A	Full
UEPOPS242A	Operate and Monitor Dust Collection Plant	2	40	None	UTPNEG154A	Full
UEPOPS243A	Operate Air Conditioning Plant	2	30	None	UTPNEG163A	Full
UEPOPS244A	Operate and Monitor Site Services Water Systems	2	30	None	UTPNEG164A	Full
UEPOPS245A	Conduct Chemical Batching Operations	2	30	None	UTPNEG176A	Full
UEPOPS246A	Operate Waste and Contaminated Water Plant	2	35	None	UTPNEG177A	Full
UEPOPS247A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	2	40	None	UTPNEG191A	Full
UEPOPS248A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine	2	40	None	UTPNEG192A	Full
UEPOPS249A	Liaise with Stakeholders	2	30	None	UTPNEG269A	Full
UEPOPS250A	Perform Process Plant Inspections	2	35	None	UTPNEG238A	Full

Schedule 3 Units UEPMNT301A – UEPMNT360A

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPMNT301A	Install and Maintain Hydraulic / Pneumatic Components	3	90	Trade may apply	UTPNEG058A	Full
UEPMNT302A	Install and Maintain Industrial Pipework	3	90	Trade may apply	UTPNEG059A	Full
UEPMNT303A	Maintain Mechanical Valves	3	90	Trade may apply	UTPNEG062A	Full
UEPMNT304A	Maintain Mechanical Pumps	3	90	Trade may apply	UTPNEG064A	Full
UEPMNT305A	Maintain Industrial Fans	3	90	Trade may apply	UTPNEG066A	Full
UEPMNT306A	Maintain Industrial Transmissions	3	90	Trade may apply	UTPNEG067A	Full
UEPMNT307A	Maintain Industrial Screens, Strainers and Filters	3	90	Trade may apply	UTPNEG069A	Full
UEPMNT308A	Maintain Conveyors and Associated Equipment	3	90	Trade may apply	UTPNEG070A	Full
UEPMNT309A	Maintain Material Feeders	3	100	Trade may apply	UTPNEG071A	Full
UEPMNT310A	Maintain Material Crushers	3	100	Trade may apply	UTPNEG072A	Full

UEPMNT311A	Maintain Fuel Transport Equipment	3	100	Trade may apply	UTPNEG073A	Full
UEPMNT312A	Maintain Industrial Pressure Vessels	3	100	Trade may apply	UTPNEG074A	Full
UEPMNT313A	Maintain Internal Combustion Engines	3	100	Trade may apply	UTPNEG076A	Full
UEPMNT314A	Maintain Hydro Turbines	3	100	UEPMNT402A	UTPNEG077A	Full
UEPMNT315A	Maintain Wind Turbines	3	100	UEPMNT402A	UTPNEG078A	Full
UEPMNT316A	Perform Advanced Machining Operations	3	100	Trade may apply	UTPNEG081A	Full
UEPMNT317A	Diagnose and Repair Faults in Mechanical Equipment	3	90	Trade may apply	UTPNEG082A	Full
UEPMNT318A	Conduct Generator Mechanical Maintenance	3	100	Trade may apply	UTPNEG083A	Full
UEPMNT319A	Maintain and Test Fixed Fire Protection Systems	3	90	Trade may apply	UTPNEG084A	Full
UEPMNT320A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	3	90	Trade may apply	UTPNEG085A	Full
UEPMNT321A	Weld using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG090A	Full
UEPMNT322A	Weld using Gas Metal Arc Welding Process (GMAW)	3	80	Trade may apply	UTPNEG091A	Full
UEPMNT323A	Weld using Gas Tungsten Arc Welding Process (GTAW)	3	80	Trade may apply	UTPNEG092A	Full

UEPMNT324A	Weld using Oxyacetylene Welding Process (OAW)	3	80	Trade may apply	UTPNEG093A	Full
UEPMNT325A	Weld using Submerged Arc Welding Process (SAW)	3	80	Trade may apply	UTPNEG094A	Full
UEPMNT326A	Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG095A	Full
UEPMNT327A	Perform Advanced Welding using Gas Metal Arc Welding (GMAW)	3	80	Trade may apply	UTPNEG096A	Full
UEPMNT328A	Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)	3	80	Trade may apply	UTPNEG097A	Full
UEPMNT329A	Perform Advanced Welding using Oxyacetylene Welding Process (OAW)	3	80	Trade may apply	UTPNEG098A	Full
UEPMNT330A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate)	3	80	Trade may apply	UTPNEG099A	Full
UEPMNT331A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)	3	80	Trade may apply	UTPNEG100A	Full
UEPMNT332A	Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)	3	80	Trade may apply	UTPNEG101A	Full
UEPMNT333A	Perform Manual Metal Arc Welding Process to Weld to AS1796	3	80	Trade may apply	UTPNEG102A	Full

	Certificate 4 (Alloy Steel Pipe)					
UEPMNT334A	Perform Gas Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe)	3	80	Trade may apply	UTPNEG103A	Full
UEPMNT335A	Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E	3	80	Trade may apply	UTPNEG104A	Full
UEPMNT336A	Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)	3	80	Trade may apply	UTPNEG105A	Full
UEPMNT337A	Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)	3	80	Trade may apply	UTPNEG106A	Full
UEPMNT338A	Perform Submerged Arc Welding to Weld to AS1796 Certificate 9	3	80	Trade may apply	UTPNEG107A	Full
UEPMNT339A	Perform sheet metal work	3	100	Trade may apply	UTPNEG108A	Full
UEPMNT340A	Fabricate metal structures and components	3	100	Trade may apply	UTPNEG109A	Full
UEPMNT341A	Repair/Replace/Modify metal structures and components	3	100	Trade may apply	UTPNEG110A	Full
UEPMNT342A	Install electrical equipment	3	90	Trade may apply	UTPNEG115A	Full
UEPMNT343A	Install electrical wiring systems	3	90	Trade may	UTPNEG116A	Full

				apply		
UEPMNT344A	Install complex electrical equipment	3	90	Trade may apply	UTPNEG117A	Full
UEPMNT345A	Install electronic electrical equipment	3	90	Trade may apply	UTPNEG118A	Full
UEPMNT346A	Maintain electrical equipment	3	90	Trade may apply	UTPNEG119A	Full
UEPMNT347A	Maintain complex electrical equipment	3	90	Trade may apply	UTPNEG120A	Full
UEPMNT348A	Maintain electrical electronic equipment	3	90	Trade may apply	UTPNEG121A	Full
UEPMNT349A	Diagnose and repair faults in electrical equipment	3	90	Trade may apply	UTPNEG122A	Full
UEPMNT350A	Modify electrical equipment	3	90	Trade may apply	UTPNEG126A	Full
UEPMNT351A	Test and commission electrical equipment	3	90	Trade may apply	UTPNEG129A	Full
UEPMNT352A	Test and commission electronic electrical equipment	3	90	Trade may apply	UTPNEG131A	Full
UEPMNT353A	Install instrumentation equipment	3	90	Trade may apply	UTPNEG243A	Full
UEPMNT354A	Install instrumentation wiring systems	3	90	Trade may apply	UTPNEG244A	Full
UEPMNT355A	Install complex/electronic	3	90	Trade may	UTPNEG245A	Full

	instrumentation equipment			apply		
UEPMNT356A	Maintain instrumentation equipment	3	90	Trade may apply	UTPNEG246A	Full
UEPMNT357A	Diagnose and repair faults in instrumentation equipment	3	90	Trade may apply	UTPNEG249A	Full
UEPMNT358A	Modify instrumentation equipment	3	90	Trade may apply	UTPNEG252A	Full
UEPMNT359A	Test and Commission Instrumentation Systems	3	90	Trade may apply	UTPNEG255A	Full
UEPMNT360A	Terminate fibre optic cables	3	80	Trade may apply	UTPNEG259A	Full

Schedule 4 Units UEPOPS401A – UEPOPS442A

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS401A	Monitor Compliance with Occupational Health and Safety Policy and Procedures	4	120	UEPOPS201A	UTPNEG002A	Full
UEPOPS402A	Conduct Multiple Energy Source Isolation Procedures for Permit to Work	4	130	UEPOPS301A	NEW UNIT	Full
UEPOPS403A	Coordinate Permit to Work System	4	130	UEPOPS402A	UTPNEG005A	Full
UEPOPS404A	Coordinate First Response Team Operation	4	120	UEPOPS201A	UTPNEG008A	Full
UEPOPS405A	Operate and Monitor AC Electrical Systems	4	130	UEPOPS426A	UTPNEG187A	Full

UEPOPS406A	Operate and Monitor DC Electrical Systems	4	120	UEPOPS426A	UTPNEG188A	Full
UEPOPS407A	Start and Run Up A Gas Turbine	4	120	None	UTPNEG195A	Full
UEPOPS408A	Shut Down a Gas Turbine	4	120	None	UTPNEG197A	Full
UEPOPS409A	Start-Up A Boiler Unit	4	130	None	UTPNEG206A	Full
UEPOPS410A	Shut Down A Boiler Unit	4	120	None	UTPNEG208A	Full
UEPOPS411A	Run Up A Steam Turbine	4	130	None	UTPNEG209A	Full
UEPOPS412A	Undertake Operations Commissioning / Decommissioning	4	130	None	UTPNEG217A	Full
UEPOPS413A	Coordinate Operational Strategies for Power Production	4	120	None	NEW UNIT	Full
UEPOPS414A	Perform Risk Analysis of Generation Plant	4	120	None	UTPNEG221A	Full
UEPOPS415A	Perform Cost Estimations	4	120	None	UTPNEG222A	Full
UEPOPS416A	Monitor the Implementation of the Enterprise's Production / Maintenance Quality Control procedures	4	120	UEPOPS338A	NEW UNIT	Full
UEPOPS417A	Monitor and Implement Environmental Plans and Procedures	4	120	None	UTPNEG230A	Full
UEPOPS418A	Deliver and Review Training	4	120	None	UTPNEG205A	Full
UEPOPS419A	Reserved			None		Full
UEPOPS420A	Coordinate the Network/System	4	130	None	NEW UNIT	
UEPOPS421A	Manage Critical Incidents	4	130	None	NEW UNIT	
UEPOPS422A	Schedule Generation	4	120	None	UTPNEG273A	Full

UEPOPS423A	Plan a Scheduled Outage	4	120	None	UTPNEG274A	Full
UEPOPS424A	Coordinate Local H.V. Networks	4	110	None	UTPNEG275A	Full
UEPOPS425A	Produce Maintenance Plans For Generation Production Plant	4	130	None	UTPNEG219A	Full
UEPOPS426A	Interpret and Analyse Multi-Operation Protection Devices	4	120	UEPOPS344A	NEW UNIT	
UEPOPS427A	Interpret and Analyse Low Voltage and Mechanical Protection Devices	4	120	None	NEW UNIT	
UEPOPS428A	Develop H.V. Switching Programs	4	120	None	UTPNEG281A	Full
UEPOPS429A	Coordinate and Direct Switching Program	4	110	None	UTPNEG284A	Full
UEPOPS430A	Control Permit to Work Operations	4	130	None	NEW UNIT	
UEPOPS431A	Collect and Analyse Hydrological and Meteorological Data	4	120	UEPOPS209A	NEW UNIT	
UEPOPS432A	Start up a Heat Recovery Steam Generator Unit	4	130	UEPOPS333A	NEW UNIT	
UEPOPS433A	Operate and Monitor a Heat Recovery Steam Generator Unit	4	120	UEPOPS33A	NEW UNIT	
UEPOPS434A	Shutdown an Heat Recovery Steam Generator Unit	4	130	None	NEW UNIT	
UEPOPS435A	Operate and Monitor Flue Gas NOx Mitigation Systems	4	110	None	NEW UNIT	
UEPOPS436A	Operate and Monitor Dual Fuel Firing Plant	4	120	None	NEW UNIT	
UEPOPS437A	Manage System Re-Start	4	110	None	NEW UNIT	

UEPOPS438A	Coordinate Electrical Energy Production	4	130	None	UTPNEG212A	Full
UEPOPS439A	Plan and Organise Work	4	110	None	UTPNEG200A	Full
UEPOPS440A	Co-ordinate Team Activities	4	110	None	UTPNEG202A	Full
UEPOPS441A	Operate and Monitor System Equipment	4	110	None	UTPNEG267A	Full
UEPOPS442A	Monitor and Co-ordinate the Operation of a Combined Cycle Gas Turbine Unit	4	110	NEPOPS314A	NEW UNIT	

Schedule 5 Units UEPMNT401A – UEPMNT433A

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPMNT401A	Install and Maintain Complex Mechanical Seals	4	120	Trade Cert. needed	UTPNEG060A	Full
UEPMNT402A	Conduct Complex Levelling and Alignment	4	120	Trade Cert. needed	UTPNEG061A	Full
UEPMNT403A	Maintain Complex Mechanical Valves	4	120	UEPMNT303A	UTPNEG063A	Full
UEPMNT404A	Maintain Complex Mechanical Pumps	4	120	UEPMNT304A	UTPNEG065A	Full
UEPMNT405A	Maintain Fluid Power Systems	4	130	UEPMNT301A	UTPNEG068A	Full
UEPMNT406A	Install and Maintain a Steam Turbine	4	130	UEPMNT402A	UTPNEG075A	Full
UEPMNT407A	Install and Maintain a Gas Turbine	4	130	UEPMNT402A	NEW UNIT	
UEPMNT408A	Install Hydro Turbines	4	130	Trade Cert. needed	NEW UNIT	

UEPMNT409A	Conduct Welding Inspection/Supervision	4	130	Trade Cert. needed	UTPNEG089A	Full
UEPMNT410A	Diagnose and Repair Faults in Electronic Equipment	4	120	Trade Cert. needed	UTPNEG123A	Full
UEPMNT411A	Diagnose and Repair Faults in Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG124A	Full
UEPMNT412A	Modify Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG127A	Full
UEPMNT413A	Modify Electronic Electrical Equipment	4	120	Trade Cert. needed	UTPNEG128A	Full
UEPMNT414A	Test and Commission Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG130A	Full
UEPMNT415A	Diagnose and Repair Faults in Complex Refrigeration / Air Conditioning Equipment	4	120	Trade Cert. needed	UTPNEG135A	Full
UEPMNT416A	Overhaul Electrical Generators	4	130	UEPMNT351A	NEW UNIT	
UEPMNT417A	Inspect Electrical Generators and Diagnose Faults	4	120	Trade Cert. needed	NEW UNIT	
UEPMNT418A	Perform Mechanical and Fabrication Drafting	4	120	Trade Cert. needed	UTPNEG145A	Full
UEPMNT419A	Perform Civil Drafting	4	120	Trade Cert. needed	UTPNEG146A	Full
UEPMNT420A	Perform Electrical/Electronic Drafting	4	120	Trade Cert. needed	UTPNEG147A	Full

UEPMNT421A	Conduct Technical Inspection of Process Plant and Equipment	4	120	Trade Cert. needed	UTPNEG232A	Full
UEPMNT422A	Conduct Performance Testing on Process Plant and Equipment	4	120	Trade Cert. needed	UTPNEG233A	Full
UEPMNT423A	Conduct/Implement Condition Monitoring	4	120	Trade Cert. needed	UTPNEG234A	Full
UEPMNT424A	Monitor Efficiency of Thermal Steam Cycle Power Plant	4	110	Trade Cert. needed	UTPNEG235A	Full
UEPMNT425A	Maintain Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG247A	Full
UEPMNT426A	Maintain Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG248A	Full
UEPMNT427A	Diagnose and Repair Faults in Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG250A	Full
UEPMNT428A	Modify Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG253A	Full
UEPMNT429A	Modify Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG254A	Full
UEPMNT430A	Test and Commission Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG256A	Full
UEPMNT431A	Test and Commission Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG257A	Full
UEPMNT432A	Write Programs for Control Systems	4	120	Trade Cert. needed	UTPNEG260A	Full

UEPMNT433A	Conduct Routine Generation Electrical Maintenance	4	120	Trade Cert. needed	UTPNEG137A	Full
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Schedule 6 Units UEPOPS501 – UEPOPS515

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS501A	Manage Occupational Health and Safety Policy and Procedures	5	160	UEPOPS401A	UTPNEG003A	Full
UEPOPS502A	Manage Permit to Work System	5	160	UEPOPS403A	NEW UNIT	
UEPOPS503A	Manage first response team operations	5	160	UEPOPS404A	NEW UNIT	
UEPOPS504A	Develop Implement and Monitor Environmental Management Systems	5	160	None	UTPNEG009A	Full
UEPOPS505A	Produce maintenance strategies for generation production plant	5	150	UEPOPS425A	UTPNEG218A	Full
UEPOPS506A	Establish and Implement Operational Strategies for Power Production	5	150	None	UTPNEG220A	Full
UEPOPS507A	Conduct project management	5	150	None	UTPNEG223A	Full
UEPOPS508A	Manage commissioning/decommissioning	5	150	None	UTPNEG224A	Full
UEPOPS509A	Manage quality control procedures	5	150	None	UTPNEG225A	Full
UEPOPS510A	Monitor power generation plant reliability	5	140	None	UTPNEG236A	Full

UEPOPS511A	Tune Process Plant and Equipment	5	150	None	UTPNEG237A	Full
UEPOPS512A	Manage the Network/System	5	160	UEPOPS420A	UTPNEG271A	Full
UEPOPS513A	Manage Operational Crisis to Maintain/Restore Power System Integrity	5	140	None	UTPNEG279A	Full
UEPOPS514A	Control hydro generation/pumping	5	140	None	UTPNEG280A	Full
UEPOPS515A	Coordinate power generation	5	150	None	UTPNEG285A	Full

Schedule 7 Units UEPMNT501 – UEPMNT504

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPMNT501A	Diagnose and Repair Faults in Electrical and Electronic Systems	5	160	Trade Cert. needed	UTPNEG125A	Full
UEPMNT502A	Test and Commission Electronic Electrical Systems	5	160	Trade Cert. needed	UTPNEG132A	Full
UEPMNT503A	Diagnose and Repair Faults in Instrumentation Systems	5	160	Trade Cert. needed	UTPNEG251A	Full
UEPMNT504A	Test and Commission Instrumentation Systems	5	160	Trade Cert. needed	UTPNEG258A	Full

1.3.00 Assessment Guidelines

Volume 1 Part 3

Assessment Guidelines

1.3.01 Assessment Guidelines - Introduction

1.3.1 Assessment Guidelines – Introduction

These Assessment Guidelines provide the endorsed framework for assessment of the competency standard units in this Training Package. They are designed to ensure that assessment activities are consistent with the Australian Quality Training Framework (AQTF) and VET Quality Framework (Standards and Requirements)" Standards for Registered Training Organisations (RTOs). Assessments against the competency standard units in this Training Package must be carried out in accordance with these endorsed Assessment Guidelines.

Note:

1. Using this guideline to support any assessment strategy or process does not remove the responsibility of employers and employees to ensure appropriate ‘duty of care’ arrangements are maintained under relevant occupational health and safety legislation, and any other prevailing legislation, regulation, standard or code. RTOs should recognise this in their assessment processes and provide requisite advice.
2. In the assessment process it should be acknowledged that State/Territory regulatory requirements and/or Codes of Practice may vary. Therefore there may be a requirement for the demonstration of a greater range of items to those specified in respective competency standard units. RTOs should incorporate this in their assessment processes and practices.

1.3.02 Assessment System Overview

1.3.2 Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF and VET Quality Framework (Standards and Requirements)" requirements; licensing/registration requirements; and assessment pathways.

Quality assessment underpins the credibility of the vocational education and training sector. The Assessment Guidelines of a Training Package are an important tool in supporting quality assessment.

Assessment within the National Skills Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

Assessment must be carried out in accordance with the:

- benchmarks for assessment
- specific industry requirements
- principles of assessment
- rules of evidence
- assessment requirements set out in the AQTF and VET Quality Framework (Standards and Requirements)"

By way of supporting, and reinforcing, both the concept of competency and the competency standard unit, the Electricity Supply Industry – Generation Sector Industry embraces the following tenets:

- Wherever practicable, summative (or final) assessment is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with any approved industry and Regulatory policy in this regard.
- All persons may claim formal recognition for an assessment of an individual competency standard unit or a group of units (skill clusters).
- All persons have the right to have relevant competencies recognised through the most expeditious assessment system and method.

Benchmarks for Assessment

The purpose of assessment is to confirm through evidence whether an individual can perform to the standards expected in the Electricity Supply Industry – Generation Sector workplace, as expressed in the relevant endorsed competency standard unit.

The Competency Standard Units in this Training Package are the benchmarks for assessment in the Electricity Supply Industry – Generation Sector. They are the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

The Competency Standard Units in this Training Package include:

- National Electricity Supply Industry – Generation Sector (UEP) Competency Standards, Version 1, 2012 and subsequent endorsed revisions.
- Imported competency standard units from other endorsed Training Packages that have been valued by the National Electricity Supply Industry – Generation Sector Training Advisory Group for inclusion in Qualifications in this Training Package.

An index of the developed Competency Standard Units is contained in Part 1.2.00.

Australian Quality Training Framework Assessment Requirements

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 Essential Standards for Registration and VET Quality Framework (Standards and Requirements)".

The AQTF 2010 Essential Standards for Initial and Continuing Registration and VET Quality Framework (Standards and Requirements)" can be downloaded from <www.training.gov.au>.

The following points summarise the assessment requirements.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering/Course Accrediting Body in accordance with the Standards for Registered Training Organisations. The RTO must have the specific competency standard units and/or AQF qualifications on its scope of registration. The RTO is to be responsible for all aspects of assessment. The assessment must cover the critical aspects of evidence (assessment) detailed in each Competency Standard Unit. In addressing these critical aspects, and ensuring reasonable consistency, the assessment is to ensure that:

- the individual satisfies the requirements in terms of underpinning/essential knowledge and associated skills so that their ability to transfer the competency to differing circumstances may reasonably be inferred
- the individual is competent to safely perform all the practical applications required.

The RTO is also responsible for the issue of formal recognition in the form of National Qualifications or Statements of Attainment and where regulatory requirements apply provide additional information so required, and enter, where applicable and preferred by industry relevant information into an individual Industry Skills Passport, or other industry approved instrument. The RTO will therefore:

- issue the National Qualification based on individuals having been assessed as competent for the qualification and all the competency standard units which constitute the qualification. (See Part 1 of this Training Package), and/or
- issue formal recognition (Statements of Attainment) in respect of individual or clusters of competency standard units for which candidates have been assessed and found competent, and/or
- where required for regulated or industry purposes, issue additional formal information as specified by the industry and relevant regulator.

Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration, Standard 1.

Assessor Competency Requirements

Each person involved in training and assessment must be competent for the functions they perform. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration, Standard 1 for assessor (and trainer) competency requirements. See also the AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2.

Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

National Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

Access and Equity and Client Services

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

Monitoring Assessments

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 and VET Quality Framework (Standards and Requirements)" Essential Standards for Initial and Continuing Registration.

Issuing AQF qualifications and Statement of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF, VET Quality Framework (Standards and Requirements)" and the edition of the AQF Implementation Handbook—available on the AQF Council website www.aqf.edu.au.

Licensing/Registration Requirements

Licensing and registration requirements that apply to specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package consider that the licensing/registration 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 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.

Contact the relevant State or Territory Department(s) to check if the licensing/registration requirements described below still apply, and to check if there are any others with which you must comply. For further information contact:

Jurisdiction	Organisation	Website	Telephone number
Australian Capital Territory	ACT Planning and Land Authority	www.actpla.act.gov.au	02 6207 1923
New South Wales	Office of Fair Trading	www.fairtrading.nsw.gov.au	133 220
Northern Territory	NT WorkSafe	www.worksafe.nt.gov.au	1800 019 115
Queensland	Department of Mines and Energy	www.dme.qld.gov.au	07 3898 0375
South Australia	Office of Consumer and Business Affairs	www.ocba.sa.gov.au	08 8204 9696
Tasmania	WorkCover Tasmania	www.workcover.tas.gov.au	03 6233 7851
Victoria	Energy Safe Victoria	www.esv.vic.gov.au	03 9203 9700
Western Australia	Department of Consumer and Employment Protection - Energy Safety	www.energysafety.wa.gov.au	08 9422 5282

Licensing and/or registration requirements relevant to training, assessment and performance in the workplace of competencies in the Generation Industry Training Package are documented in the relevant units of competency at: 1.2) License to practice.

Licensing Line News

Licensing Line News is a Department of Education, Employment and Workplace Relations funded communication initiative to support the Council of Australian Governments (COAG) occupational licensing reform agenda. This website provides updated information on licensing and regulatory requirements. See: <http://www.licensinglinenews.com/>

Mutual Recognition

Registered Training Organisations may contact EE-Oz Training Standards as the declared National Industry Skills Council for the ElectroComms and EnergyUtilities Industry, for assistance regarding mutual recognition.

Partnership Arrangements

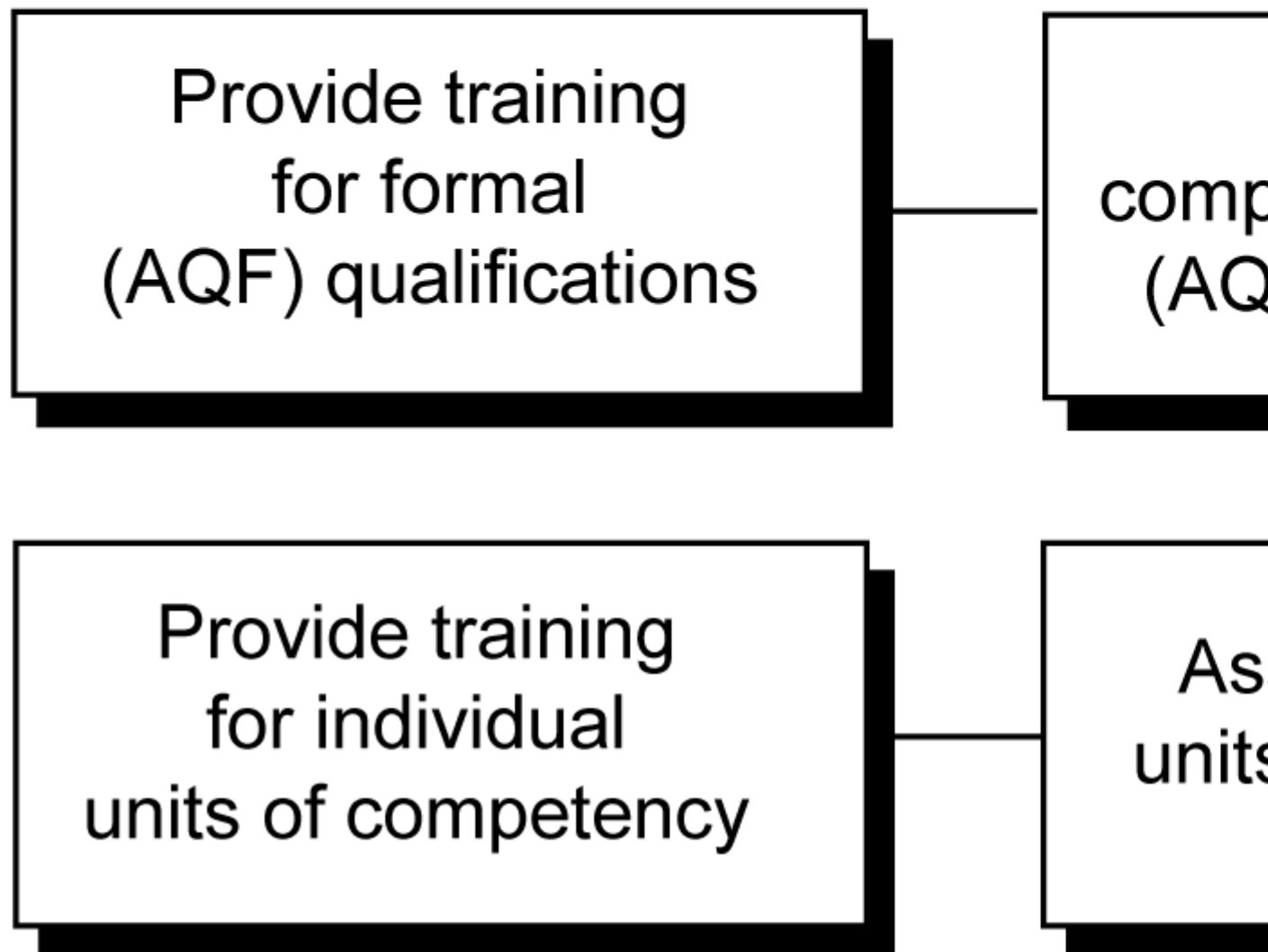
RTOs must have, and comply with, written agreements with each organisation providing training and/or assessment on its behalf. See AQTF Standard 1.6 of the Standards for Registered Training Organisations.

RTOs operating in partnership with other organisations are responsible for the quality of the partnering organisation services and service outcomes. Under the AQTF and VET Quality Framework (Standards and Requirements)", RTOs may through written agreement enter into partnerships with external and/or non-registered third party organisations, such as schools, industry organisations and enterprises, for delivery and assessment within the RTOs scope of registration.

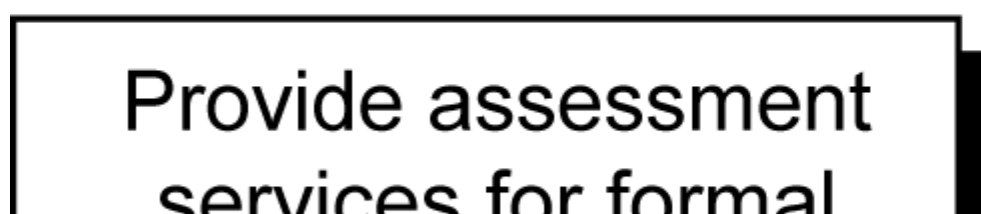
External and/or non-registered third party organisations need not be Registered Training Organisations (RTOs). However, the agreement must specify how each party to the agreement will discharge its responsibilities for compliance with all aspects of the Standards for Registered Training Organisations.

Possible roles for

Training and assessment:



Assessment only:



Where the RTO establishes a partnership arrangement it must have a formal agreement with the organisation that provides the training and/or assessment services. The agreement must specify how all parties will discharge their responsibilities for ensuring the quality of the training and/or assessment conducted on its behalf, including the qualification requirements of those to be involved in delivery and assessment.

The RTO has full responsibility for the quality and outcomes of any training or assessment conducted on its behalf, and must maintain a register of all such agreements.

Recording Assessment Outcomes

Each RTO must have effective administration and records management procedures in place, and must record AQF qualifications and Statements of Attainment issued. See AQTF Standards 4 and 10.2 of the Standards for Registered Training Organisations.

Statements of Attainment and qualifications issued under the AQF must comply with the relevant provisions in the current Australian Qualifications Framework Implementation Handbook and any other guides issued by the respective State Training Authorities, as well as any regulated requirements and those preferred by industry and advised within this Training Package.

Licensing/Registration Arrangements

It is a requirement that Training Package developers consider licensing/registration requirements in the development of the respective Industry Training Package. Generally licensing/registration requirements will be incorporated in relevant competency standard units/qualifications.

Where licensing/registration applies, RTOs are to ensure that assessment against relevant Competency Standard Units is consistent with regulated requirements. Evidence of achievement should be gathered and recorded in such a way as to allow RTOs to report on such achievement that is consistent with regulated requirements.

RTOs are responsible for the implementation of the quality assurance arrangements included in these guidelines. However, where competency development occurs in regulated/licensed areas, RTOs are to incorporate into their quality assurance arrangements, any additional, prevailing regulatory authority requirements. In some instances, in order to conduct assessments for statutory licensing or other industry registration requirements, assessors must also meet any additional requirements established by the regulatory body/agency. Respective regulators should be contacted directly to obtain information in this regard.

Requirements for Assessors

In order to conduct assessment for statutory licensing or other industry registration requirements assessors must meet the requirements established by regulatory agencies and respective nominees, in addition to the AQTF and VET Quality Framework (Standards and Requirements)" requirements. Assessors are to liaise with respective agencies to ensure respective requirements are followed and met.

Requirements for RTOs

Selected competency standard units and qualifications in this Training Package provide the basis for a range of statutory licensing and industry registration arrangements. To satisfy these licensing and registration arrangements, RTOs are to keep abreast of developments and any additional requirements detailed by such bodies and their respective nominees. RTOs and their assessors are therefore required to liaise with the Training Package developer and respective agencies to ensure requirements are known and met.

Requirements for Candidates

Individuals being assessed under statutory licensing and industry registration systems may be required to comply with training and experience requirements additional to any minimum requirements identified in this Training Package. These additional requirements are to be formally communicated by the RTOs to individuals prior to the delivery of the Training Package outcomes.

1.3.03 Learning and Assessment Pathways

1.3.3 Learning and Assessment pathways

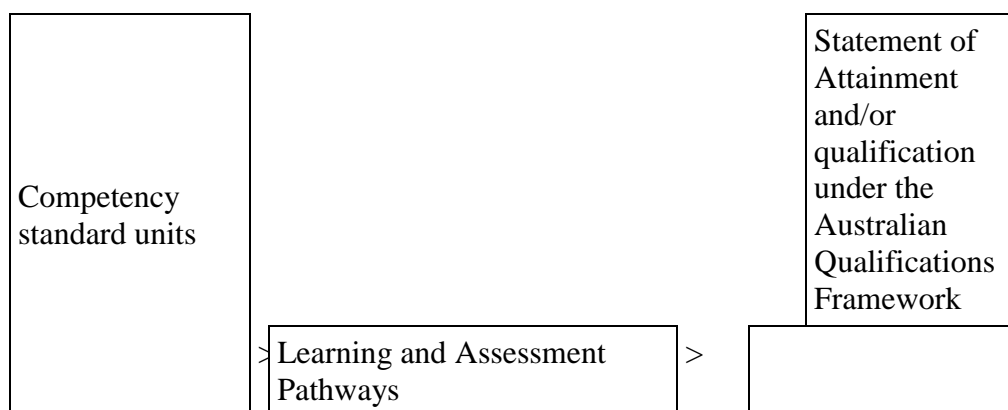
Pathways

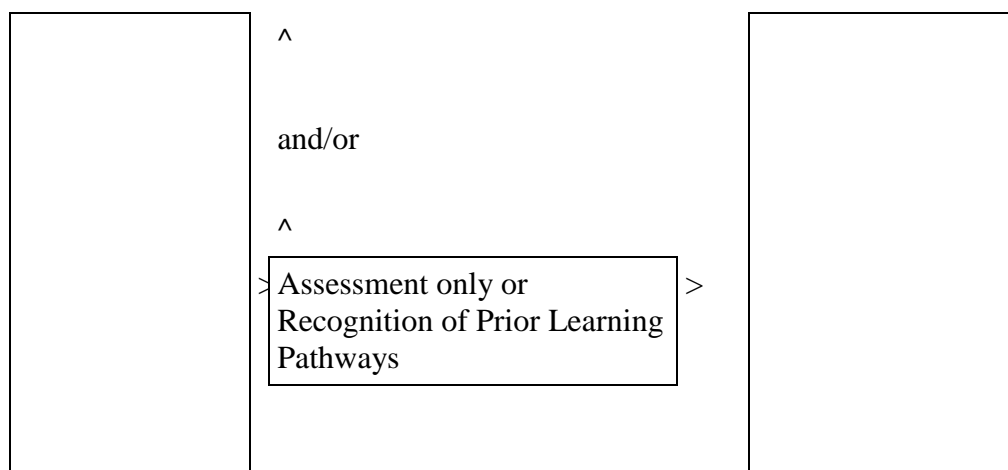
Competencies in Training Packages may be attained in a number of ways including:

- education and training
- experiences in the workplace
- general life experience
- any combination of the above.

Assessment under Training Packages leading to an AQF qualification or Statement of Attainment may follow:

- a learning and assessment pathway
- an assessment-only or recognition pathway
- a combination of the two.





Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired.

Assessment, by any pathway, must comply with the assessment requirements set out in the Standards for Registered Training Organisations.

Learning and Assessment Pathway Integration

New Entrants

Learning and assessment for new entrants is integrated and in part structured, with assessment evidence being collected progressively and feedback being provided to the candidate any time throughout the competency development learning and assessment process. Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be group-based, work-based, project-based, self paced, action learning-based; conducted by distance or e-learning; and involve practice and experience in the workplace.

Learning and assessment pathways that suit New Apprenticeships are a mix of formal training and workplace experience. They may be structured but need to take into account:

- typical irregular work activity
- work availability as it affects access to the range of activities required to be covered
- structured formative assessment activities through which candidates can acquire and demonstrate the practical skills and knowledge identified in the relevant competency standards.

The model that best accommodates a learner who has had no prior experiences (new entrant) in the industry is one that recognises that learning occurs and is facilitated best in directed workplace learning activities followed by recurring practice of these activities in a structured educational program. That is, the model is based on a combination of on-the-job and off-the-job learning experiences aligned to competency standard unit requirements. It recognises that learning occurs in an active way and should involve appropriate learning strategies. The model provides coherence and integration between respective components. It also represents:

- a most effective and efficient means of effecting quality education and training
- a means of assessing if learning has occurred and competence has been attained.

Competency standard units are specifications of work performance which do not provide specific information about the provision of training or detail as to how assessment activities are to be carried out. Given the nature of the information (content and its interrelationship) contained within the competency standard units there is the potential for a variety of interpretations to occur when RTOs are designing training programs.

To improve opportunities for consistency in interpretation, the industry's preferred approach is to support the use of appropriate learning and assessment strategies. To this end it has developed a Guideline Training and Assessment Model detailing the preferred approach. A copy of the model is available from EE-Oz Training Standards.

Assessment-Only Pathway or Recognition of Prior Learning Pathway

Competencies already held by individuals can be formally assessed against the competency standard units in this Training Package and should be recognised regardless of how, when or where they were achieved.

In some circumstances an assessment only (skills recognition) pathway will be warranted. The candidate provides current, quality evidence against the relevant Competency Standard Unit(S), and the outcomes of the assessment process indicate that the candidate is competent and that structured training is not required.

Candidates wishing to take this pathway present evidence that they possess the skills and knowledge identified in the relevant competency standard unit(s). The assessor then judges whether the candidate is competent. Summative approaches to assessment may be directed by the candidate (such as in the compilation of portfolios), or by the assessor (such as observation of workplace performance, requiring demonstrations of skills, and completion of oral and written testing).

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed competency standard unit. This evidence may take a variety of forms and might include certification, Industry Skills Council equivalence mapping declarations, references from past employers, testimonials from clients and work samples. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence is:

- authentic (the candidate's own work)
- valid (directly related to the current version of the relevant endorsed competency standard unit)
- reliable (a range of test instruments will provide the same result for a given candidate)
- current (reflect the candidate's current capacity to perform the aspect of the work covered by the endorsed Competency Standard Unit)
- sufficient (covers the full range of Elements and Performance Criteria in the relevant competency standard unit and addresses the four dimensions of competency, namely task skills, task management skills, competency management skills, and job/role environment skills).

Assessment-only or recognition of prior learning pathways are likely to be most appropriate in the following scenarios:

- candidates participating/enrolling in qualifications who want recognition for prior learning or current competencies
- existing workers
- individuals with overseas qualifications
- recent migrants with established work histories
- people returning to the workplace
- people with disabilities or injuries requiring a change in career
- people with existing competencies from allied industry Training Packages.

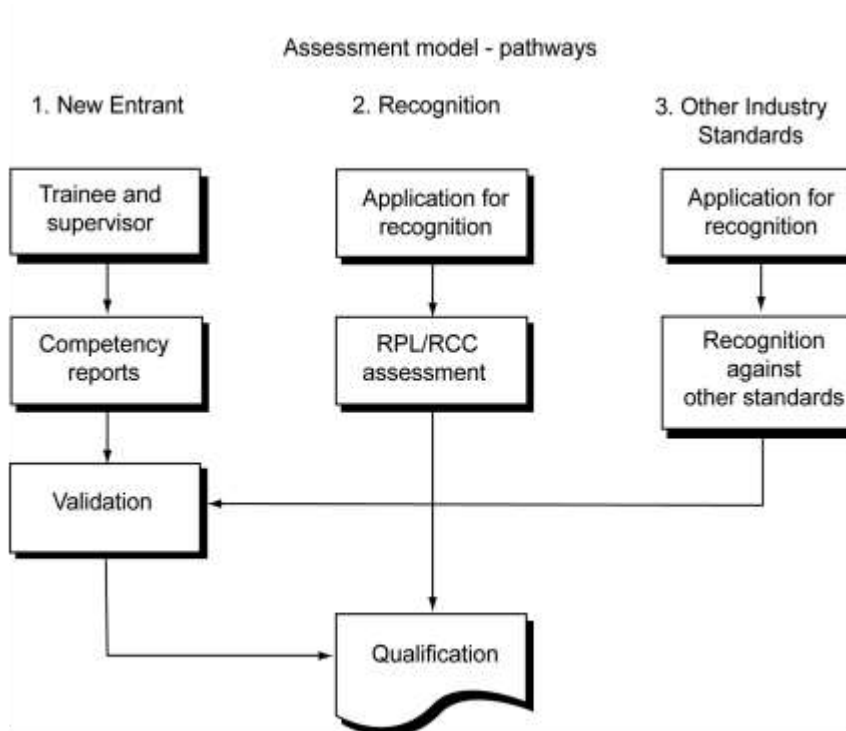
Note: The pathways listed above are only suggestions and should not be used to limit a greater range of candidates seeking assessment.

Combination of ‘Training and Assessment’ and ‘Assessment-Only’ Pathways

Where candidates have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of approaches may be appropriate. In such situations, the candidate may undertake an initial assessment to determine their current competence using an ‘assessment only pathway’. Once current competence is identified, a structured training and assessment program may be established to ensure that the candidate acquires the required additional competencies or gap. These would be achieved through a ‘training and assessment pathway’.

Learning and Assessment Pathways in the Electricity Supply Industry – Generation Sector

Within the general Training Package Pathways continuum framework, referred to above, three distinct Assessment Pathways have been identified for use within the National Electricity Supply Industry – Generation Sector.

Pathway 1: New entrant competency development**Pathway 2: Recognition of currently held competencies or prior learning and workplace experience****Pathway 3: Recognition of other currently held competencies (other industry standards)**

Although not exclusive, the three pathways provide typical recognition processes for individual Competency Standard Units or groups of units that make up Qualifications or Statements of Attainment. From an industry perspective, assessment is to lead to formal recognition of the Industry's benchmark competencies or formal recognition of competencies from other industries. Formal recognition may be for individual competencies or for groups of competencies, which may also be combined to satisfy the requirements of a National Qualification.

Pathway 1: New Entrant Competency Development

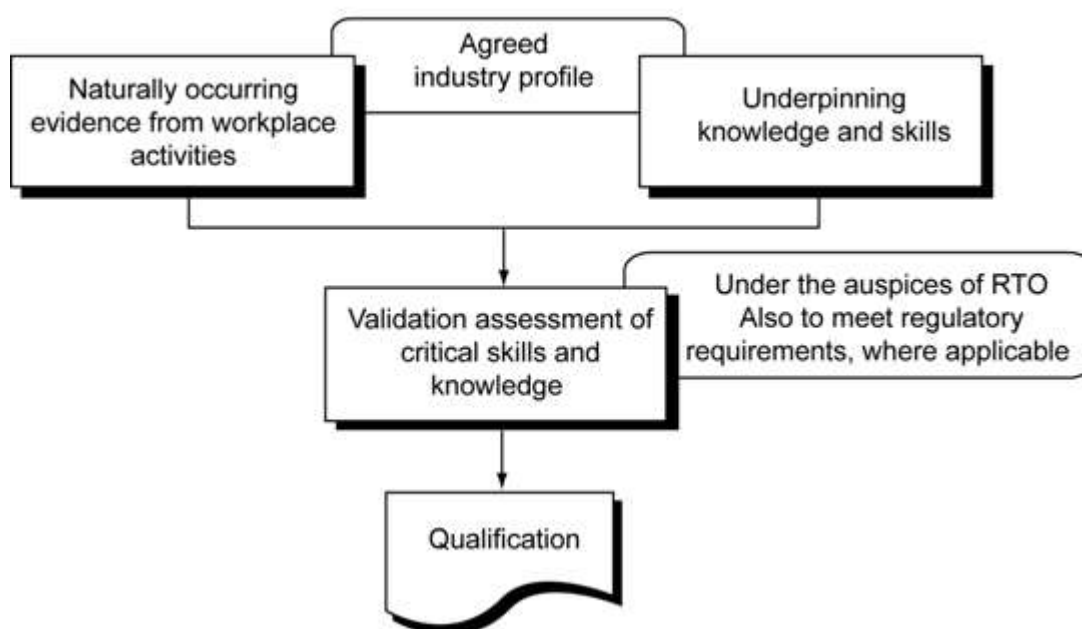
This pathway is for individuals who are undertaking an industry-preferred competency development plan. The users of this pathway may be:

- contracted employment based employees who are generally new apprentices and who undertake an approved training program that supports a competency development plan, or
- those that undertake an approved structured training program in an institutional environment to achieve competency outcomes.

Evidence of Competency

In this pathway evidence required to determine competence for the issuance of the qualification or Statement of Attainment is to be in accordance with 3.5 Assessment within the National Electricity Supply Industry – Generation Sector contained herein. The evidence however, must be sufficient in quality, quantity and type and be gathered in an on-going way and in a timely and accurate manner from several sources, such as workplace and educational experiences based on the approved industry training program and related competency development plan in which individuals are involved.

Pathway 1. Evidence of competency (New entrant)



Pathway 2: Recognition of Prior Learning/Current Competencies (RPL/RCC)

This pathway is for those who may have acquired skills and knowledge in relevant competency standard units outside formally recognised processes. The users of this pathway will include applicants from overseas and also applicants who have developed skills in allied industries but who have no formal recognition in respect of industry standards or qualifications. In using this pathway RTOs should also identify if any equivalence mapping document exists as per Pathway 3.

Additionally, an existing national mechanism for the recognition as a tradesperson exists through the Tradesmen's' Rights Regulation Act, which is administered by Trades Recognition Australia (TRA), part of the Commonwealth Department of Industrial Relations. TRA grants recognition for the purposes of migration but further analysis of the applicant's knowledge and skills is often needed before competency can be attributed.

The Trades Recognition Australia process mainly operates to provide formal recognition of the knowledge and skills migrants have developed through structured training and/or work experience in overseas countries. It is also an important mechanism for the assessment and recognition of the competencies of people who may not have had access to the industry-preferred new entrant model of competency development for trade vocations in Australia. For more information visit:

<http://www.workplace.gov.au/workplace/Category/SchemesInitiatives/TRA/TRA-TradeClassificationsAssessed.htm>

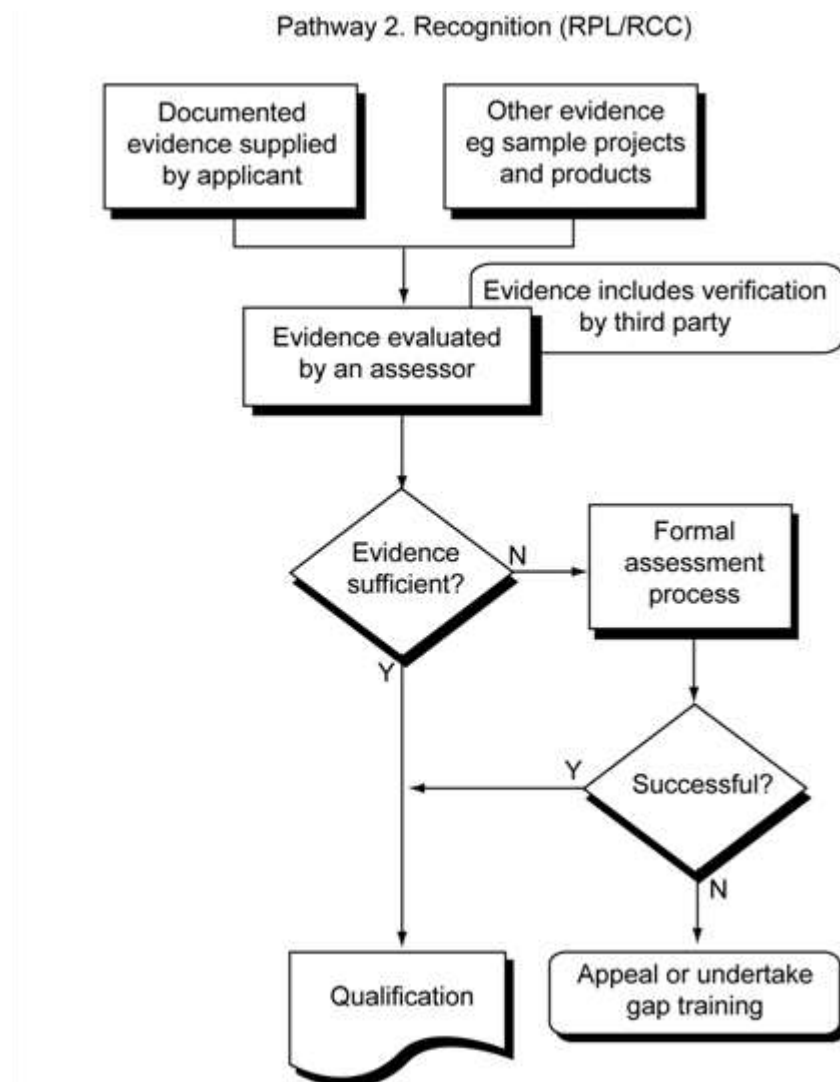
Evidence of Competency

In this pathway many types of evidence can be used to determine competency for the issuance of Qualifications or Statements of Attainment. The evidence may come from records of previous relevant work experience. This type of evidence will need endorsement by a supervisor/mentor skilled in the units for which recognition is sought. Evidence may consist of portfolios, which include projects or products completed for other purposes or from non-registered training programs or ad hoc prior experience or from overseas programs of a similar nature.

Industry would expect this evidence to be assessed by the Registered Organisation (or their nominee – a qualified industry assessor) and a judgement made. The result will be either that the applicant is judged competent for the competency standard unit(s) or gaps are identified and noted.

Where a gap is identified, the applicant can either accept the judgement and pursue gap training or elect to appeal the decision. Evidence used in the judgement process may come from a variety of sources including a personal portfolio, curriculum vitae, interview, and comments by peers or employers and challenge tests.

The recognition of a subset of the competency standard units — skills, forming a cluster of Statements of Attainment within a Qualification — would generally require individuals to complete the additional units in order to attain the relevant Qualification Pathway that provides credit. This information may be developed by the Registered Training Organisation in consultation with respective stakeholders.



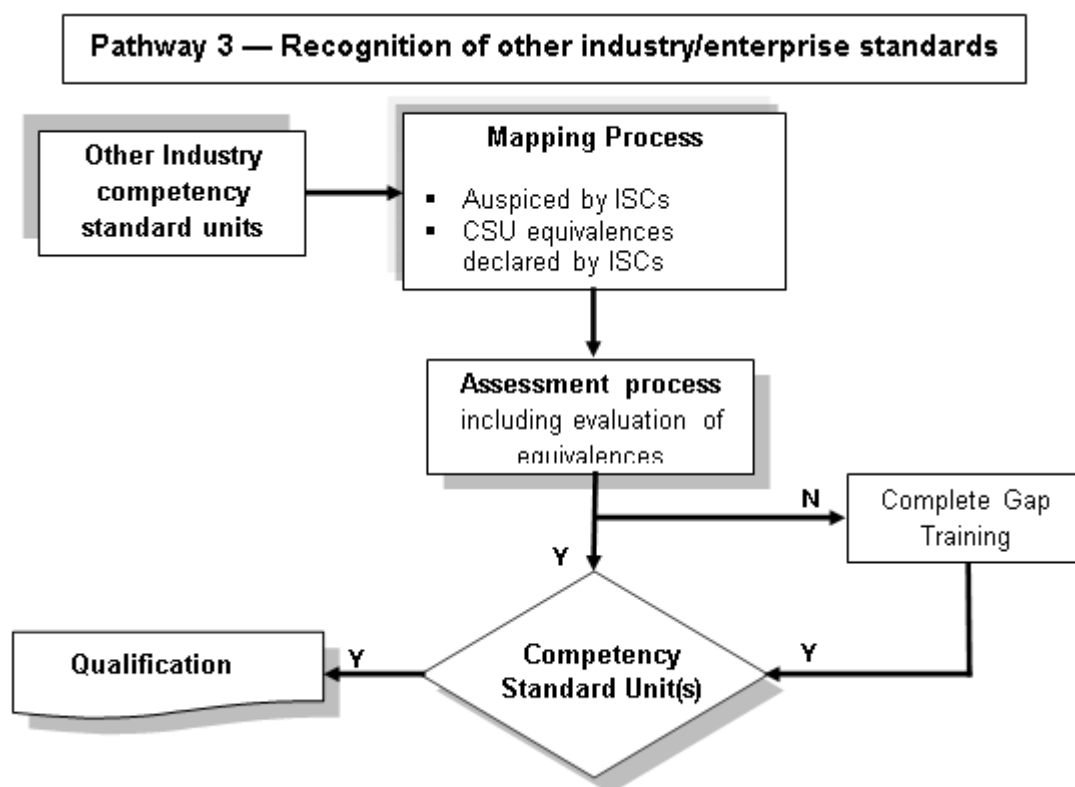
Pathway 3: Recognition of Other Industry/Enterprise Standards

This pathway is for individuals who have developed skills based on other nationally recognised industry or enterprise competency standards and who have received formal recognition in Competency Standards Unit(S) from these areas. Recognition of equivalence of competency standard units between industries is through an agreed and formal mapping process. Equivalence of outcomes is declared by Industry Skills Councils for respective Training Packages. The recognition of Units, as part of any mapping arrangements is the responsibility of the parties who maintain the competency standards; in this instance EE-Oz Training Standards. RTOs should investigate whether there are any existing mapping agreements by contacting the relevant Industry Skills Councils.

Evidence of Competency

In this pathway, evidence will be based on formally-agreed mapping declaration(s) of competency standards unit(s) from other Industry Competency Standards against the unit(s) in the National Electricity Supply Industry – Generation Sector Training Package for which formal recognition is sought. The equivalence mapping declaration agreement would be formalised between Industry Skills Councils.

The applicant would be required to supply details of the unit(s) held including any currency, and the unit(s) sought in consultation with the RTO, including submitting any assessment reports to the RTO for a determination. This equivalence evidence will be reviewed against the mapping advice obtained by the RTO (or their nominee) and a judgement made. The result will be either that the applicant is deemed competent for the unit(s) and a Statement of Attainment issued, or gaps are identified and noted. Where a gap has been identified the applicant can consider the judgement, pursue gap training or appeal the decision. Evidence used in the judgement process is based on the individual's records of achievement relative to the competency standard units for which recognition is sought.



1.3.04 Assessment Principles - ESI - Generation Sector

1.3.4 Assessment Principles – Electricity Supply Industry – Generation Sector

All assessments carried out by RTOs are required to demonstrate compliance with the principles of assessment:

- validity

- reliability
- flexibility
- fairness
- sufficiency

These principles must be addressed in the:

- design, establishment and management of the assessment system for this Training Package
- development of assessment tools, and
- the conduct of assessment

Assessment Principles

Validity

Assessment is valid when the process is sound and assesses what it claims to assess.

Validity requires that:

- a) (a) assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
- b) (b) assessment of knowledge and skills must be integrated with their practical application
- c) (c) judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The specific evidence requirements of each unit of competency provide advice on sufficiency

The assessment instruments and tasks must be designed, implemented and administered in a manner which ensures they measure the intended Essential Knowledge and Associated Skills with workplace performance requirement, and the evidence gathered relates directly to the competency standard unit(s) being assessed.

Validity includes the need to involve others with expertise in the assessments being implemented in the development, selection and review of the instruments and methods used in the assessment process.

To be valid the assessment judgements need to be based on more than one task with evidence gathered on a number of occasions and in a variety of contexts or situations.

Reliability

Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

RTOs will ensure clear guidelines are available to assessors to ensure consistent judgements are made based on the evidence provided. Where industry and/or regulatory-endorsed training support materials are available, it is recommended that this material is used to support and increase the reliability of assessment. This approach will assist in establishing and maintaining consistency of performance of the essential knowledge and skills and work performance requirements specified in the competency standard units.

Flexibility

To be flexible, assessment should reflect the candidate's needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.

The assessment approach should be developed to meet the needs of potential candidates and where appropriate negotiated between the candidate and assessor.

Assessments are to cover both the skill and knowledge components of competency as described in the competency standard units without any one-assessment method being prescribed.

A range of assessment instruments and items should be made available and, where appropriate, the time and place of assessment should be determined to suit the availability of resources, assessors and candidates. However, where supported by the Industry for the purposes of enhancing consistency, the preferred assessment arrangements should be adopted and used.

Fairness

Fairness in assessment requires consideration of the individual candidate's needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.

Assessment methods and practices shall be equitable to all individuals.

Candidates will be made aware of the assessment methods and procedures together with details of the criteria against which they are to be assessed.

Specific needs of individual candidates will be accommodated as is practicable and reasonable adjustment is made while maintaining the integrity of the assessment outcomes based on the competency standard unit(s) being assessed.

Sufficiency

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.

In all instances competency is to be attributed on evidence sufficient to show that a person has the necessary skills required for the scope of work. This includes:

Task skills — performing individual tasks

Task management skills — managing a number of different tasks

Contingency management skills — responding to irregularities and breakdowns in routines, and

- Job/role environment skills — dealing with the responsibilities and expectations of the work environment including working with others.

Evidence must demonstrate that an individual can perform competently across the specified range of activities and has the essential knowledge, understanding and associated skills underpinning competency.

Currency

The principle to be applied in the Electricity Supply Industry – Generation Sector for currency of evidence is that claims are to be fully substantiated through both direct and supporting assessment processes.

Assessment processes must satisfy the requirement for currency in terms of:

1. technology and/or processes
2. recency of application

Rules of Evidence

The rules of evidence guide the collection of evidence that address the principles of validity and reliability, guiding the collection of evidence to ensure that it is valid, sufficient, current and authentic.

Valid

Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

Sufficient

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

Current

In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

Authentic

To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate's own work.

Sufficiency of Evidence

In all instances competency is to be attributed on evidence sufficient to show that a person has the necessary skills required for the scope of work. This includes:

Task skills — performing individual tasks

Task management skills — managing a number of different tasks

Contingency management skills — responding to irregularities and breakdowns in routines, and

- Job/role environment skills — dealing with the responsibilities and expectations of the work environment including working with others.

Evidence must demonstrate that an individual can perform competently across the specified range of activities and has the essential knowledge, understanding and associated skills underpinning competency.

Currency of Evidence

Evidence must be relevant to what is outlined in competency standard units and not outdated or irrelevant.

Note: The deeming of competence at a point in time does not mean that competence exists for all time; competency must be maintained by use and/or retraining. Also refer to Section 3.9 Guide to Assessment Methods and Items for more detailed information on currency.

The principle to be applied in the Electricity Supply Industry – Generation Sector for currency of evidence is that claims are to be fully substantiated through both direct and supporting assessment processes.

Additionally, assessment processes must satisfy the requirement for currency in relation to evidence of competency in terms of technology and/or processes and recency of application.

If there has been a recent change in technology, then evidence of actions before such change is unlikely to reflect the required currency. Similarly, if the individual claiming competency has not performed/applied that competency for extensive periods of time then documentary evidence would not suffice as a basis of assessment.

Authenticity

Evidence is to be genuine and relate to the person being assessed, and no one else.

By way of supporting and reinforcing both the concept of competency and the competency standard units as the currency for the Vocational Education and Training (VET) system, the Electricity Supply Industry – Generation Sector embraces the following tenets:

- Assessment (summative or final) is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment.
- Simulation must be in accord with any prevailing industry policy. It is recognised that in some circumstances, assessment may occur outside the workplace, however this should only occur where necessary and in accord with any industry policy. In relation to this Training Package the Industry Skills Council for ElectroComms and EnergyUtilities, EE-Oz Training Standards, have developed an industry Simulation Policy. This can be accessed from the EE-Oz Training Standards website at: www.ee-oz.com.au.

All persons may claim formal recognition for an assessment of an individual competency standard unit or a group of units.

All persons have the right to have relevant competencies recognised through the most expeditious assessment system and method.

Under-represented groups are not biased from participation and access.

Regulatory/Context of Assessment

Competency is to be determined on evidence of having consistently performed across a representative range of specified equipment, processes and activities for the scope of work and/or endorsement for which competency is being sought; autonomously and to requirements. Equivalent evidence from other sources, eg. formal assessment is also acceptable.

With respect to the essential knowledge and associated skills component of each competency standard unit, assessment activities shall be in accordance with the approach required by the regulatory environment. This may include the use of industry-supported essential knowledge and associated skills learning specifications structured in a conducive learning environment to facilitate the development of depth and breadth of learning, aid in retention and enhance transferability. For this component where graded assessment is a regulatory requirement, it will apply to the underpinning knowledge off-the-job component and not the competency standard unit as a whole. The Industry preference is for a percentile based graded assessment system to be used. Also, although it is preferred that assessing competency be carried out in the workplace, it can be undertaken in a simulated work environment approved for that purpose by the industry. Refer to any Industry policy that may apply in this regard.

Assessment Judgements

Attributing Competency

The deeming of competency shall be based on evidence that is sufficient, current and authentic, so that a quality low risk judgment can be made based on the assessment principles outlined herein.

Competencies shall be attributed on evidence showing that the person deemed to be competent is able to undertake the responsibilities for all safety measures, care of technology, plant and equipment, use of standards, manuals and procedures, and care of the environment, directly related to the work function for which such competencies are required.

Note:

1. Where the consequences of unjustifiably or mistakenly deeming a person competent carries a risk of injury to persons, commerce, or damage to property and/or the environment, the level of evidence required for sufficiency is higher than where there is little risk. The risk of attributing competence to an individual should, therefore, form a critical part of the assessment process and methodology. Consideration should be given as to whether all prerequisites and/or co-requisites have been appropriately achieved.
2. The decision to attribute competence differs from training effort and delivery. The decision to attribute competence is based on evidence being present for an assessor to attribute such and not a person in learning. Learners, however, can undertake training in competency standard units without being awarded the competency standard units even when they may not have acquired in the required sequence any of the prerequisite competency standard units. However, they cannot be attributed the competency standard unit until they have acquired the prerequisite.
3. For more detailed information refer to Section 3.9 Guide to Assessment Methods and Items.

1.3.05 Assessment Processes - ESI - Generation Sector

1.3.5 Assessment Processes – Electricity Supply Industry – Generation Sector

Within the National Electricity Supply Industry – Generation Sector sampling, profiling and portfolio are recognised as the three main methods of collecting evidence to assist the assessment processes and, while they are not mandatory, they have become accepted and the preferred industry practice. It is not the purpose of these Guidelines to provide an extensive technical description of each of these methods; however, it is important to recognise the impact each will have on the management of assessment practices.

An overview of each is provided in this Guideline along with sample templates to assist Registered Training Organisations (RTOs) in planning, managing and administering training and assessment delivery.

Profiling is the Industry-preferred model for new entrant contracted entry-level employment, e.g. apprenticeships.

1. Sampling

Sampling requires evidence of competence to be derived from a limited sample of performance event(s). Technical/application skills are normally assessed by practical measures, and knowledge underpinning performance is assessed, typically in conducive learning environments like classrooms, by conventional written or oral questioning.

2. Profiling

Profiling requires the progressive collection of many samples through structured documentation and progress summative reporting. Progressive monitoring of direct and possibly indirect evidence, over an extended period of time is used to assist in intervention and, making judgements about the developing competency profile of the candidate/learner. The focus of evidence collection is set against the Elements; Range Statement; and critical aspects detailed in the competency standard units and complemented with the level of supervision applied. The evidence collection process is staged against known and predefined work performance outcomes as specified in the Competency standard units. Profiling will assist in obtaining a series of periodical audit assessments and/or a final holistic assessment event where regulatory/licensing requirements apply. Profiling is the preferred industry model that assists with assessment for entry-level contracted employment. Technical educational achievements may be incorporated in the Profiling Model or augment information gathered directly from the workplace into the profile. In the latter case it is preferred that a final summative and holistic assessment event be applied prior to the issuance of the qualification or relevant Statement of Attainment.

3. Portfolio

The Portfolio approach is best suited to assessment conducted as Recognition of Prior Learning (RPL) and is to be in accord with AQTF Standard 8.2 or its replacement/equivalent. It requires the collection or build-up of indirect evidence of an individual's competence.

The Portfolio of evidence could include Statements of Attainment issued by other RTOs (Mutual Recognition AQTF Standard 5), suitably focused references and testimonials, formal project appraisals, work records and any other evidence which is current and relevant to the competencies sought.

Opportunities for Combined Approaches

The assessment processes described above are not mutually exclusive and a combination of approaches may be implemented. The process selected will be acceptable to the industry if the outcome is valid, the approach supports industry-wide consistency, the requirements of the Competency standard units are satisfied and in accordance with the preferred industry approach and costs are acceptable to the industry.

1.3.06 Assessor Requirements

1.3.6 Assessor Requirements

This section identifies the mandatory competencies for assessors and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies. [Refer to the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b)]

The integrity of the National Electricity Supply Industry – Generation Sector assessment processes is centred on the need for all assessments to be conducted under the direction or the authority of a Registered Training Organisation using qualified assessors who may function with or within the Registered Training Organisation.

Within an assessment process, responsibility for some activities may be delegated and it is therefore not necessary that every aspect of assessment must be personally and directly attended to by a qualified assessor. For example, in a long term profiling process the qualified assessor may establish with an approved industry data gathering administrator/manager the system and identify the evidence required. They may then cause the evidence to be gathered by others after which they will examine the evidence and make judgments.

The partnership between assessors and other competent persons is essential if the information is to be qualitative. It should be noted that technical assessment responsibility and systems accountability may only be exercised by a Registered Training Organisation using qualified assessors.

Assessor Qualifications

Assessments against the competencies in this Training Package will be carried out in accordance with these endorsed guidelines. The guidelines include the necessary qualifications for those conducting assessments and provide for those situations where more than one person may contribute to the assessment and where the required technical and assessment competencies may not be held by any one person.

The Assessment for Competency

Assessors are to be competent in the competencies which they are to assess or are to be assisted by an appropriate subject matter expert who is currently competent in the unit being assessed. This may also include such things as language literacy and numeracy (LLN), cultural diversity and under-represented groups, environmental, industrial, occupational health and safety (OHS).

Assessors (and their subject matter expert) are to know current industry practices for the job or the role against which the performance is being assessed, and practice the necessary interpersonal skills required in the assessment process.

All persons required to plan, assess, develop or validate assessment-related matters are to be currently competent and comply with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b)].

Using Qualified Assessors

All assessment is to be under the authority of a formally qualified assessor. Within this constraint, the Registered Training Organisation may adopt any or all of the following processes:

- using a workplace assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) and the relevant industry vocational competencies
- using a workplace assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) and who has ready access to another person who is competent in, and can advise the assessor on, the relevant vocational competencies to at least the level being assessed

- using an assessment panel which includes at least one person who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) as well as at least one person who is competent in the relevant vocational competencies to at least the level being assessed
- using an external assessor who is currently competent and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b) but with the assessment evidence being collected, utilising industry endorsed assessment procedures, by a workplace supervisor who has the relevant vocational competencies to at least the level being assessed
- using a workplace supervisor, with the relevant vocational competencies to at least the level being assessed, who utilises industry endorsed assessment procedures with the outcome being validated by an externally qualified assessor who is currently competent against the assessor standards and complies with the Australian Quality Training Framework, Standards for Registered Training Organisations, Standard 7.3 (a) and (b).

Notwithstanding, the industry would expect, in relation to the new entrant pathway, that in all instances the Registered Training Organisation will retain the responsibility of managing the competency development training program and related plan, the ultimate attributing of competence against Competency standard units using qualified assessors, and the issuing of qualifications, and/or Statements of Attainment. It will also include any additional information that may be required for licensing requirements and specified by regulators or Industry.

The process should be undertaken in accordance with the recognition processes defined by relevant training authorities.

Assessor Competencies

The AQTF and VET Quality Framework (Standards and Requirements)" specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 Essential Standards for Registration follows:

1.4 Training and assessment are conducted by trainers and assessors who:

- ▶ have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
- ▶ have the relevant vocational competencies at least to the level being delivered or assessed, and
- ▶ can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and
- ▶ continue to develop their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence.

* See AQTF 2010 Users' Guide to the Essential Standards for Registration – Appendix 2

All assessors who are engaged in assessing against this Training Package must be engaged by an RTO or be acting under the registration of an RTO (for example, an assessor working in an enterprise, or a consultant that has a partnership arrangement with the RTO).

This Training Package provides a range of options for meeting these assessor requirements. Assessments can be undertaken in a variety of workplace and enterprise contexts by individual assessors, partnerships involving assessors and technical experts or teams of assessors.

The options below show how the requirement to use qualified assessors can be met.

Assessors, Technical Experts and Workplace Supervisors

Single Assessor – Single Arrangement

Where an individual assessor conducts the assessment the assessor is required to:

- hold formal recognition of competence in the relevant units in the Training Package for Training and Assessment
- be deemed competent and, where possible, hold formal recognition of competence in the specific Competency standard units in this Training Package, at least to the level being assessed.

In addition, it is recommended by the industry that the assessor can:

- demonstrate current knowledge of the National Electricity Supply Industry – Generation Sector, industry practices, and the job or role against which performance is being assessed
- demonstrate current knowledge and skill in assessing against this Training Package which contains the vocational standards for industry in a range of contexts
- demonstrate the necessary interpersonal and communication skills required in the assessment process
- continue to meet the requirements of the industry
- ensure assessment is consistent with the Australian Quality Training Framework Standards for Registered Training Organisations
- promote confidence in the system and the assessment outcomes on the part of industry, employers, enterprises, unions, employees, trainees, assessors and trainers
- ensure assessment processes and outcomes are valid, reliable, fair and flexible
- support RTOs in effectively carrying out their responsibilities
- participate in professional development
- have relevant work experience
- participate in professional/industry networks and assessor programs
- have recent planning and review of assessment activities
- participate in assessment validation processes
- have recent assessment and/or workplace training activities.

Partnership Arrangement

Option 1 — Working with a Technical Expert

An assessor works with a technical expert to conduct the assessment.

A technical expert is one that is required to be deemed currently competent and, where possible, hold formal recognition of competence in the specific competency standard units from this Training Package at least to the level being assessed.

In addition, it is recommended that the technical expert is able to:

- demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed;
- communicate and liaise with the assessor throughout the assessment process.

Option 2 — Working with a Workplace Supervisor

An assessor works with workplace supervisor in collecting evidence for valid assessment.

The assessor is required to:

- make the assessment decision
- demonstrate a capability to assess using a workplace supervisor as a valid and reliable source of evidence collaboration
- communicate and liaise, where appropriate, with the workplace supervisor throughout the assessment process.

A workplace supervisor is required to be deemed currently competent and, where possible, is to hold formal recognition of competence in the specific competency standard units from this Training Package at least to the level being assessed.

In addition, it is recommended that the workplace supervisor is able to:

- demonstrate current knowledge of the industry, industry practices, and the job or role against which performance is being assessed
- communicate and liaise, where appropriate, with the assessor throughout the assessment process
- use agreed practices to gather and record evidence for the assessor to use in making a valid judgement on competency.

Assessment Team/Panel

A team works together to conduct the assessment.

Members of an assessment team or panel that comprises assessment and industry experience and expertise works together in the collection of evidence and in making judgements about competency. The members of the team must include at least one person who:

- holds formal recognition of competence in training and assessment in the relevant units in the Training and Assessment Training Package
- is deemed competent and, where possible, holds formal recognition of competence in the specific Competency standard units from this Training Package at least to the level being assessed, and where not technically competent uses team/panel members with current technical competence in requisite units.

It is recommended that members of the team/panel involved in the assessment are able to demonstrate:

- current knowledge of the industry, industry practices, and the job or role against which performance is being assessed

- current knowledge and skill in assessing against this Training Package in a range of contexts
- the interpersonal and communication skills required in the assessment process and liaise with other team/panel members throughout the assessment process.

Assessments against the competencies in the Training Package will be carried out in accordance with these endorsed guidelines. The guidelines include the necessary qualifications for those conducting assessments and provide for those situations where more than one person may contribute to the assessment and where the required technical and assessment competencies may not be held by any one person.

1.3.07 Assessment Tools

1.3.7 Assessment Tools

This section provides an overview of assessment tools and their suggested use in the industry.

Use of Assessment Tools

Assessment resources provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency. In some cases, assessors may use prepared assessment materials, such as those specifically developed to support this Training Package — Training and Assessment Advice Manual for the National Electricity Supply Industry – Generation Sector Training Package UEP06, available from EE-Oz Training Standards (www.ee-oz.com.au). Alternatively they may develop their own assessment materials to meet the needs of their clients by utilising pre-developed training and assessment instruments included in Section 3.8 National Electricity Supply Industry – Generation Sector Guidelines for designing assessment materials.

Using Prepared Assessment Tools

If using prepared assessment materials, assessors should ensure that the materials are benchmarked or mapped against the current version of the relevant competency standard unit(s) and any industry-preferred model and supported by the industry. This can be done by checking that the materials are listed on the Training.gov.au (<http://www.training.gov.au>) or EE-Oz Training Standards (www.ee-oz.com.au). Specific materials on the list have been noted by the National Quality Council (NQC) as meeting their quality criteria for Training Packages.

Developing Assessment Tools

When developing their own assessment materials, assessors must ensure that the tools:

- are benchmarked against the selected competency standard unit(s)
- are benchmarked against the industry-preferred competency assessment model
- are reviewed as part of the validation of assessment strategies as required under AQTF Standard 9.2 i of the Standards for Registered Training Organisations
- meet the assessment requirements expressed in the AQTF 2010 Essential Standards for Initial and Continuing Registration.

- A key reference for assessors developing assessment tools is TAE10 Training and Education Training Package.

Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations. Guidance on the appropriate level of LL&N skills to best equip the candidate for successful achievement is provided within each unit of competency at section 2.2) Literacy and numeracy skills.

Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

Mandatory Assessment Requirements

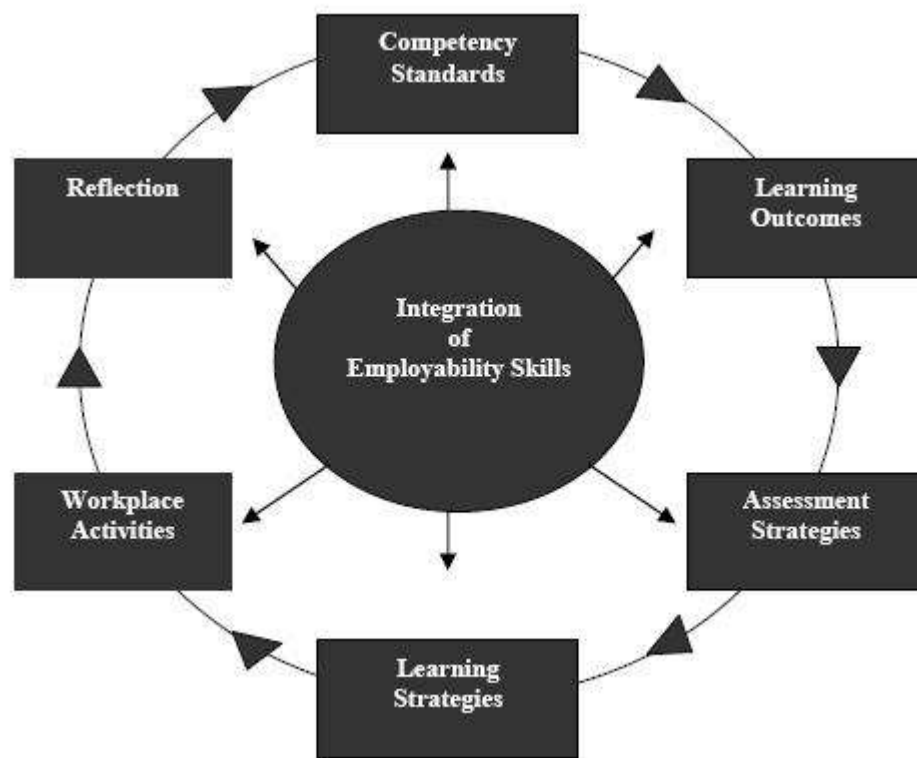
Assessments must meet the criteria set out in the AQTF 2010 Essential Standards for Initial and Continuing Registration. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 Essential Standards for Initial and Continuing Registration are as follows:

1.5 Assessment, including Recognition of Prior Learning (RPL):

- ▶ meets the requirements of the relevant Training Package or accredited course
- ▶ is conducted in accordance with the principles of assessment and the rules of evidence
- ▶ meets workplace and, where relevant, regulatory requirements
- ▶ is systematically validated.

Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such, they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.



Employability Skills are embedded and explicit within each unit of competency. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.

The National Quality Council has endorsed a model for assessing and reporting Employability Skills, which contains further suggestions about good practice strategies in teaching, assessing, learning and reporting Employability Skills. The model is available from <http://www.training.com.au/>.

The endorsed approach includes learners downloading qualification specific Employability Skills Summaries for Training Package qualifications from an online repository at <http://employabilityskills.training.com.au>

Access and Equity

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package.

Reasonable adjustments can be made to ensure equity in assessment for people with disabilities. Adjustments include any changes to the assessment process or context that meets the individual needs of the person with a disability, but do not change competency outcomes. Such adjustments are considered 'reasonable' if they do not impose an unjustifiable hardship on a training organisation or employer. When assessing people with disabilities, assessors are encouraged to apply good practice assessment methods with sensitivity and flexibility.

Reasonable adjustments

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.

Under the Disability Standards for Education 2005, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While 'reasonable adjustment' and 'unjustifiable hardship' are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student's disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship.

The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. Go to:

<http://www.deewr.gov.au/tpdh/Pages/home.aspx>

1.3.08 Guidelines for Designing Assessment Materials

1.3.8 Guidelines for Designing Assessment Materials

Assessment materials are developed, designed and implemented by appropriately authorised and competent assessors. Materials may range from relatively straight forward questions/answers and task tests to quite elaborate simulations for assessing concepts and values. Assessment materials need to facilitate assessment by:

detailing the personnel and material preparations required to support the assessment process

- establishing and/or confirming the circumstances under which the assessment is to take place
- detailing the evidence to be collected and the method(s) to be used to do this
- providing for the systematic review/analysis of the evidence and for the making of logical and supportable judgments
- providing the means for the recording of the process and the judgments as required and in accordance with any regulatory and/or industry-preferred arrangement
- providing a basis for post-assessment

providing counselling and guidance for the candidate

identifying specialist technical advice related to such things as OHS, LLN, environmental and equity matters.

Assessment Material Design Process

Process for designing assessment materials

1. Determine assessment requirements

Establish assessment requirements

Identify and select assessment methods



2. Develop assessment tools/methods

Design or modify assessment tools

Verify tools

Prepare accompanying instructions



a) Determine assessment requirements**Identify and select assessment tools/methods**

The assessor will be required to identify and select the assessment methods consistent with National Electricity Supply Industry – Generation Sector assessment guidelines and procedures.

In developing tools and methods the assessor will need to determine the range of methods appropriate to the assessment context and the characteristics of the person being assessed. The assessor may use the following questions when designing the assessment method:

Is the data gathering process sufficient, timely, valid and reliable to ensure the decision about competence relates to the overall requirements of the unit?

a) Do you always need to assess real work?

How is the critical evidence specified?

How many assessment tasks are required to collect the critical evidence of competency?

Which assessment tasks will provide broad coverage of the Range Statement?

a) Are there any skills that the candidate should have or can develop before they are assessed for the unit?

b) Develop assessment tools/methods**Design or modify assessment tools**

The assessor will be required to design or modify existing assessment tools so that their format, language, literacy and numeracy requirements are appropriate to the characteristics of the assessment context and the person being assessed.

Verify tools

The assessor will need to verify the assessment tools, which maintain validity but are easy to administer and allow sufficient flexibility to meet the range of possible assessment contexts.

Prepare accompanying instructions

The assessment system/process must be comprehensively and clearly documented so that the stages of assessment and their constituent parts may be observed and evaluated. The assessment materials must relate directly to the competency standard unit or group of units making up a qualification and address the totality of competency in a realistic, holistic and effective way.

c) Trial and review assessment tools**Trial and validate assessment tools**

The assessor will be required to trial and validate the assessment methods with a representative group of people similar to those who will ultimately be assessed. Once trials are conducted the assessor will need to seek responses from all parties and compile and analyse these responses.

Evaluate assessment methods

The assessor will evaluate the assessment methods and tools for clarity, reliability, validity, fairness and cost-effectiveness.

Make improvements

The assessor will modify the assessment tools based on the responses to the trials.

Ratify procedures

The assessor ratifies, with relevant people in the National Electricity Supply Industry – Generation Sector, procedures of the evidence requirements, assessment methods and assessment tools and the processes used in developing them.

Assessment Material Requirements

Essential requirements to be met by assessment materials include the following:

Assessment of competency standard units

Assessment must directly address the competency standard unit or group of units making up a qualification or skills cluster and, within this, satisfy the critical aspects of evidence including the related Performance Criteria, Range Statement and Essential Knowledge and Associated Skills.

Assessment of practical applications

Summative assessment of practical applications should, whenever possible and practicable, be conducted in a real work environment or in a realistically simulated work environment. Removal of the summative assessment from the real work environment should occur only to the extent necessitated by circumstances such as safety, noise, excessive cost and disruption to equipment operation, and access to the required work.

Learning outcomes or other curricula documents

Are not to be the primary focus of summative assessment unless their direct relationship to the competency standard unit(s) is formally approved by industry and recorded.

Assessment of essential theory

Summative assessment of the theory (essential knowledge and associated skills) underpinning competent performance is to be sufficiently rigorous and searching to ensure that individuals comprehend why they are doing something, the options they may use to achieve the required goal, and the fact that they can recall and/or locate and, interpret and transfer this information in varying contexts if it is needed at some other time. Typically, the specific level of depth and breadth the individual is required achieve is contained in industry and RTO sponsored essential knowledge and associated skills learning specifications that are aligned to respective competency standard units.

Assessment of learners with low language/literacy/numeracy skills/under-represented groups

Assessment systems need to be capable of being applied in cases of low language/literacy/numeracy skills/under-represented groups. Reasonable adjustment strategies to address assessment of those with low language, literacy and numeracy skills and under-represented groups should be included in any Assessment Materials used by Registered Training Organisations, and be consistent with the quality assurance requirements of State Training Authorities for registration.

Range of Assessment Methods and their Uses**Types of Assessment**

A variety of assessment types apply and can be used individually or in combination. These are:

Direct observation.

Observe the learner carrying out their usual practical tasks in the workplace. This may be accompanied by questions. Direct observation is probably the easiest and most convenient method of assessment.

Third party reports.

Information provided by the immediate supervisory or other appropriate persons. An external assessor may not have the opportunity to make multiple observations of a candidate over a period of time, unlike an internal (in-house) assessor. The external assessor may obtain third party reports to supplement an assessment.

Demonstration and questioning.

The candidate gives a demonstration of a practical task. If there is no opportunity to observe this competency in the standard work environment, the assessor may ask the candidate to provide a practical demonstration. The assessor can see both the process and the finished product.

Pen and paper tests and essays.

These are used to measure the extent of knowledge or may test problem-solving capability. They can compliment practical demonstration.

Oral tests.

These can be an adjunct to practical demonstration.

Projects.

These tend to be unsupervised. The assessor uses the final product as a basis for judgement.

Simulation.

This may involve an off-site practical test. The actual tasks and conditions are similar to real life situations and are in accord with prevailing industry policy enunciated by the Industry Skills Council for the industry. A Simulation Policy has been developed and can be obtained at www.ee-oz.com.

Portfolios.

These are used for assessing skills achieved in the past. They can include work samples.

Profiling.

Information gathered over time from a structured profiled data entry card and resultant report.

Assessment Methods

Assessment methods must be appropriate to the situation. Learners can be encouraged to use these methods for self-assessment. Combinations of these methods will be required for most situations (e.g. observations and oral questioning). The recommended assessment methods for collecting the various kinds of evidence required to determine the candidate's competency are:

- A — Oral questioning
- B — Structured observation of work
- C — Indirect supporting evidence (supervisor's reports).

Not all the methods need to be used. For example, during the assessment period the assessor may find that they don't need all three methods to collect sufficient evidence. The assessor may also plan to use other, equally valid, combinations of assessment methods. It is recommended that assessors use open questions in conjunction with direct observations to assess the candidate's ability to:

- apply relevant knowledge to the particular task
- perform the required tasks safely and efficiently
- handle unforeseen contingencies and circumstances
- recognise and solve problems associated with the whole job (which may not necessarily occur during the assessment).

It is recommended that supervisor's reports or verified calculations are used to confirm that workplace job activities have been completed on time and meet the required specifications. This is particularly relevant when the assessor is not for the total duration of the workplace job activity and/or the learner/candidate works as part of a team.

More information is contained in the following section – Guide to Assessment Methods and Items.

Sample assessment instruments to support training and assessment material design

Information regarding assessment material design, training and assessment activities, and sample assessment materials against competency standard units in this Training Package is included in Appendix B – Sample assessment instruments to support training and assessment material design.

1.3.09 Guide to Assessment Methods and Items

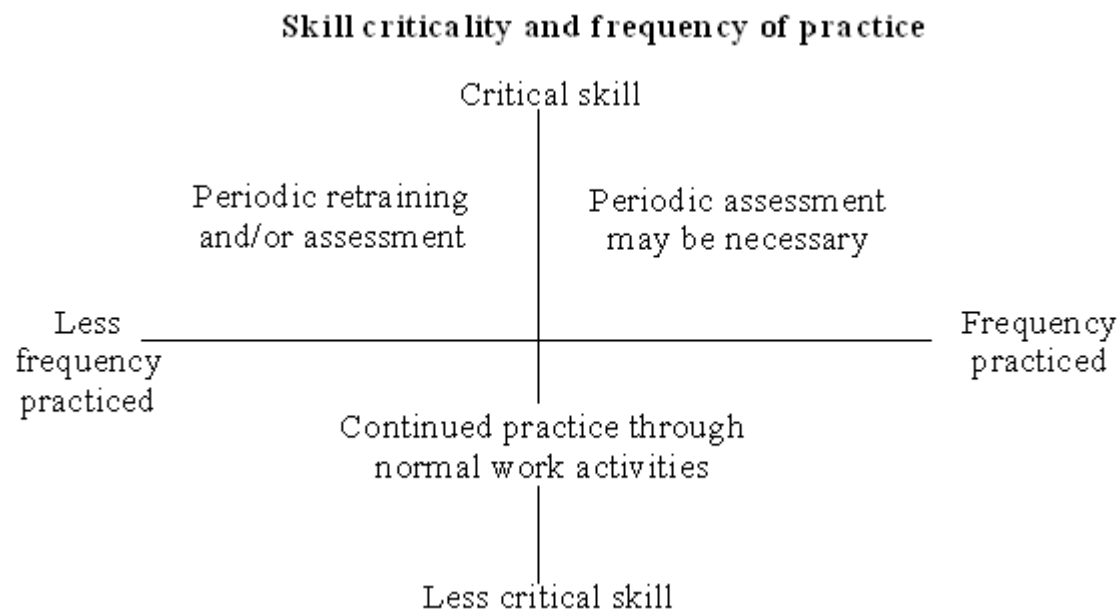
1.3.9 Guide to Assessment Methods and Items

(Informative)

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity and electrical equipment carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. These considerations can be summarised as follows:



Irrespective of these considerations the assessment methods and instruments used should satisfy the conditions associated with sufficiency, currency, authenticity, validity, reliability, and be holistic in nature.

The following Table Assessment Methods and Items provides a summary of assessment methods in common use and the situations in which they may apply.

Table 1 – Assessment Methods and Items

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
Written objective tests	True/false Multiple choice Matching Completion	Confirming essential factual knowledge, principles Assessing deduction, transfer of knowledge Complementing other methods	Controlled classroom High level supervision Large numbers	Moderate	Many
Written responses, short and extended answers	Calculations Definitions, explanations Essays	Assessing use of information Application of knowledge General ideas and solutions Research, organisation and expression of concepts or ideas	Test condition as above or Minimal supervision, and assistance	Moderate	Many
Oral test/ technical interview	Set question Scenarios	Assessing depth and breadth of knowledge Application of knowledge Relative to experience	Interview condition One to one	Moderate	Many
On job or workplace assessment	Observation, checklist Product assessment Questioning to complement observations	Identifying mastery or competence of practical task, technical skill or interpersonal skill in real or simulated setting Identifying gaps in education and training	Normal working conditions Moderate level supervision One to one Avoid expensive or hazardous situations	High	Nil to many depending on assessment of product or process
Practical/ Exercises	Stimulated work exercises Structured	Checking mastery or competence of a practical task,	Controlled laboratory or field setting	Low	Several

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
	practical exercises Fault finding exercises	technical skill, or subset of performance in a simulated work setting	High level supervision 10 to 15		

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
Practical projects	Research task or investigation Product or process development Individual learning contract	Assessing integration and application of a number of work related skills to solve a given problem Assessing individual approaches, innovation, creativity Assessing interaction with others	Access to laboratory, workshop or workplace Little supervision 10 to 15	Low	Several
Assignments	Resource life Case studied Poster presentation Reports of video or speaker presentations Reports of laboratory/field work, excursions Individual learning contracts Writing simple manuals or procedures	Confirming competence to research, analyse and synthesise information Assessment of application of knowledge, skills and attitudes where practical testing is not feasible Assessment of communication skills	Moderate of level control Non-test conditions Little supervision 10 to 15	Low	Several
Personal appraisal	Checklists or criteria which enable peer or self assessment	Establishing readiness for summative assessments Assessment of an individual's performance within a team effort	Non-test conditions Little supervision Small numbers	Low	Many
Verbal	Oral exposition	Confirming understanding of	Moderate level of	Low	Several

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
assessment	or lecture Seminar, presentation and group discussion Oral/aural tests Interviews	principles underpinning performance Supplement other assessment methods Verification of learner's submitted work.	control High level of supervision One to one		
Profiling	Structure manual or computer-based log.	Tracks competency development against the industry standard profile specified by CSUs. Identifies when remedial action is required during development period.	Real work conditions under workplace supervision. Off-job assessment events Any number	Low / Medium	On going

1.3.10 Guidelines for Conducting Assessments

1.3.10 Guidelines for Conducting Assessments

The following guidelines describe the industry-preferred process for conducting assessments against the competency standard unit(s) in this Training Package. This process applies to all assessments conducted for the purposes of national recognition in both institutional and workplace contexts.

Assessment within the National Electricity Supply Industry – Generation Sector is to be carried out by a qualified assessor trained in the conduct of assessment:

- Assessment should be planned, arranged and organised well in advance of the event/process.
- The candidate should be involved in the planning and preparation so that their readiness and availability is assured, and their advice on evidence collection opportunities may be considered.
- The environment within which assessment is to occur is acceptable to the parties and conducive to the assessment process.
- The assessor's actions throughout the process are firm, fair, friendly and unambiguous.

- Specific rulings on safety breaches are explained up-front and acted on in accordance with the assessment materials.
- The assessment process should contain no surprises for any party.
- Feedback is provided as required throughout the assessment process.
- Post assessment activities including recording, reporting, counselling etc. are finalised promptly.

Candidates will invariably be accepting of the outcomes of an assessment process in which:

- they consider they were treated fairly, consistently and with dignity
- they were given the full opportunity to demonstrate their capabilities
- the reasons for the assessment decisions were appropriate, logical and constructively explained
- the assessment judgements are conveyed in a sensitive and constructive manner.

The following provides an overview for assessment within the National Electricity Supply Industry – Generation Sector. It outlines the process involved in conducting assessment in both the institutional and workplace context, and consists of three major components that each assessor will need to do:

Prepare for Assessment

The assessor:

- establishes the context and purpose of the assessment

Industry as

Pha

Prepare for

Establish context of

Plan evidence gath

Organise assessme

Pha

Conduct a

Gather evidence

Make assessment o

Provide feedback d

Pha

- identifies the relevant competency standard unit(s), assessment guidelines and qualification framework in this Training Package which contains the vocational standards for industry including the relevant performance measures applying to assessment
- identifies any NQC noted support materials that have been developed to facilitate the assessment process
- analyses the competency standards and identifies the evidence requirements;
- identifies potential evidence collection methods
- identifies issues related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment.

Prepare the candidate

The assessor meets with the candidate to:

- discuss and confirm the purpose of assessment with the candidate and where appropriate, the employer
- explain the context and purpose of the assessment and the assessment process
- explain the competency standards to be assessed and the evidence to be collected and ensure the candidate has access to the relevant competency standards and other relevant information
- explain and obtain agreement to the assessment procedure
- advise on self-assessment, including processes and criteria
- outline the assessment procedure, the preparation the candidate should undertake, and answer any questions
- assess the needs of the candidate and, where applicable, negotiate reasonable adjustment for assessing people with disabilities without compromising the integrity of the competencies
- seek feedback regarding the candidate's understanding of the competency standard unit(s), evidence requirements and assessment process
- determine if the candidate is ready for assessment and, in consultation with the candidate, decide on the time and place of the assessment
- develop an assessment plan
- discuss the National Electricity Supply Industry – Generation Sector and enterprise assessment policy with the candidate (i.e. how the competencies to be assessed will fit in with the Industry training policy and preferred framework or enterprise arrangements for training and assessment. The assessor should also understand what the candidate has done to acquire the knowledge and skills).

Plan and prepare evidence-gathering process

Practical assessment should preferably be conducted on site. However, if on-site practical assessment is not possible then off-site assessment at a mutually agreeable site could be appropriate. It can be part of the current work (i.e. observation of current tasks) or a demonstration, i.e. a simulated task.

The assessor must:

- establish a plan for gathering sufficient quality evidence about the candidate's performance in order to make the assessment decision (and involve industry representatives in the development of plans for the validation of assessment)

- identify opportunities to gather evidence of competence which occurs as part of the workplace activities
- ensure the planned approach to gathering evidence will provide sufficient, reliable, valid and fair evidence of competence
- source or develop assessment materials to assist in the evidence gathering process
- choose the techniques that will be used to assess the candidate's knowledge and skill
- organise equipment or resources required to support the evidence gathering process
- check the assessment environment permits fair, valid and reliable assessment and that it is safe and accessible
- inform other relevant people of assessment plans, coordinate and brief other personnel involved in the evidence gathering process
- identify the need to gather additional evidence which may not occur as part of workplace activities
- consider issues related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment.

Collect the evidence and make assessment decisions

The assessor must:

- establish and oversee the evidence gathering process to ensure its validity, reliability, fairness, flexibility and consistency
- collect appropriate evidence and assess this against the Elements, Performance Criteria, Range Statement and Evidence Guide in the relevant competency standard unit(s)
- evaluate evidence in terms of the four dimensions of competency — task skills, task management skills, contingency management skills, and job/role environment skills
- incorporate allowable adjustments to the assessment procedure without compromising the integrity of the competencies
- evaluate the evidence in terms of validity, consistency, currency, equity, authenticity and sufficiency
- gathers evidence related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment
- consult and work with other staff, assessment panel members or technical experts involved in the assessment process
- document the evidence gathered in accordance with the assessment procedure and record details of evidence collected
- make a judgement about the candidate's competency based on the evidence and the relevant competency standard unit(s) and the criteria specified in the assessment procedure.

Provide feedback on the assessment

The assessor must provide advice to the candidate about the outcomes of the assessment process. This includes providing the candidate with:

- clear and constructive feedback on the assessment decision
- information on ways of overcoming any identified gaps in competency revealed by the assessment
- the opportunity to discuss the assessment process and outcome

- information on reassessment and the appeals process.

Record and report results

The assessor must:

- record the assessment outcome according to the policies and procedures of the RTO
- maintain records of the assessment procedure, evidence collected and the outcome according to the policies and procedures of the RTO
- maintain the confidentiality of the assessment outcome
- organise the issuing of qualifications and/or Statements of Attainment according to the policies and procedures of the RTO.

Review assessment process

On completion of the assessment process, the assessor must:

- review the assessment process
- report on the positive and negative features of the assessment to those responsible for the assessment procedures
- if necessary, suggest to appropriate personnel in the RTO ways of improving the assessment procedures.

Participate in the reassessment and appeals process

The assessor must:

- provide feedback and counsel the candidate, if required, regarding the assessment outcome or process, including guidance on further options
- provide the candidate with information on the reassessment and appeals process
- report any disputed assessment decision to the appropriate personnel in the RTO
- participate in the reassessment or appeal according to the policies and procedures of the RTO.

Review and maintenance of the assessment system

The developer and custodian, EE-Oz Training Standards of this Training Package which contains the vocational standards for industry is responsible for the ongoing monitoring and review of these Assessment Guidelines. This process will be incorporated in the general review and maintenance of this Training Package.

1.3.11 Maintenance of Assessment Guidelines

1.3.11 Maintenance of Assessment Guidelines

The National Electricity Supply Industry – Generation Sector Assessment Guidelines were developed by, and are therefore owned by, the industry.

The Assessment Guidelines must be maintained so that it reflects the ongoing needs of the Industry sector and responds in a timely manner to changed technologies, work organisation, skills development and related circumstances.

Responsibility for maintaining of the Assessment Guidelines is shared by the parties who constitute the sector:

- Assessment Guidelines maintenance will be coordinated and managed by EE-Oz Training Standards in its role as a declared Industry Skills Council for ElectroComms and EnergyUtilities, and
- Suggestions and proposals for changes from all parties are welcome. These should be documented and submitted to EE-Oz Training Standards the DEST declared Industry Skills Council for the ElectroComms and EnergyUtilities Industry.
-

1.3.12 General Resources

1.3.12 General Resources

Australian Quality Training Framework (AQTF) – for general information go to:

http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/aqtf/what.htm

Australian Quality Training Framework (AQTF) – for resources and information go to:

<http://antapubs.dest.gov.au/publications/publication.asp?qsID=86>

Australian Quality Training Framework Standards for Registered Training Organisations, Australian National Training Authority, Melbourne, 2001. Available in hard copy from DEST or can be downloaded from <http://antapubs.dest.gov.au/publications/publication.asp?qsID=86>

Training Package Development Handbook, Department of Education Science and Training, Canberra, 2006. Can be downloaded from

http://www.dest.gov.au/sectors/training_skills/publications_resources/profiles/Training_Package_Development_Handbook.htm

Assessment Resources

Training Package Assessment Guides are a range of resources to assist RTOs in developing Training Package assessment materials. This project was one of several initiatives managed by the Australian Government and funded by the Department of Education, Science and Training (DEST) to facilitate the implementation of Training Packages and in particular Australian Apprenticeships. It is made up of 10 separate titles, as described at

<http://www.training.com.au/portal/site/public/menuitem.ad0d788e23b8ac80f9fa5a1017a62dbc/>

Go to <http://www.resourcegenerator.gov.au/loadpage.asp?Page=TPAG.htm>

Assessment Tool Design and Conducting Assessment

VETASSESS and Western Australian Department of Training and Employment, 2000, Designing Tests – Guidelines for designing knowledge based tests for Training Packages.

Vocational Education and Assessment Centre 1997, Designing Workplace Assessment Tools, A self-directed learning program, NSW TAFE.

Manufacturing Learning Australia, 2000, Assessment solutions, Australian Training products, Melbourne.

Rumsey, David 1994, Assessment practical guide, Australian Government Publishing Service, Canberra.

Assessor Training

Australian National Training Authority, Facilitator Packs for Certificate IV in Training and Assessment. Available from Australian Training Products Limited go to:
<http://www.atpl.net.au/itemdetail.aspx?piid=9733>

Innovation and Business Industry Skills Council, Facilitator Guide for TAA04 Learning Materials. Available from Innovation and Business Industry Skills Council go to
<http://www.ibsa.org.au/pubdetails.jsp?publication=5540>

Innovation and Business Industry Skills Council, TAA04 Certificate IV in Training and Assessment Learner Guides. Available from Innovation and Business Industry Skills Council go to http://www.ibsa.org.au/downloads/TAA04_Learner_Guides.pdf

Green, M., Moritz, R., Moyle, K. and Vale, K., 1997, Key competencies professional development Package, Department for Education and Children's Services, South Australia.

Victorian TAFE Association, 2000, The professional development CD: A learning tool, VTA, Melbourne.

Conducting assessments

Bloch, B. and Thomson, P., 1994, Working Towards Best Practice in Assessment: A case study approach to some issues concerning competency-based assessment in the vocational education and training sector, NCVER, Adelaide.

Docking, R., 1991, An A-Z of Assessment Myths and Assessment in the Workplace, Competence assessment briefing series, No. 4, Employment Department, Perth, Western Australia.

Hawke, Geoff, 1996, Integrating Assessment of Learning Outcomes, Assessment Centre for Vocational Education, Sydney.

Hawke, Geoff, 1995, Work-based Learning: Advice From Literature, Assessment Centre for Vocational Education, Sydney.

National Assessors and Workplace Trainers Body, Putting it into practice [Training Package implementation Guide].

Parsloe, E., 1992, Coaching, Mentoring and Assessing: A practical guide to developing competence, Kogan Page, London.

Rumsey, David, 1993, 'Practical issues in Workplace Assessment' in National Assessment Research Forum: A forum for research into competency-based assessment. [VEETAC Competency Based Training Working party Assessment Steering Group], NSW TAFE Commission, Sydney.

Rumsey, David, 1994, Assessment Practical Guide, Australian Government Publishing Service, Canberra.

Evidence gathering methods

Australian National Training Authority, 1998, A new assessment tool, ANTA, Melbourne.
<http://antapubs.dest.gov.au/publications/publication.asp?qsID=28> OR

http://www.dest.gov.au/sectors/training_skills/publications_resources/profiles/anta/profile/new_assessment_tool.htm

Gonczi, A. (ed.), 1992, Developing a competent workforce: adult learning strategies for vocational education and training, TAFE National Centre for Research and Development, Adelaide.

Kearney, Paul, 1992, Collaborative assessment techniques, Artemis, Tasmania.

National Assessors and Workplace Trainers Body, The evidence resource kit — containing language, literacy and numeracy video and CD ROM

National Assessors and Workplace Trainers Body, The evidence workbooks

Assessment System Design and Management

Office of Training and Further Education 1998, Demonstrating best practice in VET project – assessment systems and processes, OTFE Victoria.

Toop, L., Gibb, J and Worsnop, P, Assessment system designs, Australian Government Publishing Service, Canberra.

Western Australia Department of Training and VETASSESS 1998, Kit for Skills Recognition Organisations, WADOT, Perth

National Centre for Vocational Education and Research, 1996, Integrating assessment: removing the on the job/off the job gap, Conference papers from 4-6 June, Western Australian Department of Training.

OTFE, 1998, Demonstrating best practice in VET project — assessment systems and processes, Victoria.

Wilson, P., 1993, Integrating workplace and training system assessments, Testing Times Conference, NCVER, Sydney.

Field, I., 1995, Managing organisational learning, Longman, Melbourne.

Recognition of Current Competency/ Recognition of Prior Learning

Recognition and Assessment Centre, 1994, New place: Same Skills. A guide for people from non-English speaking backgrounds, Office of Multicultural Affairs, DEET.

Recognition and Assessment Centre, A Flexible Approach to Recognition Practices: RPL as a Framework, Melbourne Recognition and Assessment Centre, PO Box 299, Somerton, Vic 3062, Telephone (03) 9254 3000.

1.3.13 Further Sources of Information

1.3.13 Further Sources of Information

This section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package which contains the vocational standards for industry.

Contact**Details**

**National Industry Skills
Council (ISC) for the
ElectroComms and
EnergyUtilities Industry**

EE-OZ Training Standards

Unit 2, 48 Mort Street
BRADDON ACT 2612
Telephone: 02 62627055 Fax: 02 62574222
Email: ee-oz@ee-oz.com.au
Website: www.ee-oz.com.au

Western Australia ITC**WA IEU ITC Inc**

P O Box 597, BALCATTA WA 6021
Tel: 08 9240 2688, Fax: 08 9240 2930
E-mail: roberts@ieu.com.au

New South Wales ITAB**NSW U&E ITAB**

Ground floor, 68 Campbell Street
SYDNEY NSW 2010
Tel: 02 9280 2986, Fax: 02 9211 6870
Email: nswueitab@ozemail.com.au

Victoria**EPIC Industry Training**

29 Drummond St, CARLTON VIC 3053
Tel: 03 9654 1299
Fax: 03 9654 3299
Email: epicitb@epicitb.com

Contact**Details****Tasmania****Energy Skills Australia
(TEU ITB)**

Unit 4/40-50 Innovation Drive
DOWSING POINT TAS 7010
Tel: 03 6273 4445, Fax: 03 6273 4446
Email:

South Australia**Electrical, Electrotechnology, Energy & Water Skills
Board**

17 Wirriga St, REGENCY PARK SA 5010
Tel: (08) 8347-4008, Fax: (08) 8219-0015
Email: admin@eeewsb.com.au

Queensland**QUSITAB**

PO Box 160, COOPERS PLAINS QLD 4108
Tel: 07 3216 9604, Fax: 07 3345 8346
Email: qusitab@qusitab.com.au

Northern Territory**Major Industries Training Advisory Council**

GPO Box 1610, DARWIN NT 0801
Tel: 08 8981 0077, Fax: 08 8941 7470
Email: mitac@mitac.org.au

Access to Assessment Resources**Learning Resources****EE-Oz Training Standards**

Unit 2, 48 Mort Street
BRADDON ACT 2612
Telephone: 02 62627055 Fax: 02 62574222
Email: ee-oz@ee-oz.com.au
Website: www.ee-oz.com.au

Australian Training Products Ltd

Level 25, 150 Lonsdale Street
MELBOURNE VIC 3000

PO Box 5347BB, MELBOURNE VIC 3001

Telephone: (03) 9655 0600

Fax: (03) 9639 4684

Website: <http://www.atpl.net.au>

Email: sales@atpl.net.au

1.3.14 Appendix A - New Apprenticeship Application

Appendix A – New Apprenticeships Application

New Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. All qualifications in this Training Package could be open to use as New Apprenticeships and are governed by State/Territory Training Authority arrangements and their limitations.

New Apprenticeships offer both employers and employees:

- relevant training
- a range of support service arrangements.

They typically involve paid work and structured training and are underpinned by a training contract, which is registered with the relevant State/Territory Training Authority. Completion of the competency development program leads to an AQF qualification.

In some instances, and subject to any relevant State/Territory Training Authority arrangements, existing non-apprenticed workers may be eligible for New Apprenticeship opportunities. Inquiries with the relevant State/Territory Training Authority should be made in this regard.

Like traditional apprenticeships, New Apprenticeships involve a commitment from:

- the employer to provide an environment for systematic training of the New Apprentice
- the New Apprentices to apply themselves to learning the requirements of their vocation
- a Registered Training Organisation (RTO) to be responsible for providing the vocational education, training and assessment support services and the eventual issuing of a national qualification

In the National Electricity Supply Industry – Generation Sector, New Apprenticeships are available for all the qualifications outlined in this Training Package. New Apprentices seeking one of the national qualifications will be required to undergo a training program or course of study that involves learning and assessment activities. The related learning and assessment activities are documented and involve:

- the employer
- the employee
- the RTO.

On successful completion of the training program or course of study an RTO will issue the New Apprentice a national qualification.

Entry Requirement

Under New Apprenticeships, the employer is able to determine the relevant employment criteria for recruiting a new entrant into the National Electricity Supply Industry – Generation Sector. The choice, however, is usually dependent on enterprise employment practices and needs including requirements that may be imposed by relevant regulations and codes of practice.

There is, however, a common set of attributes/profiles that are industry preferred for the recruiting of New Apprentices. Some of the more common ones are:

- Any person aged 15 years or more can apply for a New Apprenticeship.
- Most employers require applicants who have completed at least Year 10 of a secondary school education program.
- Employers customarily prefer applicants who have successfully completed Years 11 or 12 of a secondary school education program or a post secondary education pre-employment course.

Potential entrants should be aware that employers are looking for the following personal attributes:

- effective numeracy and literacy skills
- effective communications skills
- acceptable presentation
- punctuality
- a positive attitude
- interest in the industry as a career
- ability to work at heights or in confined spaces and around moving machinery
- ability to distinguish between colours.

For entry-level employment based contracted training New Apprenticeships the composition of the relevant qualification needs to be determined in accordance with the completion requirements detailed here and be subsequently agreed to between the respective parties.

General principles regarding the composition of qualifications are as follows:

- Competency Standard Units making up a qualification must be appropriate to the work being performed and be performed by the person seeking the qualification
- Competency Standard Units making up a qualification must be appropriate to the level and integrity of the qualification sought.

The terms and conditions for employment based entry-level contracted training require a training agreement or contract, which will be provided by State or Territory Training Authorities. Such an agreement is called an Apprenticeship/Traineeship Training Contract, which requires parties to the contract to select the appropriate qualification, competency standard units and to adopt an industry-preferred model or design a new training plan/program. Additionally, the responsibilities of the parties to the contract will be contained therein.

The employment of an Apprentice (sometimes also called a Trainee) by an Employer is subject to the relevant legislation and any applicable industrial instrument, order or determination made under that related Statutory Act. Appropriate information should be obtained from relevant authorities in this regard.

General principles governing the Competency Development Program

Consultation between the RTO, the employer and apprentice/trainee will have occurred and agreement reached on the Competency Development Program that will be delivered. Typically the RTO will adopt the industry-preferred approach where regulatory arrangements are in place or design an appropriate program in concert with the Industry. The apprentice/trainee would be expected to undertake the Competency Development Program in order to attain competence in the given qualification.

The Competency Development Program

A training contract provides a description of the process for undertaking training during the life of the program. This is developed in consultation with the RTOs.

The Training Program

1. Expected duration of workplace program in hours

The training program will detail the anticipated duration in hours that the apprentice/trainee is expected to undertake in order to gain the necessary competencies. Information regarding the suggested nominal duration for respective AQF levels of New Apprenticeships is available from respective parties and includes EE-Oz Training Standards. The training plan will outline the requisite on and off-the-job arrangements that apply to it.

2. On-the-job skills development program

In consultation with the apprentice/trainee and employer, the RTO would outline how it intends to monitor the on-the-job component, i.e. providing advice on how evidence is to be gathered when the apprentice/trainee is in the workplace. Apprentices/trainees are expected to assist RTOs in gathering and submitting workplace evidence as per the industry-preferred approach. This is particularly important where regulatory arrangements are in place. RTOs in turn monitor the performance of the apprentice/trainee and provide appropriate feedback to them and the employer.

3. Off-the-job skills development program

The training contract will detail, where applicable, the off-the-job (technical education) program the RTO will deliver in order to gain the necessary underpinning skills and knowledge. This is typically a program preferred by the industry undertaken by the apprentice/trainee. For example where modules or essential knowledge and associated skills strategies apply, the number, title and duration of each will generally be advised. This will also include the expected duration of the technical educational program in hours.

Typical duration — New Apprenticeships

In developing this Training Package due regard has been given, by industry, to a range of influencing factors associated with the typical period of employment and related training for individuals seeking a qualification, using the Australian Qualification Framework (AQF). In developing such, regard has also been given to the NQC policy on providing industry advice on this matter.

As a general rule it is expected, that by employing the respective techniques and processes detailed in the preferred and adopted industry training model, those employed and undertaking training to satisfy the outcomes of competency standard units, as new entry-level recruits, will take a "nominal duration" of employment to complete. EE-Oz Training Standards has developed industry advice in relation to the nominal duration of employment to assist users in their activities. Detailed information on typical new apprentice durations, at each of the AQF levels is available from EE-Oz Training Standards. This detail can be obtained directly from EE-Oz Training Standards or found on the EE-Oz Training Standards website at www.ee-oz.com.au. Additionally, more specific information may be contained within any related support materials that may exist as non-endorsed components of this Training Package and in particular the industry-preferred training plan applicable to each qualification.

Nominal duration of training is generally defined by State, Territory and Federal Training Authorities policies and/or regulations. Typically these are set out in State/Territory Training Package Implementation Guides. Interested State/Territory parties should ensure they refer to the relevant Training Package Implementation Guide. These can be accessed via the respective State/Territory Training Authority websites.

1.3.15 Appendix B - Sample Assessment Instruments to Support Training and Assessment Material Design

Appendix B — Sample Assessment Instruments to Support Training and Assessment Material Design

This Appendix provides advisory and sample information for assessment material design against competency standard units in this Training Package. It is principally about training and assessment activities that can be used to benchmark quality outcomes.

It provides information about assessment material design and other resources available to support implementation of the Training Package. The information contained herein shows how these resources relate to the workplace and where they can be obtained. It includes sample assessment tools (sample instruments) developed to assist those involved in benchmarking their activities for gathering evidence about workplace activities and workplace experiences for training and assessment purposes.

Sample assessment instruments included were developed for documenting workplace experiences related to the requirements of this Training Package. The assessment strategies and instruments are primarily for use as advisory information for workplace assessors and/or their agents (workplace supervisors or technical experts) who may be employees of Registered Training Organisations or enterprises.

A number of terms used refer to aspects of implementing the Training Package. A Glossary of Terms (*see* Appendix B Enclosure C) is included to clarify the specific meaning of these terms.

This Appendix should be read in conjunction with the following publications:

- The respective volumes of this Training Package
- Training Package for Training and Assessment TAA04
- Training Acts and Regulations in the relevant Australian State or Territory
- Policies of the Registered Training Organisation (RTO) involved with training and assessment for the Industry.

Sources of Education, Training and Assessment Information

Introduction

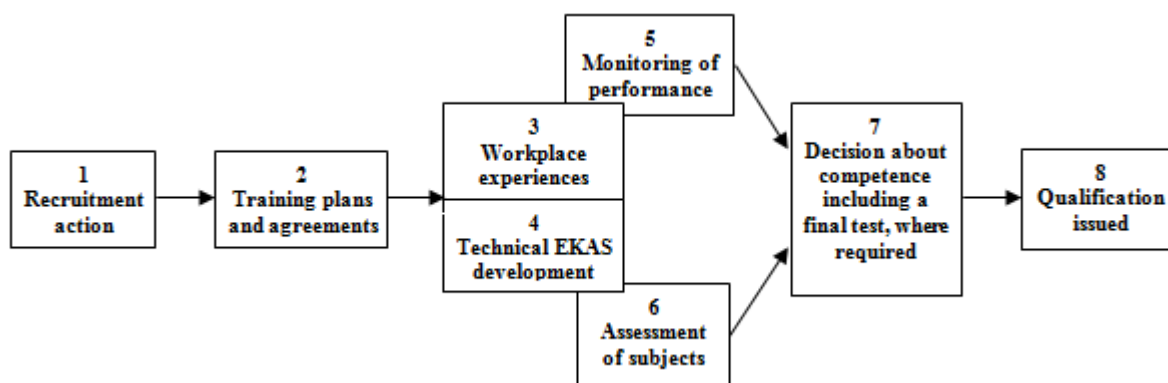
This section shows how the Training Package and associated resources relate to recruitment, training, assessment and recognition activities which may be undertaken by Industry, enterprises and/or Registered Training Organisations.

This section also introduces a competency development and/or recognition model based on combined on and off-the-job training, as well as a model that allows individuals to have previous learning and work experience recognised.

Combined on and off-the-job competency development model

The model shown below is a simplified version of the detailed contracted new entry level industry-preferred competency development model which combines on and off-the-job education, training and assessment leading to competent performance. A detailed copy of the model is available from EE-Oz Training Standards website at www.ee-oz.com. This model recognises that learning occurs as a result of:

- experience in recurring workplace events
- directed workplace learning activities
- structured off-the-job essential knowledge and associate skills technical educational activities.



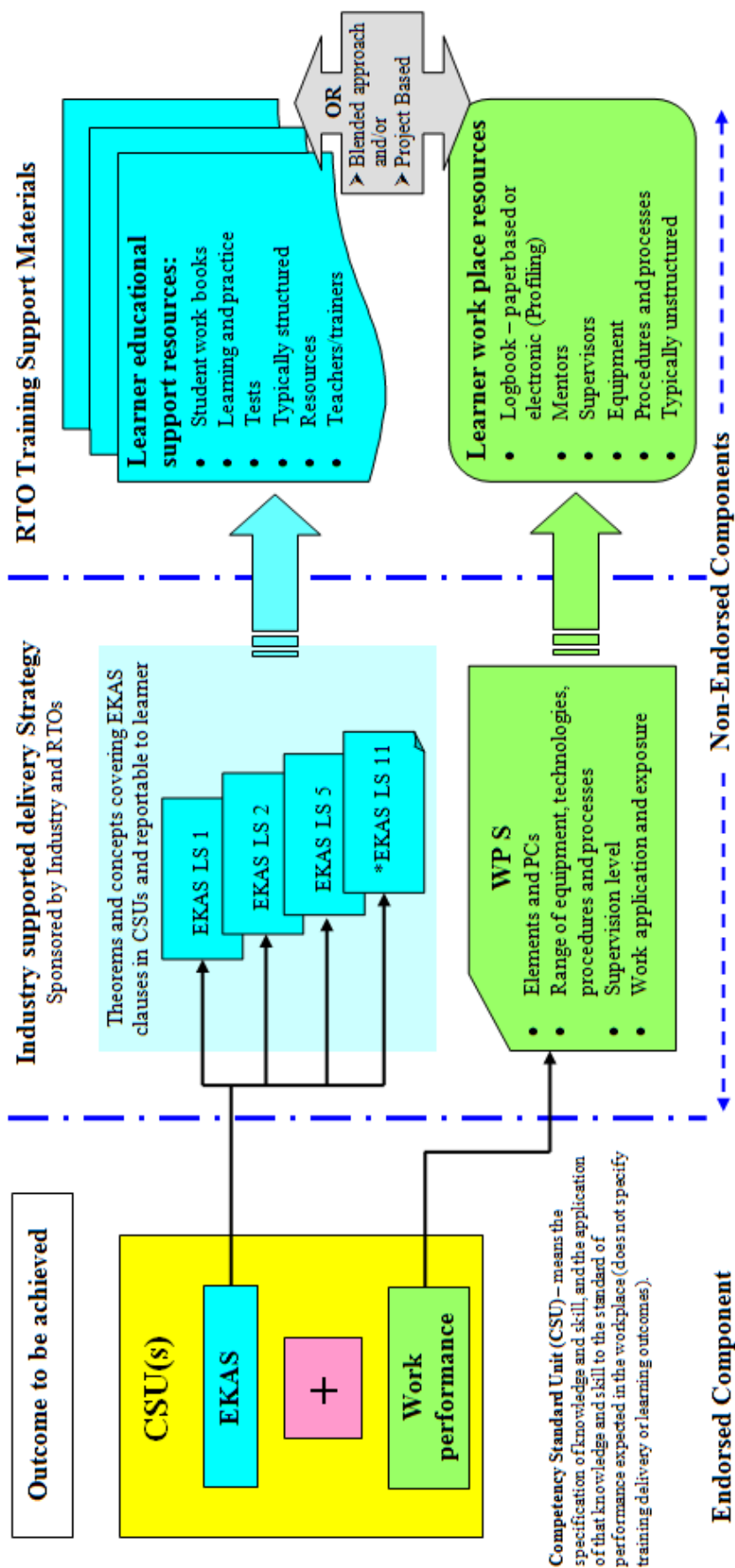
Competency Development Model

This model is structured around a new entry level learner undertaking a full competency development program. The model can also accommodate the assessment of prior learning within the continuum of new entrant to competent. In this way it is consistent with the Assessment Pathways outlined in this Assessment Guidelines part of the Training Package.

New Entrant Training and Assessment Materials and Resource Design and Development

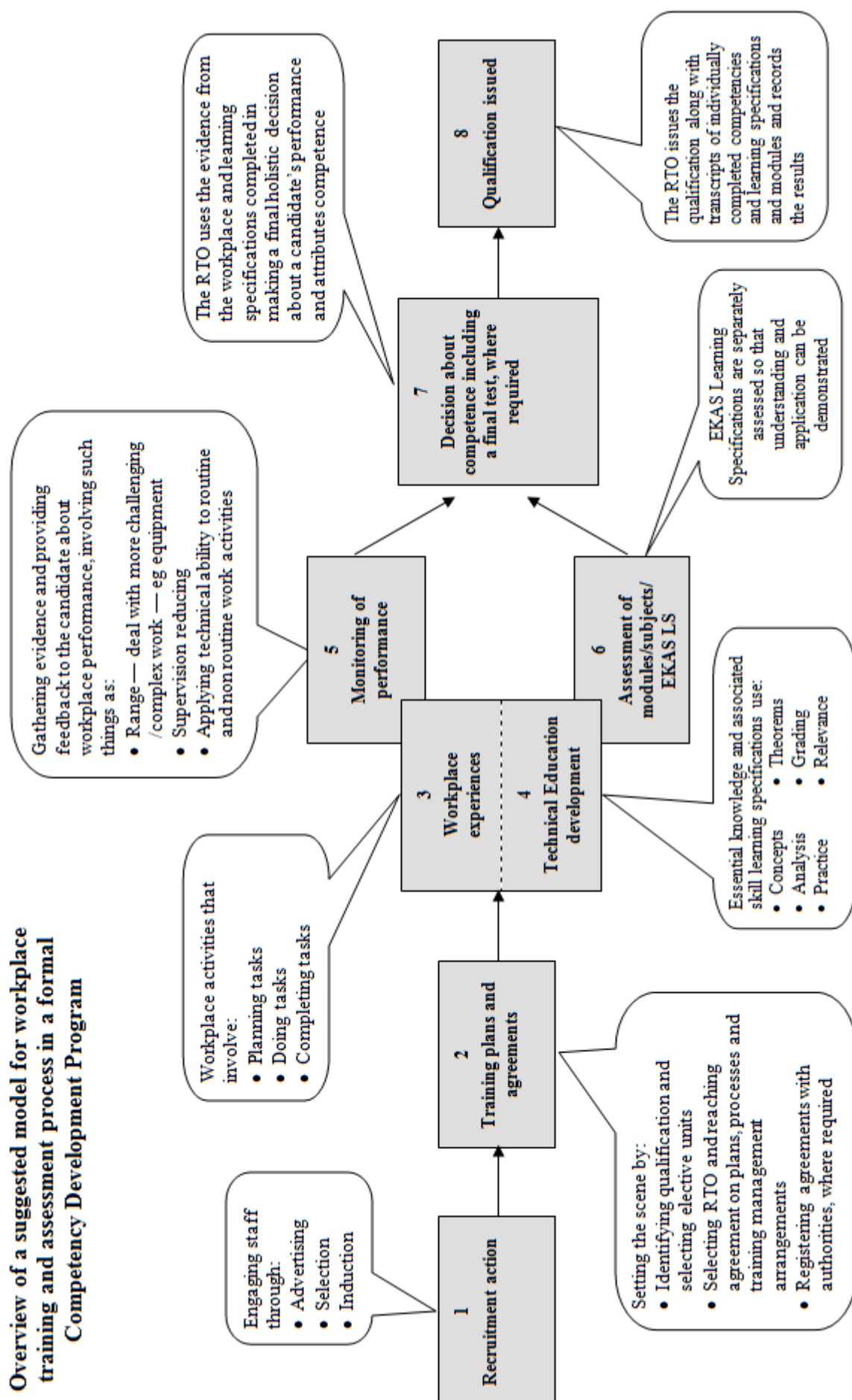
In designing training and assessment materials and resources to support new entrant competency development consideration should be given to the preferred Industry approach to learner development. The concept model detailed on the next page explores how training and assessment materials and resources may be best developed for one or many competency standard units. RTOs using this approach ensure increased consistency in meeting the specifications in learning and work performance against the competency standard units, and in developing the learner in a cost effective way with little disruption to the day-to-day operation of the workplace. It also assures that a learner having completed aspects of, but not the full array of, competency standard unit(s), can be accorded information that is sufficient to warrant recognition for learning content (Essential Knowledge and Associated Skills) that is transferable to other environments in the Industry.

RTO competency development training design model for new entrants using one CSU as an example



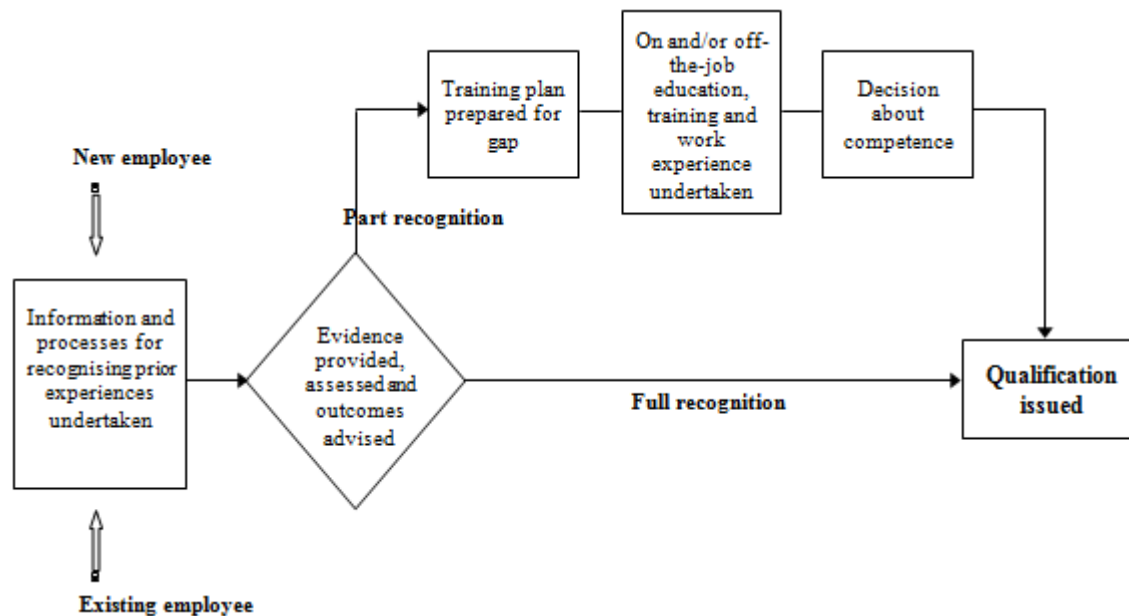
*EKAS LS – Essential Knowledge and Associated Skills Learning Specifications = where
EKAS LS 1 — may cover many units, EKAS LS 2 — may cover a number of units, EKAS LS 5
— may cover several units, and/or EKAS LS 11 – may be unique to the unit (refer to Volume 1
Part 2 and Volume 2 Part 2 for more detail)*

Overview of a suggested model for workplace training and assessment process in a formal Competency Development Program



Recognition of Prior Learning/Experience Model

A typical process for candidates seeking to have their prior experiences recognised within the model is shown in the following diagram.



Learning and Assessment strategies

Introduction

The skills and knowledge required by a competent worker are described in terms of competency standard units. To be assessed as 'competent', against competency standards, individuals need to demonstrate they have achieved the requisite workplace functions and have also acquired the specified essential knowledge and associated skills (EKAS) underpinning performance.

A candidate wishing to be assessed against a specific competency standard unit(s) must be assessed by a qualified assessor. The assessor must use assessment processes, methods and tools which are in line with this Training Package.

Assessment involves gathering evidence to demonstrate that an individual has the necessary essential knowledge and associated skills required by the specified competency standard(s) together with requisite work performance. This may include assessment of knowledge and skills obtained through educational courses as well as through application of knowledge and skills in the workplace using workplace processes, equipment and activities.

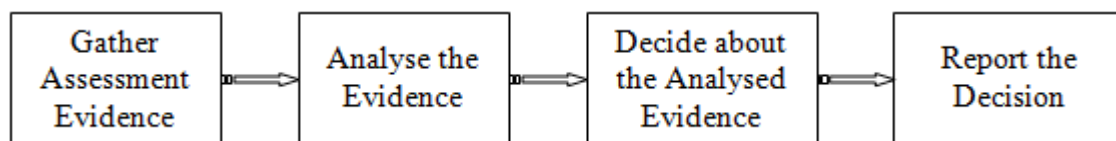
Assessment Planning

Good planning of workplace assessment is most important. The plan is to be based on a suitable process that is in line with the Competency Unit — TAAASS401A Plan and organise assessment from the Training and Assessment Training Package. Assessors need to address the following components of competence in Training Package TAA04, which cover:

- establishing evidence requirements for a specific context
- establishing suitable assessment methods
- developing assessment tools appropriate to a specific assessment context
- trialling assessment procedure.

The Assessment Process

The general process for assessing competence is shown in the following diagram.

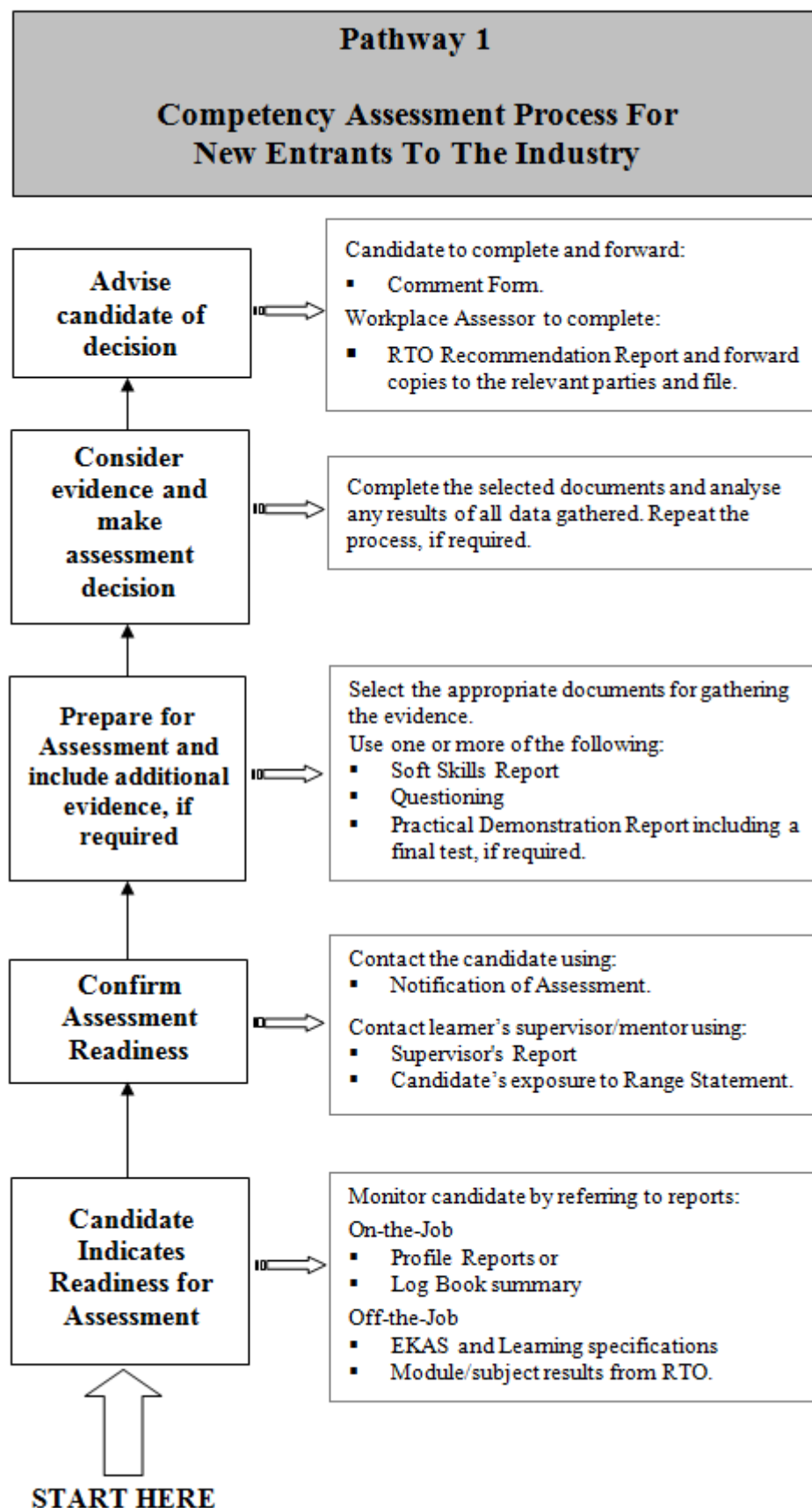


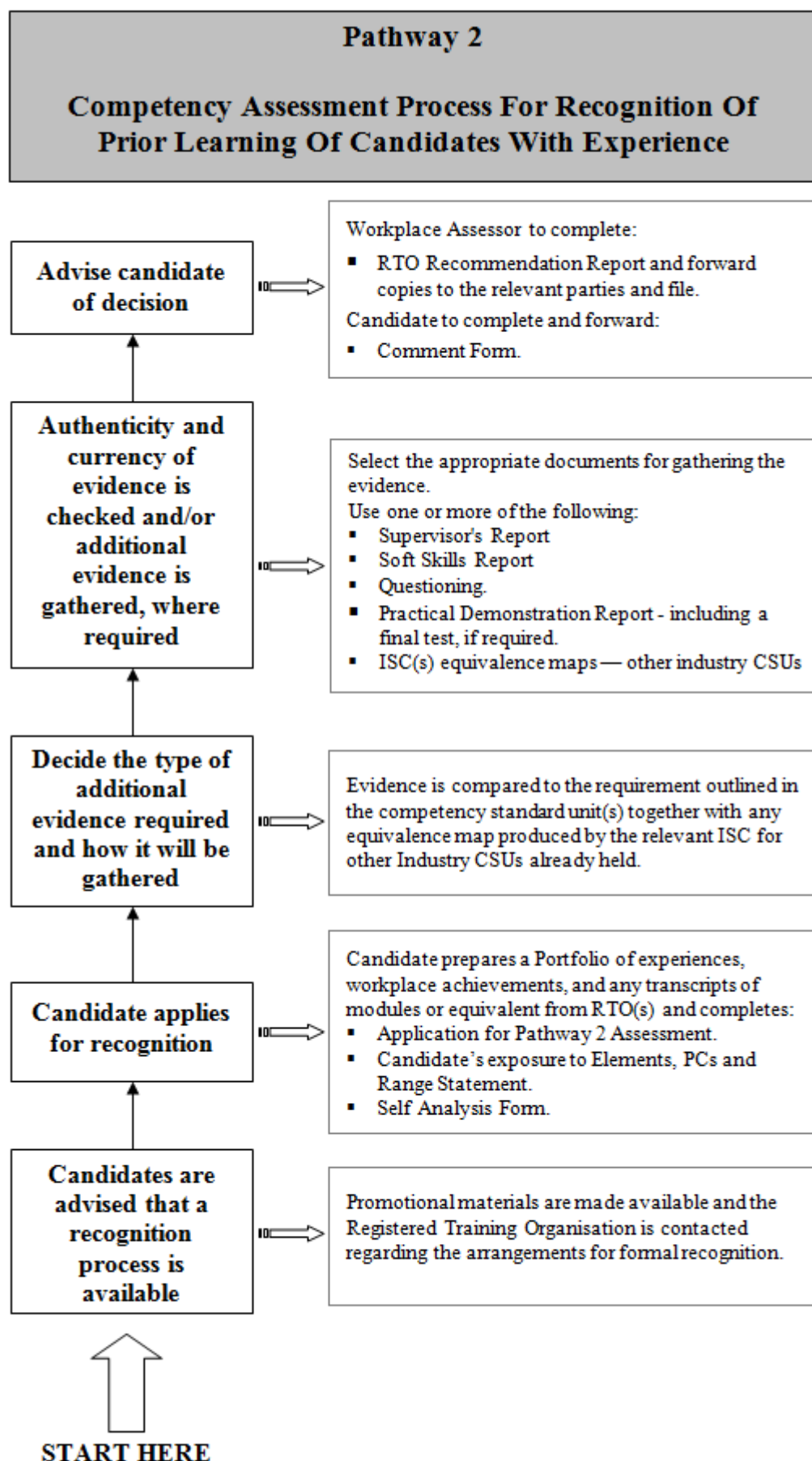
Assessors need to adapt the process to take account of physical and operational conditions as well as the characteristics and background of the candidate being assessed. Once the process has been finalised, the candidate should be advised.

The Assessment Guidelines of this Training Package identify three assessment pathways for the Industry, as follows:

- Pathway 1: For new entrants to the industry
- Pathway 2: Recognition of prior learning of those with experience in the Industry
- Pathway 3: Recognition of equivalent Competency Standards Units from other Industry Training Packages

Pathway 3 can be incorporated within the Pathway 2 processes and activities.





Establishing the Evidence Requirements

The Training Packages provides a clear statement regarding the evidence requirements in the Evidence Guide and in particular the critical aspects of evidence of each competency standard unit. The following is an extract from one competency standard unit.

‘Critical aspects of evidence

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the ‘Assessment Guidelines – UEG06’. Evidence shall also comprise:

- A representative body of performance criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range
 - Apply sustainable energy principles and practices as specified in the performance criteria and range
 - Demonstrate an understanding of the essential knowledge and associated skills as described in Clause 6.1 ‘Essential knowledge and associated skills’ of this unit to such an extent that the learner’s performance outcome is reported on a percentile basis consistent with the preferred industry and/or regulatory benchmark requirements
 - Demonstrate an appropriate level of skills enabling employment
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
 - Verify compliance and functionality of general electrical installations as listed in Clause ‘5. Range statement’ and including:

A — Selecting correct tools and testing equipment.

B — Identifying visual non-compliance defects

C — Using effective methods for conducting mandatory and optional tests

D — Identifying non-compliance from test results.

E — Identifying causes of non-compliance.

F — Completing mandatory reporting.

G — Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items’

The evidence on which competency in this unit is deemed shall be considered holistically, encompassing ‘**items**’ of evidence that industry has deemed critical and that also relate directly to the Performance Criteria and Range Statements. These could include:

- Specific tools, plant and equipment.
- Specific testing techniques
- Any advice limiting assessment to actual workplaces, for example because of licensing, regulatory or unique infrastructure requirements
- Specific licensing and regulatory requirements.
- Any advice dealing with unexpected and non-routine contingencies by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment

Assessment Methods

Appendix B provides detailed information and examples of the methods and tools that may be used in the industry to help the assessment process.

Assessment involves determining whether a candidate has provided sufficient evidence to demonstrate that they have a specified level of skills and knowledge which they can apply in their work environment.

The evidence provided may include, for example:

- Work activity records
- a transcript of training outcomes
- a portfolio of learning experiences
- a self-assessment by the candidate against the relevant competency standard(s).
- supervisor's report(s), addressing requirements of the identified competency standard(s).
- practical demonstration.
- details of training undertaken linked to requirements of the identified competency standard(s), such as a profiling or 'many samples' reports
- outcomes of a challenge test.

The assessor may use a variety of assessment methods to gather evidence. Appropriate methods for documenting workplace experiences related to this Training Package are:

- on-the-job work observation
- practical exercises in the workplace or under simulated workplace conditions
- appraisal and report by a supervisor/trainer or colleague
- questioning and discussion with the candidate
- written/practical test
- any Industry Skills Council equivalence mapping declaration for competency standard units held from other Industry Training Packages

Develop the Assessment Tools

The assessment tools include:

- instruments for gathering evidence — samples included as Enclosure A in Appendix B
- forms for administering the process — samples included as Enclosure B in Appendix B
- assessment design materials Glossary of Terms — included Enclosure C in Appendix B.

Trial the Assessment Procedure

It is very important to trial the assessment strategy. There is a need to make sure it is appropriate to the context in which the assessment is conducted. This will involve such things as:

- Focus on the specific requirements of the competency standard unit being assessed.
- Consideration of the characteristics and background of the person being assessed to make sure the assessor supports the candidate in their understanding of the process and the skills and knowledge that need to be demonstrated.
- Use of assessment methods and instruments to make sure the evidence gathered:
 - - addresses the conditions required to meet the Critical Aspects of Evidence as outlined in this Training Package and related competency standard units
 - - is drawn from a variety of sources and reflects the required range of work circumstances
 - - provides reasonable certainty that the evidence submitted is sufficient, current and authentic.

The selection and application of assessment tools is a decision made by assessors. There is no standard answer, however the following is provided as general guidance.

- Assessors need only gather enough evidence so they can make a judgment that competence has been demonstrated. Too much evidence may be difficult to analyse in a consistent manner, whereas insufficient evidence fails to satisfy the assessment criteria.
- Assessors need to adjust or modify the assessment processes and tools as required, within the constraints of achieving a valid, reliable and fair outcome.
- Assessors need to make sure assessment procedures satisfy the principles of assessment (validity; reliability; flexibility; fairness).
- Assessors need to be cognisant and use the industry-preferred assessment approach, as a first option.
-

1.3.16 Appendix B - Enclosure A: List of Sample Assessment Instruments

Appendix B — Enclosure A: List of Sample Assessment instruments

Enclosure A1 Work activity records

Enclosure A2 Transcript of training outcomes

Enclosure A3 Portfolio

Enclosure A4 Self analysis

Enclosure A5 Candidates exposure to Range Statement

Enclosure A6 Supervisor's report

Enclosure A7 Supporting skills report

Enclosure A8 Questioning**Enclosure A9 Practical demonstration****Enclosure A10 Final/challenge test****Enclosure A11 Contracted entry level Profiling Model****Enclosure A1 — Work Activity Records**

Work Activity Records may be produced in paper-based or in electronic form. Each Work Activity Record may relate to a group of Competency Standards or if need be a competency standard unit.

The activities and experiences recorded in this mode mostly relate to recurring workplace events associated with elements of performance involving exposure to a range of plant, tools, equipment, components and operating systems that are representative of normal work activities. Activities such as these, under appropriate levels of supervision, are important to a candidate's development.

Such records provide valuable data for:

- Candidates and their supervisor's to track progress in acquiring work-based competencies.
- Assessors to make decisions about a candidate's level of competence.

Work Activity Records summarise:

- relevant activities – (elements) and jobs/tasks undertaken at work
- associated resources used (such as tools, plant/equipment, procedures, and operating systems)
- the period of exposure to each type of task
- the level of supervision provided in the workplace.

This type of record is completed by the Candidate in conjunction with their Supervisor and signed by this Supervisor. It is important that workplace experiences are documented by candidates to help them see how their work experience is developing respective skills and knowledge specified in the relevant competency standard units. Assessors, as a result of the records, can easily analyse them to determine if:

- exposure to the desired workplace activities has occurred.
- the level of supervision is in keeping with the degree of autonomy required by the competency standard unit.
- The learner is able to perform 'whole of job' activities.

The ElectroComms and EnergyUtilities Industry Skills Council trading as EE-Oz Training Standards has a model paper based document that candidates can use to record their workplace activities and experiences. The document is called a User Guide. It is formatted in a way that links workplace activities to competency standard units.

More information, including User Guides and techniques for recording workplace experiences electronically are available from the EE-Oz Training Standards at website: www.ee-oz.com.au.

Enclosure A2 — Transcript of Training Outcomes

Essential Knowledge and Associated Skills (EKAS) learning specifications and related results using training modules/topics/subjects that are completed off-the-job develop an individual's technical underpinning knowledge and skill. This may apply where the industry expects such due to the regulated or preferred nature of work.

These learning specifications provide the learner with the essential underpinning knowledge and associated skills required to:

- deal with both routine and non-routine technical activities
- readily adapt their skills when new technologies are introduced
- transfer skills to new work environments.

The Registered Training Organisation (RTO) who is issuing the credential can generally provide current information about an individual's progress in the essential knowledge and associated skills or mapped modules/topics/subjects.

Learners that have undertaken a recognised structured training program with an RTO should submit a formal transcript – 'Statement of Results' (training outcomes) from the issuing RTO as evidence, for inclusion in the process of competency assessment.

Candidates seeking recognition of prior learning need to provide evidence of knowledge and skills equivalent to the content of the essential knowledge and associated skills specifications (modules/topics/subjects) detailed in the competency standard units in which they are being assessed as well as their workplace experiences. Applicants for recognition of prior learning may also seek advice from the Registered Training Organisation about the equivalence status of available evidence of their acquired knowledge and skills.

The ElectroComms and EnergyUtilities Industry Skills Council trading as EE-Oz Training Standards at www.ee-oz.com.au can provide advice in regard to the availability of the essential knowledge and associated skills learning specifications for training modules/topics/subjects, which have been aligned to respective competency standard units and essential knowledge and associated skills clauses.

Enclosure A3 — Portfolio

A portfolio is a collection of documents that demonstrate an individual's professional experiences and achievements in relation to identified competency standards. Typically, portfolios include information from a variety of sources including academic achievements, employment record, work activities, supervisor reports and references.

The candidate should prepare their own portfolio as an accurate reflection of their work and academic history and achievements.

Assessors advise candidates about the amount, type and format of evidence they should submit for assessment against identified competency standard units.

The use of a Portfolio as an assessment instrument can be enhanced by the use of the Self-analysis form included as Enclosure A4.

Enclosure A4 — Self Analysis

A self-analysis involves the candidate in assessing their own level of skills and knowledge acquired through work experience and relevant training programs.

Candidates should complete a Self-Analysis Form in relation to each competency standard being assessed, identifying the evidence they can provide to demonstrate each required component of their skills and knowledge.

Assessors can check the references to determine if the evidence provided links directly or indirectly to the requirements outlined in competency standard units and use this data as part of the overall assessment process.

Typically, the self-analysis form would be used for a Pathway 2 Assessment, however, it could have application in a Pathway 1 Assessment in certain circumstances.

Self-Analysis Application Form

This form allows candidates to summarise their vocational experiences in relation to a particular competency standard unit or a group of units. The information provided is used to identify the list of competencies sought for assessment. They will need to support their responses to questions, claims and/or comments with authentic evidence. To do this, it is recommended that they develop a portfolio of evidence to be submitted with this self-analysis application form. They should be advised to cross reference the information they provide with the information provided in their Portfolio.

They must however, be provided with clear instructions about the information required before they complete each respective form. They also need to view and understand the detailed requirements of the competency standard unit(s) against which they are seeking assessment. A workplace assessor should assist them with the instructions and details.

They may need to submit a separate Self-Analysis Form for each competency standard unit(s) for which they are seeking recognition. The Self-Analysis Application Form could be like the sample provided below.

Sample — Self-Analysis Application Form

Enter the codes and title of the National Qualification and title and codes the competency standard unit(s) from qualification for which you are seeking recognition.

Title of National Qualification	Title and code of Competency Standard Unit(s) (For which recognition is being sought)
	•
	•

	•
	•
	•
	•
	•

Enter the codes and titles of Certificates, Qualifications, Transcripts of Academic achievement, or Licences that you believe to be supporting evidence.

(Remember to include these documents in your portfolio. You must be able to demonstrate how each document relates to the respective competency standards.)

Code and name of Certificate, Qualification, Transcript of academic record or Licence	Year Achieved

Note: For all Certificates, Qualification and associated transcripts of academic records identified above, a certified copy must be provided.

- Approximately how many jobs have you been involved in that relates to each of the respective competency standard unit(s)?

Competency Standard Unit 1 _____ Jobs

Competency Standard Unit 2 _____ Jobs

Competency Standard Unit 3 _____ Jobs

Competency Standard Unit 4 _____ Jobs

Competency Standard Unit 5 _____ Jobs

Competency Standard Unit 6 _____ Jobs

Competency Standard Unit 7 _____ Jobs

- Give details about the **largest** job you have been involved with. Briefly describe the job and where it was carried out. (Portfolio Ref _____)

- Estimate the total amount of time (for all similar job mentioned above of all size) you have been involved with — tick box. (Portfolio Ref _____)

	Less than 1 week	1 to 4 weeks	4 to 10 weeks	10 weeks to ½ year	More than ½ year
1					
2					
3					
4					
5					
6					
7					

- Describe the level of involvement you have had in this type of work — tick box. (Portfolio Ref _____)

	Carrying out jobs organised by others	Carrying out jobs organised by others and completing all tests and/or writing of reports	Planning the job from the beginning, carrying out the work and completing all tests and writing of reports
1			
2			
3			
4			
5			
6			
7			

- To what extent were you involved in this type of work? — tick box.
(Portfolio Ref _____)

	Carrying out routine tasks	Carrying out and manage several routine tasks at one time	Deal with non routine tasks including diagnosing and rectifying faults	Organising others you work with and dealing with clients
1				
2				
3				
4				
5				
6				
7				

- How much training did you require to perform the work? — tick box.
(Portfolio Ref _____)

	Self taught	Basic technical	Analytical	People and
--	-------------	-----------------	------------	------------

	skills	knowledge and skills	technical knowledge and skills	customer skills
1				
2				
3				
4				
5				
6				
7				

- To what degree were you supervised when performing the work? — tick box.

	Constant supervision		General supervision		Self supervision	
1						
2						
3						
4						
5						
6						
7						

- Describe any special features or circumstances about the type of work you have been involved with. (Portfolio Ref _____)

- List as many different types of equipment items you used when you carried out the work associated with the competency standard units. Make the list under headings such as plant, tools, components, systems and the like. A workplace assessor can assist you with the headings. A separate form may be provided for supplying this information. (Portfolio Ref _____)

Unit code	Unit title	Items	

- For the competency standard units, have you completed a whole job using the equipment items listed above? Also indicate the number of times you have done so.

CSU — 1	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 2	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 3	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 4	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 5	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	

	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 6	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

CSU — 7	Involvement (circle yes or no)	Number of times		
	Planned the work	Yes	No	
	Carried out the work	Yes	No	
	Completed the work	Yes	No	

Declaration by Candidate

All the information provided is entirely factual:

Name:

Signed *Date:*

Enclosure A5 — Candidate Exposure to Range Statement

This assessment instrument augments other information needed for judging competence and, where required, should be completed by the candidate to provide a list of components, tools, systems, plant, test equipment and associated items outlined in the Range Statement in individual competency standard units. As the Range Statement is a component part of the whole competency standard unit assessors should ensure the gathering of evidence by the candidate is considered a formative part of the assessment process and that, once the evidence is presented a holistic approach to judging and attributing competence is exercised in conjunction with other related data.

A separate form is required for each competency standard unit to be assessed. The assessor should complete the following parts of this form in conjunction with the candidate to make sure they are clear about what is required:

- Competency Standard Unit Title and Unit Number
- Candidate's Name
- Date
- Range Statement — Item Group:
Consult the Range Statement as described in section *Establishing the evidence requirements* of this Document. Each group alpha character is to represent an appropriate group of variables, such as components, tools, system, plant, processes, equipment etc, as required by the particular competency standard.
- Range Statement — Items involved:
List the particular items that have been predetermined as being critical from the critical aspects of evidence section when the evidence requirements were established (see *Establishing the evidence requirements*).

Candidates place a tick in the column against those items they have been exposed to in a work environment. Candidate should add to the list of items involved, where appropriate. Here is an example.

Competency standard unit – _____ <i>*(Assessor to complete this section)</i>		<i>Candidate to complete</i>
*Range Statement Item Group	*Range Statement Items Involved	Identify the items you have worked on
A Personal protective equipment	Goggles	4
	Gas mask	4
	Boots	
	Gloves	4
B Pipe types	Cast Iron	
	Plastic	4

Candidate's work experience with items in the Range Statement listed in this Competency Standard Unit

Competency standard unit title:		Unit no:
Candidate's name:		Date:
Range Statement Item Group	Range Statement Items Involved	<i>Candidate to complete</i> Identify the items you have worked on
A		

B		
C		
D		

Declaration by Candidate

All the information provided is entirely factual:

Name:

Signed **Date:**

Enclosure A6 — Supervisor's report

Typically, the 'supervisor' (mentor) approached to provide a report for competency assessment will have spent considerable time guiding or monitoring the candidate in his/her development by providing supervised workplace learning experiences, appropriate to the candidate's ability.

Supervisors should be asked to comment on the candidate's demonstrated ability to:

- demonstrate specific skills as described in the respective aspects of the competency standard units under assessment
- apply required essential underpinning knowledge and associated skills (eg. as learnt in their technical studies) to the work undertaken
- work in a team or independently in a way that is productive and safe.

Comments made by the candidate's supervisor/mentor are an important source of evidence for assessors.

The supervisor's report can be completed as part of the pre-assessment planning process or during any other part of the process. More than one supervisor can provide information.

Assessors should make sure supervisors are clear about the specific detailed requirements of the Gas Industry Competency Standards targeted for assessment.

Supervisor's Report on _____ (Learner's Name)	
Name of Supervisor/Assessor: _____	Date: ____/____/____
Position in organisation: _____ Contact number: _____	
Approximate time (cumulative) providing guidance to the candidate _____ days / hrs in Unit(s): _____ _____	
Responses made by supervisors/mentors are for the purpose of providing information to a workplace assessor. The supervisor is <u>not</u> making a decision about competence. The assessor will include the information with other data in the decision making process.	
Question asked of the supervisor/mentor	Responses

Taking into consideration the candidate technical development and work experiences, can they:	Yes	Requires further training	No
Carry out duties with confidence			
Work in a safe manner with care for self and others			
Perform tasks with the minimal amount of waste or rework			
Complete tasks within a reasonable time			
Identify ways of improving how jobs are done			
Initiate action to improve processes or practices			
Work with others to achieve the work outputs of the group			
Work independently to achieve work outputs			
Resolve non-routine work functions			
Other comments:			
Supervisor's/Assessor's Signature: _____ Date: / /			

Enclosure A7 — 'Supporting skills' report

Supporting skills refer to non-technical skills that candidates must demonstrate as part of their competency assessment. They include:

- the ability to work independently or in teams while dealing with customers
- knowledge of and ability to follow enterprise policies
- communication skills used in following and issuing instructions
- knowledge of and ability to address quality assurance requirements
- personal management and development skills

- knowledge of and ability to address environmental protection and sustainable energy policies issues.

Candidates must demonstrate these important attributes which are embedded in all competency standard units in the Training Package.

A supporting skills report may be completed by an assessor, the candidate's supervisor or another third party. Following is a brief description of the various aspects of supporting skills.

Supporting Skills — What do they cover?

1. Enterprise Instructions

Technical manuals

Using enterprise or manufacturers' technical manuals to ensure equipment and parts are installed to manufacturer's specifications.

Quality systems

Plan, apply and contribute to quality systems.

Computers systems

Use enterprise documentation and record systems including, where appropriate, data capture equipment such as computers, information systems and technologies.

Environmental and sustainable energy requirements

The safe disposal of used oil, grease and chemicals and the reduction of electrical energy by turning of the lights and heating devices and the like to minimise the impact that engineering practices have on the environment.

Occupational Health and Safety (OHS) requirements

Follow OHS and standard operating procedures in a manner that is safe to the individual and others.

Equal opportunity/Ethical practice/Cultural diversity

Be familiar with the enterprise, equal employment opportunity policies, ethical practices and principles and awareness of cultural diversity.

Enterprise vehicles

Complete vehicle log book details accurately, ensure the vehicle is kept clean, secured and fuel and liquid levels are maintained.

2. Customer relations

Public

Provide courteous and informative advice during construction, maintenance or service activities.

Workers providing other services

Cooperate with workers providing other construction, maintenance or service activities.

Clients and land owners

Recognise the responsibilities and rights of clients and land owners.

Authorities

Recognise the responsibilities and rights of statutory and other authorities.

3. Self development**Systematic problem solving**

Solve problems by using technical literature, exploring theories, performing calculations and by making enquiries.

Personal wellbeing

Maintain and promote personal well being in the workplace through fitness and by avoiding excessive use of alcohol, tobacco and other substances.

Time management

Be punctual, complete work activities on time, and sequence activities to maximise the use of available time.

Professional development

Seek to improve technical ability by discussions with others or by technical research and on-going competency development.

4. Team work**Communications**

Communicate plans, information, intentions and safety criteria to others' using appropriate means.

Team involvement

Contribute positively to the work-team environment.

Competency enhancement

Participate in the training of others by sharing ideas, explaining operating systems and detailing the working arrangements of components and equipment.

Instructions for completing the supporting skills report

The supporting skills report on the next page provides a means of recording information about a candidate's skills. A workplace assessor (or nominee) does this by referring to documentation, asking the candidate questions and/or seeking advice from the candidate's supervisor/mentor.

Complete the form in the following way.

Step 1

Place a cross (X) in the box to indicate areas from where evidence has been sourced.

Supporting Skills Report		
Candidate's name		Date
Supervisor's/Assessor's name		//
Enterprise instructions 1. Applies correctly without constantly making reference to them. 2. Refers to them regularly and applies information correctly. 3. Awareness of their existence but not referred to or used.		Rating ① 2 3
Technical manuals	X	Identify a minimum of three.
Quality systems	X	
Computer systems	X	
Environmental requirements	X	

Step 2

Review documentation and/or ask questions of the learner or their mentor/ supervisor.

Step 3

For each area, establish the appropriate level (1, 2 or 3) that reflects the capability of the learner. Place a circle around the corresponding number. Evidence should be collected from a number of sources before rating the candidate.

Step 2

Review documentation and/or ask questions of the learner or their mentor/ supervisor.

Step 3

For each area, establish the appropriate level (1, 2 or 3) that reflects the capability of the learner. Place a circle around the corresponding number. Evidence should be collected from a number of sources before rating the candidate.

Note: A rating of 2 or 3 indicates further training or experience is required. A rating of 1 indicates the candidate has demonstrated their competence in this area.

Supporting Skills Report		
Candidate's name	Date	
Supervisor's/Assessor's name	/ /	
Enterprise instructions 1. Applies correctly without constantly making reference to them. 2. Refers to them regularly and applies information correctly. 3. Awareness of their existence but not referred to or used.	Rating (circle #) 1 2 3	
Technical manuals		Identify a minimum of three.
Quality systems		
Computer systems		
Environmental and sustainable energy requirements		
Occupational Health and Safety requirements		
Equal Opportunity/Ethical practice/Cultural diversity		
Enterprise vehicles		
Customer relations 1. Customers are included in discussion effecting operational issues 2. Knowledge of but limited application of customer relations. 3. Requires more understanding of customer needs.	Rating 1 2 3	
Public		Identify a minimum
Workers providing other services		

Clients and land owners		of two.
Authorities		
Self development 1. Desire to expand beyond the present job role. 2. Keeps abreast of new products and services. 3. Requires more understanding of the job role.	Rating 1 2 3	
Systematic problem solving		Identify a minimum of two.
Personal well being		
Time management		
Professional development		
Team Work 1. Shares ideas, assists and accepts assistance from others 2. Accepts ideas and assistance from others. 3. Prefers not to assist or accept assistance from others	Rating 1 2 3	
Communications		Identify a minimum of two.
Team involvement		
Competency enhancement		

Enclosure A8 — Questioning

It may be necessary as part of the assessment process, to gather additional evidence to clarify specific aspects of competence, especially in relation to the associated performance criteria. The RTO Assessor (or their nominee) may need to ask questions of the candidate, their supervisor or their trainer. A form is provided in this enclosure for documenting their responses.

The form provides guidelines for questioning a candidate about the Performance Criteria related to each element of competence. Typically, the elements in each of the competency standard units in this Training Package follow a similar structure. Principally they generally cover *planning for*, *carrying out* and *completing* the job function.

In this section of the document you will also find two tables which provide guidelines for assessing a candidate's response to these questions.

If the assessment is formative (as part of a training process) then the response given by the candidate should be consistent with the 'Appropriate coverage to questions -level 1'.

If the assessment is summative (final) the responses should be consistent with the ‘Appropriate coverage to questions - level 2’.

Note to assessors:

1. As competency standard units are typically structured around PLAN ⇐ CARRY OUT ⇐ COMPLETE jobs in the workplace, the form for recording responses is generic.
2. Please make reasonable adjustments to the form as required to accommodate particular aspects of individual competency standard units.

Level 1 — Appropriate coverage of responses to questions

Element 1 – Planning for job/task functions (L1)

Issues about involvement of personnel, enterprises operational requirements and the requirements of regulators would not normally be expected.

Coverage should involve such things as:

OHS:

- Clarifying instructions given if any doubt exists as to what is required
- Checking with others involved if any personal protective equipment is needed
- Identifying hazards and risks associated with the work, including any first aid and other similar requirements

Tools, equipment etc:

- Identifying the tools and equipment that are required
- Explaining where any special equipment is located and how arrangements will be made to have them available, if required.

The work schedule:

- Identifying the work and relevant processes, procedures and personnel required
- Identifying the process of work to be undertaken
- Identifying the work site activities and issues to be attended to
- Identifying the authorities associated with the work.
- Identifying any isolation procedures/permits that may apply.

Element 2 – Carrying out job/task functions (L1)

Coverage should involve such things as:

OHS:

- Keeping the immediate work area clear of debris
- Keeping tools clean and organised when not in use
- Keeping clear of such things as moving parts, live electrical conductors, hazards, and obstacles

- Wearing work clothes and personal protective equipment when required
- Performing the technical work required
- Applying the relevant knowledge and skills underpinning performance.

Tasks:

- Following instructions given by others
- Observing what is occurring, listening to explanations about why tasks are performed in certain ways and asking questions when required.

Element 3 – Completing job/task functions (L1)

Coverage should involve such things as:

- Cleaning tools and equipment
- Returning tools and equipment to their normal storage place.

Level 2 — Appropriate coverage of responses to questions**Element 1 – Planning for job/task functions (L2)**

Coverage should involve, but not limited to, such things as:

OHS:

- Clarifying instructions given if any doubt exists as to what is required
- Arranging for any special personal protective equipment to be available
- Checking to see if the work site is accessible.

Personnel:

- Identifying other personnel involved in the work and coordinating proposed activities.

Regulatory requirements:

- Arranging for relevant work instructions and installation specifications to be available, if required
- Arranging work permits/isolation, etc.

Tools, equipment etc:

- Arranging the tools and equipment that are required
- Coordinating where any special equipment is located and how arrangements will be made to have them available, if required.

The work schedule:

- Confirming the plan and process of work to be undertaken
- Confirming the work and relevant processes, procedures and personnel required

Element 1 – Planning for job/task functions (L2)

- Confirming the work site activities and issues to be attended to
- Confirming the authorities associated with the work
- Confirming isolation or work permits authorities.

Element 2 – Carrying out job/task functions (L2)

Coverage should involve, but not limited to, such things as:

OHS:

- Keeping the immediate work area clear of debris
- Keeping tools clean and organised when not in use
- Keeping clear of such things as moving parts, live electrical conductors and obstacles
- Wearing work clothes and personal protective equipment when required
- Having barriers in place to exclude public access to the work place, as required
- Ensuring all personnel involved are alerted to work activities and communications are established and maintained
- Keeping alert to the working environment while watching for unexpected occurrences
- Confirming appropriate competence of first aid and persons, including other requirements such as confined space and the like, where appropriate.

Engineering tasks — specific actions should be included that are additional to the following:

- Performing tasks independently with reference to enterprise instructions
- Accept and act on initial advice and feedback provided by others
- Observing what is occurring, listening to explanations about why tasks are performed in certain ways and asking questions when required
- Applying essential knowledge and associated skills and providing solutions to 'what if' scenarios.

Technical assistance:

- Further reference to enterprise instructions
- Reference to the requirements of regulations, work instructions or other relevant standard
- Recall of theory or application
- Involvement of others with greater experience.

Element 3 – Completing job/task functions (L2)

Coverage should involve, but not limited to, such things as:

Element 3 – Completing job/task functions (L2)**Performance checks:**

- Checking that all guards & covers removed during the activities are replaced and adjusted
- Check that all temporary arrangements required during the process work have been removed
- Carrying out any tests required by regulation or work instructions
- Operating the installed/repaired parts or system to ensure it functions as specified.

Notification:

- Informing all immediate personnel involved that the work is completed
- Informing clients and others that the work is completed
- Removing all signs and barriers, as necessary
- Reporting any damaged tools and equipment and arrange replacement.

Paperwork:

- Completing store/inventory paperwork
- Completing the work log or management reports precisely by recording what occurred and providing recommendations/solutions to be followed up in point form.

Instruction for recording responses to questions**Step 1**

Identify the elements of competence on which questions will be asked.

Step 2

Identify if the response expected is to be typical of a candidate who is undergoing a formative assessment (level 1) or summative assessment (level 2). This may be different for each element involved.

Step 3

Ask the main question and indicate (Y or N) whether the candidate's response addresses the coverage required.

Step 4

Ask follow up questions to probe any areas not recorded as Y in Step 3. Record Y or N to the response given in the space provided.

From all the evidence presented a holistic judgement is then made.

Questions

Unit Title:					
No.					
Candidate's name:					
Assessors name:					
Main Question for the 'Planning Work' Element What are the main things you would consider when planning and preparing for work?	Expected Response Level			Not used	
	(circle)	1	2		(tick)
Issues to be cover in response to the main question – and – follow up questions, if required					Coverage (Y or N)
What OHS issues do you consider?					
Who are the personnel you would involve?					
What enterprise requirements need to be taken into account?					
What regulatory requirements need to be taken into account?					
What tools, equipment and other items need to be arranged to do this job, where will you get them from and how will you arrange to have them made available when you need them?					
What work schedule will be followed?					
Main Question for the 'Carry-Out Work' Element What are the main things you will do to ensure the work you carry out is done productively?	Expected Response Level			Not used	
	(circle)	1	2		(tick)
Issues to be cover in response to the main question – and — follow up questions, if required					Coverage (Y or N)
What are the main OHS practices and precautions that are specific to					

Unit Title:	
No.	
Candidate's name:	
Assessors name:	
this work function?	
What are the main engineering tasks involved in this job?	
What would you do if the work you were undertaking became technically difficult and you could not complete it to requirements?	
What essential knowledge and associated skills would support a response to providing solutions to 'what if' scenarios?	

Unit Title: (Cont.)					
No.					
Candidate's name:					
Assessors name:					
Main Question for the ' <i>Completing Work</i> ' Element What are the main things you will do? What needs to be done to finalise the job?	Expected Response Level			Not used	
	(circle)	1	2	(tick)	
Issues to be cover in response to the main question – and – follow up questions, if required					Coverage (Y or N)
What checks need to be made to insure the work you undertook meets specified performance requirements?					
Who do you notify that the work has been completed?					
What paperwork needs to be completed and what will you write about?					

Enclosure A9 — Practical Demonstration

As part of evidence provided to demonstrate competence against detailed competency standards, the assessor may need to observe the candidate demonstrating practical tasks.

The Engineering Practical Skills Form is provided herein to help assessors record these work-based observations. The notes taken are analysed and from this a rating is given about the candidate's engineering skills.

Note to assessors:

- The form for recording responses is generic to all competency standard units.
- Make reasonable adjustments to the form as required to accommodate particular aspects of individual competency standard units.
- You may only need to observe candidates on particular (not all) Elements of Competence.
- If the assessment is formative (for feedback purposes), then the level of supervision that applies during work activities should apply during the assessment activity.

Instructions for completing the Engineering Practical Skills Form

The form provides a means of recording information about a learner's engineering practice. A workplace assessor (or nominee) does this by an observation of pre-arranged activities and determining an engineering skills rating.

Step 1

Enter the title of the competency standard unit and its Unit Number in the space provided.

Step 2

Enter the learner's name in the space provided.

Step 3

Enter the name of the person who is completing the form (this may be the assessor or someone who the assessor nominates to gather the information).

Step 4

Enter the date on which the evidence is gathered.

Step 5

Determine the elements of competence being observed (circle yes or no).

Step 6

Determine the level of supervision that is to apply to the elements being observed. Use the supervision — Level code from the bottom left of the form (A, B or C) and enter in the second column.

Step 7

Observe the learner perform tasks related to the element(s) being assessed, checking that they address the required Performance Criteria. Record in the first column of the table under the heading 'Notes from Observation' key points to indicate whether the learner:

- Has acted in a way that meets specifications required by manufacturers, regulations or client specifications

- Has followed established enterprise procedures
- Met the requirements of the Competency Standard being assessed
- Needed to be shown or told how to perform tasks beyond what is reasonably expected given his/her level of experience and therefore requires further training.

Step 8

Using the engineering skills rating codes at the bottom right of the table, enter the appropriate letter in the space provided to indicate the level of competence demonstrated in relation to the competency standard being assessed.

From all the evidence presented a holistic judgement is then made.

Engineering practical skills form			
Competency standard unit title: _____		Date: ____/____/____	
Candidate's name: _____		Assessor's Name: _____	
Notes from observation		Supervision Enter A, B or C	Engineering Practice Enter D, E, F, G
Plan activities: Yes or No (circle to indicate if evidence is being gathered)			
Carry out activities: Yes or No (circle to indicate if evidence is being gathered)			
Complete activities: Yes or No (circle to indicate if evidence is being gathered)			
Supervision Level		Engineering Skills Rating	
A	The learner is working under direct supervision.	D	Met required specifications.
B	The learner is working under limited supervision	E	Followed established enterprise procedures.
C	The learner is working under general supervision with a high degree of autonomy	F	Met competency standard requirements
Learner's Signature		G	Further training required
Assessor's Signature			

Enclosure A10 — Final/Challenge Test

A test may be required if the assessment process does not provide:

- sufficient, authentic or current evidence
- particular aspects of evidence related to equipment operation
- particular aspects related to safety
- all the requirements related to the influence of external bodies such as regulatory authorities.

A final test should:

- cover the conditions associated with the ‘Critical Aspects of Evidence’ statement in competency standard units
- take into account the principles of assessment and be sufficiently rigorous
- be consistent with the policies and practices of the Registered Training Organisation who is providing the recognition.

Enclosure A11 — Contracted Entry Level Profiling Model

In relation to the industry-preferred assessment model for contract entry-level competency development programs (New Apprenticeships), longitudinal approaches to assessment activities are considered more efficient and effective. This is best achieved by implementing a process where the learner frequently gathers reliable data from the workplace has it verified in a form that can be easily used and consistently interpreted.

One option is to use a machine-readable data scan card or direct web entry process, operating in conjunction with a sophisticated computer software program to achieve this result. The design of the system known as Profiling reflects the key requirements outlined in the relevant competency standard units making up the competency development plan/program. Learners report directly on their exposure to required work experiences in a structured way. Additional to the off-the-job technical training required for contracted entry level learners Profiling gathers specific workplace information reliably and systematically.

Data gathered frequently from the workplace accumulates over the competency development period and is reported graphically at given periods. This approach encourages self review and participation in the system and eliminates bias and minimises the effects of low levels of literacy (see over the page for an example).

The information gathered under Profiling, forms one component of a two part, in some cases three part, Training Program that supports competency development in a way preferred by the industry. The components are:

- off-the-job training (technical subjects/topics), and
- on-the-job training (workplace activities), and
- a specific final ‘safety systems (capstone)’ test, where applicable.

Typically the off-the-job component requires the successful completion of technical subjects/topics of training against essential knowledge and associated skills (EKAS) clauses included in the respective competency standard units. More often than not the EKAS are aligned to EKAS learning specifications that expand on the essential knowledge and associated skills clauses; providing more detailed information on depth and breadth of learning required, for RTOs. The on-the-job component requires a profile to develop from workplace experiences/exposures. Finally, a specific safety assessment test is conducted, where applicable, for regulatory and industry requirements.

In relation to the on-the-job workplace data (experiences/exposures) is gathered and reported on against the respective aspects of industry determined competency standards, using predefined industry norms. Typically the information gathered pertains to the:

- activity against each element of competency and indirect information against the performance criteria
- quality, breadth and range of equipment, processes, techniques and applications experienced and worked with/on in the workplace
- level of supervision of a learner's workplace experiences
- hours of exposure (recording hours only is not generally considered Profiling).

Entry against the prescribed criteria is completed regularly (eg weekly) by the learner, the software program calculates the data against industry predefined norms and regular reports are produced (typically quarterly) for the use and information of RTOs, employers and the learner. Assessors use this information in a holistic way to identify and analyse trends and anomalies against the predefined industry norms.

The advantage of Profiling over many other mediums such as manually based log-books which require extensive and laborious analysis is that it is simple and directly reflective of the workplace experiences undertaken at the time. It provides evidence for:

- managing workplace skill development/ performance of competency required to produce quality work
- progressive assessment and supporting the attainment of a national qualification
- the attainment of an electrical workers' licence/regulated registrations, where appropriate
- the need for job rotation
- allocating work
- RTOs — thus reducing the demand for an array of workplace assessors.

To gain an appreciation of what a data card and a report may look like a sample of each is included below.

Sample Data Card

**Certificate III Electrotechnology
Systems Electrician**

Week Number

Profiling Registration No.

Apprentice Surname

Apprentice Signature _____

SAMPLE ONLY

[illegible]

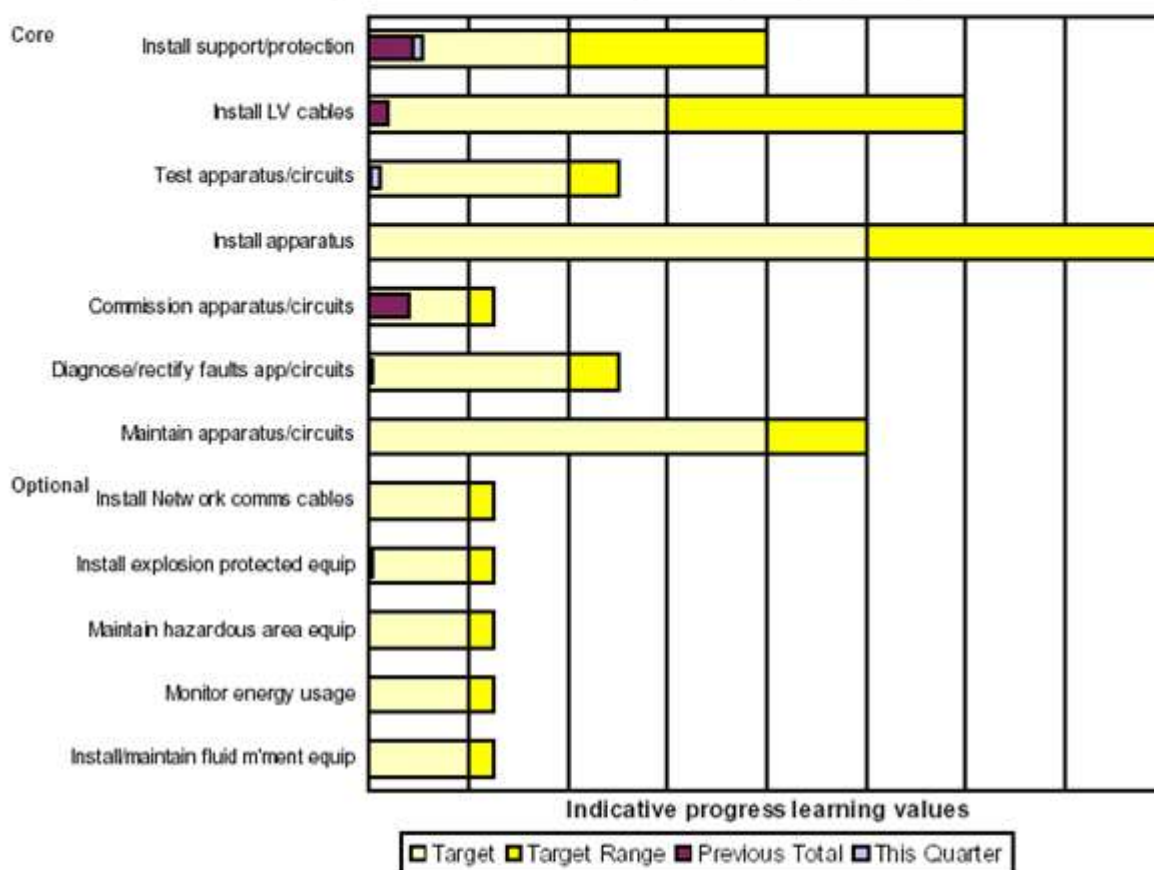
Tradesperson's signature verifies that the work was performed to an acceptable standard within an acceptable timeframe given the experience of the apprentice

Electrical Licence No:

Tradesperson's Surname

Tradesperson's Signature

NB. Both the Tradesperson's signature and Licence Number on the bottom of the card are mandatory - your signature means that you are simply checking that the work listed has been done. You are **not** assessing competency. There is no greater responsibility/obligation placed on the Tradesperson signing this card than there is currently under the Apprenticeship Act.

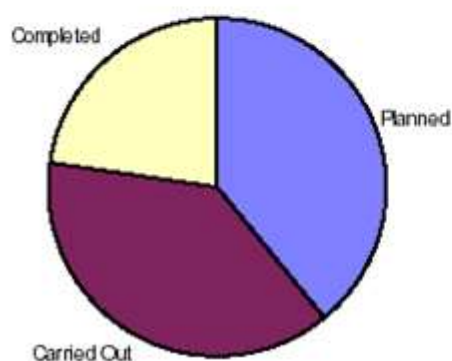
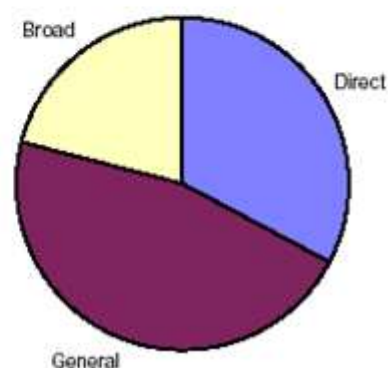
Sample Profiling Report**First Zzsample (999999)****Apprentice On Job Experience Profile - Progressive and Benchmarks Points
Systems Electrician - Quarterly Report, May 2002**

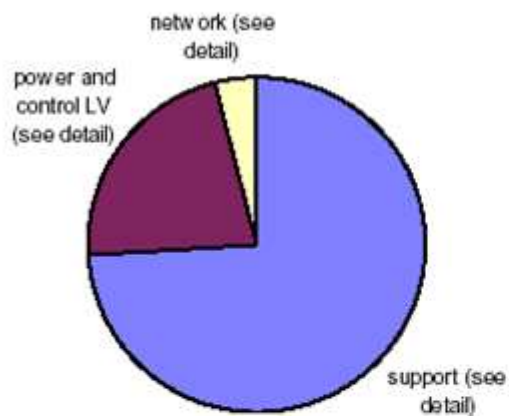
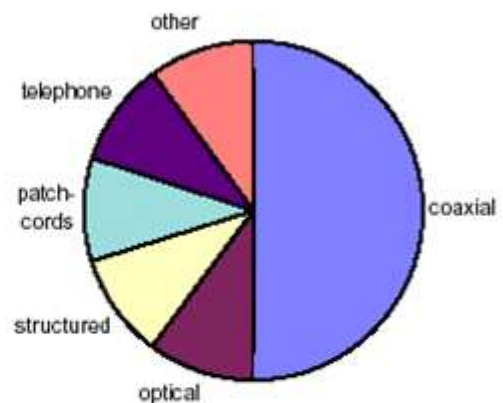
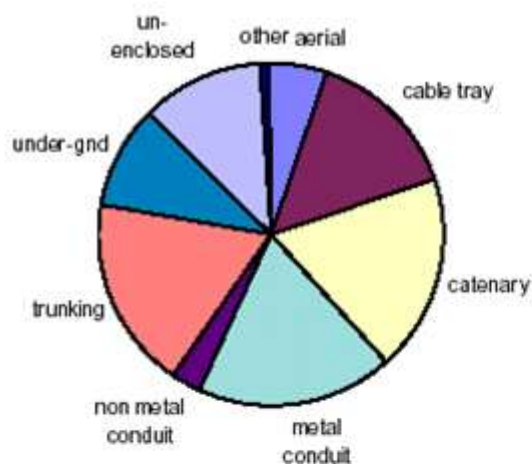
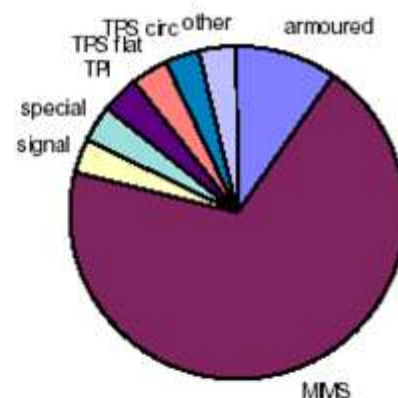
* indicates Optional competency selected by the learner in Schedule C

Apprentice Signature _____ Date _____

Employer Signature _____ Date _____

Host Signature (if applicable) _____ Date _____

Apprentice role**Supervision level**

Sample Profiling Report (cont.)**First Zzsample (999999)****Electrical wiring system type****Electrical wiring detail:
Network communications****Electrical wiring detail:
Support and protection****Electrical wiring detail:
Power & control - LV****Testing techniques used**

1.3.17 Appendix B - Enclosure B: Administrative Forms

Appendix B — Enclosure B: Administrative Forms

Enclosure B1	Notification of Workplace Assessment
Enclosure B2	Application for Recognition of Prior Learning/ Current Competence
Enclosure B3	Assessee Comment/Feedback
Enclosure B4	Candidates Competency Achievement Report to a RTO

Enclosure B1 — Notification of Workplace Assessment

This form is used to notify a learner about their assessment. The learner is advised of the type of evidence being sought, the competency standard unit(s) of competence being considered, who will be involved and the time and place of the activity.

Enclosure B2 — Application for Recognition of Prior Learning/ Current Competence

Candidates should use this form to apply for recognition. The applicant needs to provide their personal details, the competency standard unit(s) for which they seek recognition, the type of evidence being provided and the names of referees.

Enclosure B3 — Assessee Comment/Feedback

This form is used by the learner (or RPL applicant) to make comments about the workplace assessment process and/or decision. It should be distributed prior to an assessment event being conducted. The workplace assessor should be sent a copy of each form completed and should retain completed forms in case of any future review and/or inquiry.

Enclosure B4 — Candidate's Competency Achievement Report to an RTO

This form summaries a workplace assessment process and allows workplace assessors to make recommendations to an RTO about deeming competence of a learner or RPL applicant.

Enclosure B1 — Notification of a Workplace Assessment

Learner's Name: _____ **Date of notification:** / /
Assessor's Name: _____ **Tel:** _____
Qualification Title: _____

The workplace assessment will be carried out on the	For the following reason
------------------------------------------------------------	---------------------------------

following Competency Standard Units		(tick)	
Unit No.	Unit Title	Advice	Completion

Location _____ **Date:** / / **Time:** _____

Information has already been gathered from or is to be gathered from the following sources indicated below.

No	Source of Information		Already Gathered (tick)	To be Gathered (tick)
1	Work Activity Records — experiences mostly relate to re-occurring workplace events.	Paper Based		
		Electronic		
2	Technical Results (i.e. modules) — part of the program that develops your technical knowledge and skill			
3	Portfolio — personal and academic detail, employment and work achievements, references and the like			
4	Self Analysis — provides guidance on the type of evidence required and guides reference to other information			
5	Item Range — list of components, tools, systems, plant, test equipment, etc on which experience is gained			
6	Supervisor's Report — general comments about applying technical skills, being safe and productive			
7	Soft Skills Report — your ability to follow instructions, deal with clients and work in teams			
8	Questioning — covers issues related to your performance when planning, carrying out and completing work			

9	Practical Demonstration — a demonstration of your ability to perform tasks in a actual or simulated situation		
10	Final Test – evidence related to critical aspects of what is required by you to demonstrate competence		
11	Other (list)		

Note: Once all the information is collected and the data analysed the results about your progress towards or achievement of competence will be forwarded to you for your comments. If you require any additional information you should contact the assessor (above telephone number) or your nominated supervisor/mentor.

Name _____ Signature _____

Enclosure B2 — Application for Recognition of Prior Learning/ Current Competence

Name: _____ Date of Birth: / /

Address: _____

Telephone: _____ Mobile _____ e-mail _____

Recognition Sought _____

Training Package _____

Qualification No. and Title _____

Competency Standard Units (Candidate to List)

Unit Title	Unit No.

Evidence Provided

Type	Tick if Attached
Certificates	
Curriculum Vitae	
Transcript of Academic Record – modules completed/equivalent	
References	
(other)	

Referees

Name	Organisation and Title of Referees	Contact Number of Referees

Candidate's Signature: _____ **Date:** / /

Enclosure B3 — Assessee Comment/Feedback

To be completed by the candidate following an assessment event.

Location: _____ **Date:** ____/____/____ **Time:** _____

Assessor's Name: _____

Please complete the following and return it to the Assessor.

Candidates' Name: _____

Contact N°: _____

I have read the Final Report for this assessment event and,

(tick)

Agree with the outcome

or

Disagree with the outcome

Comments:

Candidate's Signature: _____ **Date:** ____/____/____

Enclosure B4 — Candidate's Competency Achievement Report to RTO

This recommendation is made to (enter RTO name) _____

It is recommended that (learner's name) _____ (contact and identification details) _____

_____ be attributed competence in the following Competency Standard Units.

These units are from the Qualification (Title and No.)

Unit No.	Competency Standard Unit Title	Assessor's initials

The recommendation was made based on analysed evidence taken from the following sources	Tick
Work Activity Records	
Module (Learning Specification) Results	
Portfolio	
Self Analysis	
Item Range – Learner’s Report	
Supervisor’s Report	
Soft Skills Report	
Questioning	
Practical Demonstration	
Final Test	
Other (enter)	

Statement

The recommendation to attribute competence to the above-mentioned individual is based on the evidence requirements outlined in competency standard units from the _____ (Enter the Number and Title of the Training Package.)

Assessor’s Name _____

Signature _____ Date: / /

1.3.18 Appendix B - Enclosure C: Glossary of Terms

Appendix B — Enclosure C: Glossary of Terms

Definitions of all terms used in assessment design materials are below.

Term	Definition/Explanation
Appeal process	A process whereby the person being assessed or other interested party, such as an employer, may dispute the outcome of an assessment and seek reassessment.
Assessment	The process of collecting evidence and making judgements on whether competency has been achieved to confirm that an individual can perform to the standard expected in the workplace as expressed in the relevant endorsed industry/enterprise competency standards or outcomes of accredited courses.
Assessment context	The environment in which the assessment will be carried out. This will include physical and operational factors, the assessment system within which assessment is carried out, opportunities for gathering evidence in a number of situations, the purpose of the assessment, who carries out the assessment and the period of time during which it takes place.
Assessment guidelines	Assessment guidelines are the endorsed component of a Training Package which underpins assessment and which sets out the industry approach to valid, reliable, flexible and fair assessment. Assessment guidelines include the assessment system overview, assessor requirements, designing assessment resources, conducting assessment and sources of information on assessment.
Assessment judgement	Assessment judgement involves the assessor evaluating whether the evidence gathered is valid and authentic, and whether there is sufficient and reliable evidence to make the assessment decision. The assessment judgement will involve the assessor in using professional judgement in evaluating the evidence available.
Assessment materials	Assessment materials are any resources that assist in any part of the assessment process. They may include information for the candidate, assessment tools or resources for the quality assurance arrangements of the assessment system.

Term	Definition/Explanation
Assessment plan	An assessment plan is a document developed by an assessor that includes the elements and competency standard units to be assessed, when the assessment will occur, how the assessment will occur, the assessment methods to be used and the criteria for the assessment decision.
Assessment process	The assessment process is the agreed series of steps that the candidate undertakes within the enrolment, assessment, recording and reporting cycle. The process must suit the needs of all stakeholders and be both efficient and cost-effective. The agreed assessment process is often expressed as a flow chart.
Assessment strategy	Assessment strategy means the approach to assessment and evidence gathering used by the assessor or RTO. It encompasses the assessment process, methods and assessment tools.
Assessment system	An assessment system is a controlled and ordered process designed to ensure that assessment decisions made in relation to many individuals, by many assessors, in many situations are consistent, fair, valid and reliable.
Assessment tool	<p>An assessment tool contains both the instrument and the instructions for gathering and interpreting evidence:</p> <ul style="list-style-type: none"> • Instrument[s] — the specific questions or activity developed from the selected assessment method[s] to be used for the assessment. A profile of acceptable performance and the decision making rules for the assessor may also be included. • Procedures — the information/instructions given to the candidate and/or the assessor regarding conditions under which the assessment should be conducted and recorded.
Candidate	<p>A candidate is any person presenting for assessment. The candidate may be:</p> <ul style="list-style-type: none"> • a learner undertaking training in an institutional setting • a learner/worker undertaking training in a workplace • an experienced worker wanting their skills recognised • any combination of the above.

Term	Definition/Explanation
Competency	The specification of knowledge and skill and the application of that knowledge and skill to the standards of performance required in the workplace.
Competency standard	Competency standards define the competencies required for effective performance in the workplace. Standards are expressed in outcome terms and have a standard format comprising of Unit title, Unit descriptor, Elements of Competency, Performance Criteria, Range Statement and Evidence Guide. See also <i>Unit[s] of Competency</i> .
Competency standard unit	Also see Unit of Competency
Critical aspects of competency	A statement in a Unit of Competency that provides clear meaning as to what is to be achieved in the assessment process.
Currency of evidence	Evidence that is relevant to what is outlined in competency units and not outdated or irrelevant.
Dimensions of competency	<p>The concept of competency includes all aspects of work performance and not only narrow task skills. The four components of competency are:</p> <ul style="list-style-type: none"> • task skills • task management skills • contingency management skills • job/role environment skills.
Electronic Profiling	An innovative electronic based logbook system used by apprentices to record, and report on their workplace activities. A specially designed data entry card is used to capture work experiences (eg weekly) against industry approved competency standards and reported against industry-defined benchmarks. See Section 3.5 Assessment Processes within the Electrotechnology Industry and section Appendix B — Enclosure A11 Contracted entry level Profiling Model.

Term	Definition/Explanation
Element of Competency	The basic building block of the competency standard unit. Elements describe the tasks that make up the broader function or job described by the unit.
Essential Knowledge and Associated Skills clauses	EKAS clauses provide the content specifications that must be achieved by learners in terms of the body of essential knowledge and associated skills.
Essential Knowledge and Associated Skills learning specification	EKAS learning specification is specific learning content that is complete in itself and expands on the competency standard units EKAS clauses in terms of depth and breath. It may underpin many, few or one competency standard unit(s). It covers one or more aspects of knowledge and skills. An EKAS LS can be separately delivered and assessed with percentage achievement reporting, and may be linked with other EKAS LSs for delivery purposes in the same discipline area.
Evidence/ quality evidence	<p>Evidence is information gathered which, when matched against the performance criteria, provides proof of competency. Evidence can take many forms and be gathered from a number of sources. Assessors often categorise evidence in different ways for example:</p> <ul style="list-style-type: none"> • direct, indirect and supplementary sources of evidence • evidence collected by the candidate or evidence collected by the assessor • historical and recent evidence collected by the candidate and current evidence collected by the assessor. <p>Quality evidence is valid, authentic, sufficient and current. It enables the assessor to make the assessment judgement.</p>
Evidence gathering techniques	Evidence gathering technique means the particular technique or method used to gather different types of evidence. This may include methods or techniques such as questioning, observation, third party reports, interviews, simulations and portfolios.
Evidence Guide	Evidence Guide is part of a competency standard unit. Its purpose is to guide assessment of the unit in the workplace and/or a training

Term	Definition/Explanation
	environment. The Evidence Guide specifies the context of assessment, the critical aspects of evidence and the required or underpinning knowledge and skills. The Evidence Guide relates directly to the Performance Criteria and Range Statement defined in the competency standard unit.
Fairness	See section 3.4 Assessment Principles
Flexibility	See section 3.4 Assessment Principles
Holistic/ integrated assessment	An approach to assessment that covers the clustering of multiple units/elements from relevant competency standards. This approach focuses on the assessment of a 'whole of job' role or function that draws on a number of units/elements of competence. This assessment approach also integrates the assessment of the application of knowledge, technical skills, problem solving and demonstration of attitudes and ethics.
Industry Skills Council/Industry Training Advisory Bodies (ITABs)	National bodies comprising representation from the industry parties responsible for the development, review, implementation, and providing advice on qualifications scopes and competency standards in given industries.
Module	A specific learning segment that is complete in itself. It deals with one or more aspects of knowledge and skills. A module is separately delivered and assessed and may be linked with other modules in the same study area and aligned to a competency standard unit(s).
New Apprenticeship Centre	An organisation who provides information on apprenticeships, traineeships and the related qualifications and processes.
Portfolio	See section 3.5 Assessment Processes in the Electrotechnology Industry.

Term	Definition/Explanation
Profiling	See section 3.5 Assessment Processes in the Electrotechnology Industry.
Performance Criteria	Evaluative statements which specify what is to be assessed and the required level of performance. The Performance Criteria specify the activities, skills, knowledge and understanding that provides evidence of competent performance for each Element Of Competency.
Qualification	Qualification means, in the vocational education and training sector, the formal certification, issued by a Registered Training Organisation under the Australian Qualifications Framework, that a person has achieved all the requirements for a qualification as specified in an endorsed Training Package or in an Australian Qualifications Framework accredited course where no relevant Training Package exists.
Range Statement	Part of a competency standard, which sets out a range of contexts in which performance can take place. The range helps the assessor to identify the specific industry or enterprise application of the competency standard unit.
Reasonable adjustment	The nature and range of adjustment to an assessment tool or assessment method which will ensure valid and reliable assessment decisions but also meet the characteristics and background of the person(s) being assessed.
Recognition [Recognition of Prior Learning, Recognition of Current Competency and Skills Recognition]	Recognition is a term that covers Recognition of Prior Learning, Recognition of Current Competency and Skills Recognition. All terms refer to recognition of competencies currently held, regardless of how, when or where the learning occurred. Under the Australian Recognition Framework, competencies may be attained in a number of ways. This includes through any combination of formal or informal training and education, work experience or general life experience. In order to grant recognition of prior learning/current competency the assessor must be confident that the candidate can present evidence that he or she is currently competent against the endorsed industry or enterprise competency standards or outcomes specified in Australian Recognition Framework

Term	Definition/Explanation
	<p>accredited courses. The evidence may take a variety of forms and could include certification, references from past employers, testimonials from clients and work samples. The assessor must ensure that the evidence is authentic, valid, reliable, current and sufficient.</p>
Records of assessment	<p>The information of assessment outcomes that is retained by the Organisation that is responsible for issuing the nationally recognised Statement of Attainment or qualification.</p>
Registered Training Organisation (RTO)	<p>Registered Training Organisation (RTO) means a training organisation registered in accordance with the Australian Recognition Framework, within a defined scope of registration (refer definition Scope of Registration).</p>
Reliability	<p>See section 3.4 Assessment Principles</p>
Sampling	<p>See section 3.5 Assessment Processes in the Electrotechnology Industry.</p>
Statement of Attainment	<p>Statement of Attainment means a record of learning, recognised under the AQF, which although falling short of an AQF qualification, may contribute towards a qualification outcome, either as attainment of competencies within a Training Package, partial completion of an AQF accredited course leading to a qualification, or completion of a nationally accredited short course which may accumulate towards a qualification through Recognition of Prior Learning processes.</p>
Sufficiency of evidence	<p>See section 3.4 Assessment Judgments</p>
Training Package	<p>Training Package means an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework qualifications for a specific industry, industry sector or enterprise.</p>

Term	Definition/Explanation
Training Agreement	An agreement outlining the training and assessment which forms part of a New Apprenticeship Training Contract and is registered with the relevant State or Territory Training Authority.
Training Plan	Training Plan means a program of training and assessment which forms part of a New Apprenticeship/traineeship Training Contract and is registered with the relevant State or Territory Training Authority.
Transcript of results — statement	List of candidate's modules/subjects/ EKAS learning specifications completed as part of a competency standard unit(s) or qualification.
Unit(s) of Competency / Competency standard units	Competency standard unit means the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance required in the workplace. Competency Standard Units define the outcomes for training delivery and assessment and lead to the issuing of Australian Qualifications Framework qualifications and Statements of Attainment. See also <i>Competency Standard</i> .
Validity	See section 3.4 Assessment Principles
Validation	Validation involves reviewing, comparing and evaluating assessment processes, tools and evidence contributing to judgements made by a range of assessors against the same standards. Validation strategies may be internal processes with stakeholder involvement or external validations with other providers and/or stakeholders.

2.1 Preliminary Information & Glossaries

Volume 2 Part 1

Preliminary Information

This Volume (Vol 2 Part 1) contains a Definitions/Glossary of Electricity Supply Industry Terms which should be used in conjunction with the competency standard units. In addition, the National Occupational Health and Safety Commission Glossary of Terms has been included. Users will find definitions here that clarify any Occupational Health and Safety specific terms. Where a term in the glossary is followed by a number, eg *Tools and equipment* (2), the number indicates the AQF level.

Training Package Layout

This revised Electricity Supply Industry – Generation Sector Training Package has been developed, reviewed and validated through extensive industry consultation. It reflects the views of a wide cross-section of the industry and its key stakeholders/practitioners throughout Australia.

The Training Package has been constructed as a two volume set. Volume 1 covers the overall Package framework and completion requirements for qualifications. Volume 2 includes the content details of parts and sub-sections of Volume 1. The two volumes form an integrated whole and are not to be used independently of each other.

Volume 1:

Preliminary Information

The Electricity Generation Sector Industry

Overview of Training Packages

ESI – Generation Sector Industry Training Package

Part 1 Qualifications Framework

Part 2 Competency Standards Overview and Index

Part 3 Assessment Guidelines

Appendix A – New Apprenticeships

Appendix B – Sample Assessment Instruments

Enclosures

- Enclosure A: List of Sample Assessment Instruments
- Enclosure B: Administrative Forms
- Enclosure C: Glossary of Terms

Volume 2

Preliminary Information

Part 1 Definitions/Glossary

Part 2 Competency Standards

2.1 Competency Standard Units

2.1.1 Operations Units UEPOPS201A – UEPOPS250A

2.1.2 Operations Units UEPOPS301A – UEPOPS357A

2.1.3 Maintenance Units UEPMNT301A – UEPMNT360A

2.1.4 Operations Units UEPOPS401A – UEPOPS442A

2.1.5 Maintenance Units UEPMNT401A – UEPMNT433A

2.1.6 Operations Units UEPOPS501A – UEPOPS515A

2.1.7 Maintenance Units UEPMNT501A – UEPMNT504A

2.1.8 Imported Units

Part 3 Language, Literacy and Numeracy

Part 4 Key Competencies

Part 5 Skills Enabling Employment

Volume 1: Structure and Overview

Part 1 – Qualification Framework

Part 1 outlines how the qualifications are structured, along with scope/descriptions, composition and content. Completion and issuance requirements are provided as well as advice on flexibility arrangements, with entry and exit pathways and articulation arrangements. Titles and codes of the respective list of qualifications to be issued are also included.

Part 2 – Competency Standards Overview and Index

Part 2 outlines how the competency standards were developed (in broad terms), the industry coverage they apply to, as well as the format and construction of the individual competency standard units. The list of competency standard units and their scope/description is included in this part. Matters related to language, literacy and numeracy, access, equity and cultural diversity, and any regulatory arrangements, for which the competency standard units may apply is also included. Importantly, each Unit is interrelated and linked with the Definitions/Glossary and Essential Knowledge and Associated Skills sections of the Volume. No competency standard unit is to be used in isolation or exported without these interrelated components.

There are over 125 competency standard units included in Volume 2, each listed according to its respective industry discipline area.

Alignment to and incorporation of Competency Standards Units from the allied Transmission, Distribution and Rail Training Package are also included as are relationships between competency standard unit(s) and the key competencies and skills for employers.

Part 3 – Assessment Guidelines

Information in Part 3 outlines how the assessment guidelines inform a Registered Training Organisation (RTO) about the infrastructure requirements to enable them to carry out training delivery assessment activities related to the Training Package. It includes such things as assessment systems, the role of RTOs, assessment pathways, recognition arrangements, assessor qualifications and sources of information.

Included also are two Appendices — Appendix A: New Apprenticeships Application and Appendix B: Sample Assessment Instruments. Appendix B contains Enclosures A, B and C: A contains a List of Sample Assessment Instruments; B contains Administrative Forms and C contains the Glossary of Terms.

Volume 2: Competency Standard Units – Content and Scope

Volume 2 contains the competency standard units in their respective CSU Schedules, eg Schedule 1 – Operations units AQF2, Schedule 5 – Maintenance units AQF4.

Volume 2 also contains a Definitions/Glossary, which provides a description/explanation of certain/assigned words that appear in this document. Also included are definitions relating to literacy and numeracy skills; Key Competencies and skills enabling employment.

Note: The two volumes form an integrated whole and must not be used independently of each other.

Definitions/Glossary

Scope

The competency standard unit described in this Part of the Training Package covers competency standard units for the Electricity Supply Industry — Generation Sector.

Application

The information contained in each competency standard unit includes the intended use of the unit for assessment and a training program(s).

References

Regulations

The work functions described by competency standard units in this Training Package may be subject to statutory regulations. Where this is the case the particular regulations will depend on local jurisdictions and knowledge and application of such regulations within the scope of the unit will be an aspect of evidence in deeming a person competent.

Reference documents

Each part of the Training Package will include a list of reference documents. These are a component of competency which assist in developing training programs and assessing competency. Reference documents include relevant legislation, regulation, industrial instruments, codes of practice, guidelines and advisory standards and policies.

Examples may include industry-preferred training and assessment models, anti-discrimination and equal employment opportunity statutes encompassing application of access, equity and cultural diversity principles associated with under-represented groups.

Definitions – Generation

Term	Explanation
Access permits	A form-type document giving formal permission to enter a specified work area when it is safe to do so and is part of the risk control measures for the area.
Access, equity and cultural diversity	<p>The process through which employers meet requirements set out in the relevant anti-discrimination and equal employment opportunity legislation.</p> <p>Primarily, this process looks to ensure that the workplace is a sound reflection of society as a whole, in that persons from a broad range of backgrounds participate in the workplace, including those with a disability; indigenous persons; those from non-English speaking backgrounds, and women.</p> <p>This Training Package promotes appropriate language, literacy and numeracy considerations and strategies within the training and assessment field and the Vocational Education and Training (VET) sector and the Industry.</p>
Advanced	High degree of knowledge and skill as would be demonstrated by an ‘expert’ operative (highly developed analytical, conceptual and problem solving skills).
Alkalinity reduction	Process of controlling pH of cooling system waters to offset increasing alkalinity due to carbon dioxide loss. Required to maintain optimum pH for effective chlorination and plant protection. Usually done by sulphuric acid injection.
Analysis	Resolution of data into understandable information and its subsequent rational interpretation.
Apparatus	Equipment used in the Power Generation processes.
Ash	Residue of combustion and, in particular, the bottom ash of pulverised fuel combustion.
Assemble	Refers to the selection, visual inspection, placement and securing of components to form an item of plant, equipment or a structure
Assessment	Diagnosis of performance, classification of eligibility, award of credentials, assurance of progress of learning.

Term	Explanation
Auxiliary steam system	Steam used to assist the generation process, such as air extraction, gland sealing.
Basic	Fundamental and simplest application.
Batching (chemicals)	Mixing required quantities of chemicals predominantly for water treatment.
Boiler	Vessel for producing steam under pressure (generic). Plant used in power production – voluminous construction that produces large volumes of high pressure steam required for the thermal power generation process. Boilers contain several stages of superheating and may also contain reheating elements.
Brine concentrator	Plant for concentrating salts in discharged cooling waters, purifying the majority of water for re-use.
Bulk	Large quantity.
Chemicals	Chemicals used in the power generation processes.
Clean	Make site, buildings, plant and equipment safe, tidy and clear of obstructions (including dirt and grime).
Codes of Practice	Relevant standards required within Australia.
Commissioning	Activities carried out to make plant ready for normal operation.
Communications	Conveying information by an approved medium.
Competency	The ability to exercise knowledge and skill in the process of carrying out required tasks/duties.
Competency Standard Unit (CSU)	Competency Standards are made up of a number of Competency Standard Units which describe a key function or role in a particular job/occupation. Each unit identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency, as well as language, literacy and numeracy and OHS requirements. A CSU is usually linked to one or more AQF qualifications.
Component	Any self-contained part, combination of parts, subassemblies of units, which perform a distinctive function necessary to the operation of a system.

Term	Explanation
Compressed	Reduced in volume.
Condensate system	Part of a generating unit steam/water cycle, in particular the low pressure water system from the condenser hot well to the boiler feed pump suction, including pumps, low pressure feed water heaters, air ejectors, water treatment plants, de-aerators.
Condenser	Chamber beneath a turbine's low pressure cylinder(s) in which steam is condensed to water.
Condensing	Make denser or more compact. Main application in the generation industry is the condensing of steam to water.
Condition changing	Voltage control. Apparatus may include tap changers, reactors and synchronous condensers.
Condition monitoring	Process of measuring key performance characteristics of an item of equipment on a continuous or regular basis, usually for the purpose of optimising maintenance requirements.
Conduct	1. Manner of doing business or work. 2. Transmission of heat or power.
Contaminated	Polluted. Degraded from a pure or desired state.
Cooling systems	Various methods of controlling temperature rise in plant by the transfer of heat to a cooling medium during the power generation process.
Coordinate	Cause to function and/or link together in a proper order.
Crisis	Time of danger, acute risk to system or plant, possibility of imminent failure or collapse.
Critical	Refers to incidents involving risk and suspense that may require a decisive and crucial response. Sequence of stages determining minimum time needed for an operation (critical path).
Decommission	Remove from service permanently or for a long period of time.
Defect	Any confirmed abnormal condition of an item whether or not this could eventually result in a failure.

Term	Explanation
Desired	Wanted earnestly, bordering on required or necessary. The preferred option.
Diagnose and repair	Corrective maintenance which is the recognition, location and rectification of faults.
Direct (work)	Set direction/requirements and instruct or allocate staff to achieve the required outputs.
Distribution system	Integrated electricity supply system.
Dogging	Attachment of, and the direction of, the lifting of materials in conjunction with a manned crane or hoist.
Drawings	Block, wiring, PID, schematic, layout drawings and site plans.
Draft system	Plant used to supply adequate air for combustion. May include fans, air heaters, dampers etc.
Dust	Main application: fly ash that is collected in either electrostatic precipitators or fabric filters.
Efficiency	Maximising plant performance by operating to designed parameters.
Electronic equipment	Equipment where the majority of components are electronic.
Emergency response	Responding to a sudden state of danger or a condition needing immediate attention/treatment.
Enterprise	Electricity generators and their procedures and standards which can refer to isolation/permit procedures, station/depot instructions, work orders and agreed quality assurance requirements.
Enterprise procedures <i>Also described as Workplace procedures</i>	Formal arrangements of an organisation, enterprise, or statutory authority of how work is to be done and by whom.
	Note. Examples of enterprise procedures are documented in quality management systems, safety management systems, work clearance systems, work instructions, reporting systems and arrangements for dealing with emergencies.
Environment	The area surrounding the work site which can be directly or

Term	Explanation
	<p>indirectly affected by occurrences at the work site – includes the atmosphere, soils, drains, underground water tables and the ecosystem. Protection of the <i>environment</i> would require the proper disposal of waste materials, restriction of burning off, the correct handling of toxic substances, the containment of CFCs and the like.</p> <p>The protection of the environment would also include the minimisation of those factors that contribute, directly or indirectly, to the production of greenhouse gases.</p> <p>These contributing factors might include the minimisation of construction waste materials, the correct use of enterprise vehicles and machinery, the re-use or recycling of trade materials where possible and the overall reduction of energy usage through general awareness and the use of appropriate technologies.</p>
Environmental control	Protection of the surrounding environment. See also <i>environment</i>
Erect	The actions of preparing foundations, the erection and stabilisation of structures and the placement of electrical equipment.
Essential knowledge and associated skills (EKAS) learning specification (LS)	<p>Provide specific additional advice in facilitating consistency and reliability in resource development and delivery. The learning specifications are premised on the content of the Essential Knowledge and Associated Skills section of the unit.</p> <p>The specifications are designed to:</p> <ul style="list-style-type: none"> • Provide the depth and breadth of essential knowledge and associated skills to be learned • Ensure they support the needs of the workplace • Contain assessment strategies, including a table of specifications, to increase validity, reliability and fairness • Detail the resources required for satisfactory delivery in the learning environment • Provide clarification regarding the type and quantity of evidence needed for assessment purposes • Support a variety of delivery modes (eg face-to-face, distance, computer assisted learning or other) • Provide content and structure that maximizes learning retention • Provide a clear purpose statement about their

Term	Explanation
	relationship to the overall educational program
Explosive power tool	Ram set gun or similar tools.
External	Areas external to the power generation site.
Extra Low Voltage	A voltage less than 50 volts AC or 120 volts DC
Fabricate	To take raw stock and make detailed parts by a variety of methods, such as cutting, bending, attaching. It may be applied to metal and composite structures, electrical parts, etc.
Facilitate	Promote or help forward.
Feedwater	High pressure and high temperature treated water supplied to a boiler.
Feedwater system	Part of a generating unit's steam/water cycle, in particular the high pressure water system from the feed pump suction to the boiler including pumps, economiser high pressure feed water heaters, feedwater regulating valves.
Field (operations)	External to the main centre of operation.
Forklift	Vehicle with fork in front for lifting and moving materials.
Fuel	Used for combustion and may include coal, gas, oil, refuse.
Generation	Production of electricity.
Hardware	Material or non-moving parts of systems, including items such as insulators. 'Hardware' does not include electrical apparatus.
High Voltage	Equal to, or greater than, 1000 volts AC or 1500 volts DC.
HV	High Voltage.
HV apparatus	Equipment used for transportation and control of electricity.
Implement	Put into effect.
Inspect	To examine or check a system, assembly, component or part by visual or physical means for the purpose of identifying defects or limits.
Inspection	Examine closely.

Term	Explanation
Install	The fitting and positioning of new plant, equipment and/or systems, and the replacement of plant, equipment and/or systems following overhaul or maintenance.
Intermediate	Skills and knowledge greater than a basic level but with room for further development available (experienced but not yet expert).
Internal	Areas internal to the power generation site.
Internal combustion dual fuel reciprocating engine	Engine having two fuel sources (normally diesel fuel and gas).
Internal combustion single fuel reciprocating engine	Engine having one fuel source.
Isolated power systems	Power systems not connected to a power grid, i.e. Alice Springs.
Key role	Essential or of vital importance.
Lay	The placement in position of underground cables in preparation for jointing and terminating.
Learning Specifications (LS)	See Essential knowledge and associated skills (EKAS) learning specification (LS)
Liaise	Communicate and cooperate with an outside organisation, section or person.
Lifting and load shifting equipment (1)	Cranes and hoists that do not require a licence to operate.
Lifting and load shifting equipment (2)	Cranes and hoists that do require a licence to operate.
Local	Controlling equipment from controls located adjacent to an item of plant.
Locomotive	A diesel or steam engine providing the motive power to haul load-carrying wagons.
Low Voltage	A Voltage greater than 50 volts AC but not exceeding 1000 volts AC, or, A Voltage greater than 120 volts DC but not exceeding 1500 volts DC.

Term	Explanation
Lubrication	Minimisation of friction by the application of specified oils or greases.
LV	Low Voltage.
Maintain	Preventative maintenance and the replacement of damaged or faulty components found during preventative maintenance.
Make and spread (stockpile)	The formation of, and the management of, a stockpile (usually coal).
Manage (plant operations)	Planning, preparing, organisation and actual operation of major plant start-ups or shutdowns plus the in service control of normal and abnormal plant operating conditions.
Manoeuvring	Planned and controlled movements towards a defined objective.
Material	Matter used in the power production processes including raw, processed, building plant or offices materials.
Maximum	Highest allowable limit.
Minimum	Lowest allowable limit.
Modify	Alterations, additions, adjustments or re-adjustments to existing equipment
Monitor	Maintain regular surveillance (see also <i>condition monitoring</i>).
Network	Chain of interconnected electrical conductors, integrated electricity grid system.
Non-routine	Outside normal daily operations or practices.
Occupational Health and Safety Standards	Refers to those which are relevant within Australia.
Operate	Bring about a controlled change in plant output.
Operational	Able to operate or function.
Operator (power generation)	Personnel employed to operate, monitor and control power generation plant.

Term	Explanation
Organise	Give orderly structure to, make arrangements for or initiate (undertaking).
Others involved in, or affected by, the work	Supervisor, foreperson, other tradespersons, operations personnel and other workers.
Outage	Period of non-operation.
Perform	Carry into effect, execute (operation).
Performance testing	Check of plant output under test conditions.
Permit to work	Written approval to work (in safety and in a clearly defined area).
Plan	Formulated or organised methods by which actions are to be done in order to achieve a defined objective or outcome.
Plant	1. Apparatus associated with power production. 2. Mobile plant, ie implements and vehicles.
Prerequisite	Specific and general competencies expected to have been achieved prior to being deemed competent in this unit.
Power	Electrical energy.
Process	Controlled course of actions to achieve a required output/outcome.
Production	Produce (electrical energy) in large quantities.
Promote	Help forward, encourage.
Protection devices/schemes	Devices or a number of devices working together, to protect plant and equipment from damage during fault conditions or out of limits operations.
Plug-in printed circuit boards	The placement of individual plug-in printed circuit boards (regardless of whether the connections are plugs or soldered) which do not require any additional setting up/tuning.
Quality	Maintaining a high degree of excellence (meeting requirements/standards).
Receive	Accept delivery of (coal).

Term	Explanation
Reclaim	Recover (coal) from stockpile.
Record	Piece of recorded information, account or fact preserved in a permanent document or electronically.
Rectification	Converting AC to DC. Process of repairing faults or failures of equipment or systems
Regulatory authority	Any organisation or department with responsibility for establishing and monitoring adherence to procedures, specifications or standards within the Generation sector.
Reliability	May be relied upon (to continue producing). Measure of the probability of failure.
Relocating	Move to a new position.
Request/Work orders	Work generated by schedules, instructions, handover details from previous shift, inspection test plant, defect cards, danger tags.
Requirements	<p>That to which <i>equipment</i> and procedures and their outcomes must conform – includes statutory obligations and regulations and <i>Standards</i> called-up by legislation or regulations. <i>Requirements</i> may include:</p> <ul style="list-style-type: none"> • codes of practice • job specifications • <i>Standards</i> called-up in specifications • procedures and work instructions • quality assurance systems • manufacturer specifications • design specifications • customer/client requirements and specifications • specified underpinning knowledge (specified in units' Evidence Guides) • National and State guidelines, policies and imperatives relating to the <i>environment</i>.
Reverse osmosis	Process of removing chemicals from (usually) water by forcing it through a semi permeable membrane using high pressure.
Rigging	Set up of slings etc. to ensure a controlled lift of materials using hoists and/or cranes.

Term	Explanation
Ringmain	Distribution systems for either water, steam or power supplies in the form of a continuous ring.
Risk	Exposure to danger, hazards, losses etc.
SCADA control	System Control And Data Acquisition system. Screen based remote monitoring and control of a process/acquisition system.
Scaffold	Temporary elevated platform to assist or enable access for inspection or maintenance requirements.
Schedule	Planned output (generation).
Service	Procedural maintenance which would in general be of a routine nature.
Set-up	Specifications set by manufacturer and/or client/user requirements.
Shift (material)	Change or move from one place to another.
Shunting	1. Procedure for warming de-aerator. 2. Divert (train) onto a side track to clear the line.
Site	Location of power generation plant.
Stakeholders	Those who have an influence on activities (power generation).
Standard	Degree of excellence required for a particular purpose. Required quality of work.
Statutory requirements	Standards required by the relevant regulatory or licensing authority, eg Worksafe Australia, SAA Wiring rules.
Steam/Water cycle	Major or main cycle of steam and water through a boiler and/or steam turbine. Includes valves piping, heat exchangers, superheat and reheat elements, boiler drum(s) etc.
Stockpile	Accumulated stock of raw materials (mainly coal).
Strategies	Plans formed to achieve specific outcomes.
String	The placement of aerial conductors/cables in position,

Term	Explanation
	including tensioning.
Structure	A pole or tower with associated hardware which supports electrical apparatus.
Switchboard	A combination of cubicles or switches located together that enable the connection or disconnection of electrical circuits.
Switchgear	Apparatus designed to make or break electrical connections.
Systems	Systems in the generation industry means the interaction between a number of elements requiring consideration of the total effect of the parts, rather than a concentration on any single part, and in respect of which actions and responses that are needed, may require analytical skills and techniques.
Tasks	Single items of work.
Team	People working together in a cooperative/collaborative manner.
Technical inspection	Examine closely, utilising specific criteria relevant to the apparatus concerned.
Test	Testing and/or functioning (operating) an assembly, component or part to make sure that it agrees with the applicable specifications. In this definition testing provides a way in which adjustment and/or troubleshooting/diagnosis can occur.
Test and commission	The checking of individual equipment/components for correct operation and the placement into service of the equipment or system.
Test (operational)	Operate under a strictly controlled manner to check/determine the condition of an item of plant. This may include a complete system, a complete item of plant (i.e. boiler fan) or an individual component.
Tippling	Discharging of coal (or other material) from a railway wagon.
Tools	General hand tools, portable electric tools and specialist tools.
Transfer (material)	Move or relocate.

Term	Explanation
Transformers	Apparatus for reducing or increasing voltage in an AC system.
Transport plant and equipment	Moving mobile plant and associated equipment.
Tune	Correcting or altering a system, circuit, components or indicators to provide a specified outcome or condition.
Turbine	Wheel or rotor driven by the impact or reaction of steam or water (generic). Main plant item in thermal or hydro power production consisting of a number of stages. May include a number of turbines connected in tandem.
Undertake	Be committed to perform, or take responsibility for, work, testing etc.
Unit of Competency	See Competency Standard Unit
Waste	Substances of no further use in the power production process, ie ash.
Water quality control system	System(s) utilised to continually monitor and adjust the quality of water used in the power generation process.
Water treatment	The treatment processes used to condition raw water to make it suitable for use in the power generation processes.
Wind generator	Device to convert air currents into electrical energy.
Work completion details	Time sheets, job cards, plans and records.
Workplace procedures	See Enterprise procedures.

Glossary of OHS Terms

Terms related directly to Occupational Health and Safety

This Glossary of Occupational Health and Safety (OHS) Terms has been developed to assist competency developers and writers, reviewers of training packages and those developing any training specification or learning materials for the Vocational Education and Training environment.

In Australia we consider that the rate of workplace fatality, injury and ill-health is far too high. To reduce this toll we need to make some changes in the workplace and this requires training to enable business and workers to effectively manage safety. We must get OHS right in the competency so that the resultant learning contributes to improving the capacity of those in the workplace to manage safety. This applies not only to the ‘designated’ OHS units but to the integration of OHS, as appropriate, into all competencies, learning programs and learning resources.

The competency TAADES505A *Research and develop competency standards* specifies the outcomes and the knowledge and skills required to research and develop documents which outline competency requirements for a particular job function, work process, work role or specific vocational outcome. This competency cites four phases in developing a competency:

1. Research the competency area
2. Formulate competency specifications
3. Validate competency specifications
4. Finalise competency specifications.

OHS is a critical aspect of research into the competency area, and also an important aspect of work performance to be integrated within a competency.

Like a many technical areas, OHS has, to some extent, is its own language. OHS is ‘owned’ by many people as it impacts on all of us, however key words and terms are not always used in a consistent manner and this can lead to confusion. To maximise the effectiveness of our training and education we need to ensure that our use of the OHS language is as consistent and clear as possible.

This glossary is not intended as a definitive dictionary of OHS terms but is designed to be used in the second phase of competency development, formulate the competency specifications. It is also an invaluable tool for those involved in the design and development of learning resources.

Further information on OHS hazards, practical guidance material, standards and codes of practice is available at the National Occupational Health and Safety Commission website at www.nohsc.gov.au

The glossary is intended to be an evolving and dynamic document and those wishing to comment on the terms or suggest additions or modifications should email the Team Leader of the OHS Skills Development Team at NOHSC.

Glossary of OHS Terms

NOHSC Term	Explanation
Accident	A term that is now considered out of date. Preferred term is <i>incident</i> .
Accountability	The process by which a person with OHS responsibilities is answerable to a higher authority.
Action level	The level at which a risk is considered to be unacceptable and action is required to reduce the level of risk. May be specific such as a noise level at which hearing protection must be worn, a concentration of chemical or more generic.
(OHS) Action plans	Documented plans developed within the workplace to implement OHS management, which include allocated responsibilities and time frames.
Administrative controls	Management practices that aim to control employees' exposure to specific hazards, and generally improve health and safety – examples include the use of job rotation, job enlargement
ALARA (As Low As Reasonably Achievable)	A basic concept where risks are kept as low as is reasonably achievable. ALARA is determined by reference to established codes and standards and consultation with groups impacted by the decision outcomes including those exposed to the risk.
Anthropometry	The science dealing with the comparative measurement of the size and proportions of the human body, the range of movement of limbs, as used in ergonomics.
(OHS) Audit	A systematic examination against an agreed benchmark of the approach to managing safety to evaluate an organisation's arrangements for identifying hazards, assessing and controlling risks, and monitoring and improving the effectiveness of the management of OHS and compliance. (Note a workplace inspection

NOHSC Term	Explanation
	is NOT an audit.)
Audit tools	<p>The instruments for collecting evidence and conducting the analysis and evaluation (they are not the same as the audit criteria or benchmark), they may be:</p> <ul style="list-style-type: none"> • developed specifically for the purpose • adapted from existing tools • purchased or accessed from existing tools • and include: • performance checklists • sets of questions to be asked • descriptions of required characteristics to be checked • limitations for and instructions for use
Authorisation of permit	Signing of permit by competent person.
Biomechanics	The application of mechanics (forces and motion) to analyse body movement and the stresses involved in body posture during movement.
Causative event	Key event that resulted in the particular outcome(s) of injury or damage.
Circumstance	Short-term situation that is relatively unusual, such as a storm or when a key person is absent.
Certification	Refer <i>operator certification</i> .
Common law	Law that is derived from the English legal system and has evolved through judicial decision and practice (case law) that establishes and follows precedent. Note difference to 'statute law'.
Condition	Permanent situation such as type of equipment, work practice, design of work environment (often different to detect or identify) that may contribute to risk.
Consequence	The injury or damage outcome of an event, which may be expressed quantitatively or qualitatively, there may be a range of possible outcomes for a specific event or scenario.
Confined space References <ul style="list-style-type: none"> • AS/NZS 2865:2001 <i>Safe working in a</i> 	An enclosed or partially enclosed space which: <ul style="list-style-type: none"> • is at atmospheric pressure during occupancy • is not intended or designed primarily as a place of work, and is liable at any time to –

NOHSC Term	Explanation
<p><i>confined space</i></p> <ul style="list-style-type: none"> Handbook – <i>HB 213:2003 Guidelines for safe working in a confined space</i> 	<ul style="list-style-type: none"> have an atmosphere which contains potentially harmful levels of contaminant not have a safe oxygen level or cause engulfment, and may have restricted means for entry and exit. <p>A confined space is determined in part by the hazards associated with a defined set of circumstances (restricted entry or hazardous atmosphere, risk of engulfment) and not just with work performed in a restricted space. Examples include but may not be limited to:</p> <ul style="list-style-type: none"> storage tanks, tank cars, process vessels, boilers, pressure vessels, silos and other tank-like compartments open-topped spaces such as pits or degreasers pipes, sewers, shafts, ducts and similar structures shipboard spaces entered through a small hatchway or access point, cargo tanks, cellular double bottom tanks, duct keels, ballast and oil tanks and void spaces (but not including dry cargo holds). <p>A person is deemed to have entered a confined space when his/her head (ie the breathing zone) or upper part of the body is within the boundary of the confined space. (Note that inserting an arm for atmospheric testing is not considered an entry to a confined space).</p>
<p>Consultative arrangements</p>	<p>State and Territory OHS legislation specifies obligations for workplace consultation. The workplace arrangements to meet these obligations may include:</p> <ul style="list-style-type: none"> OHS and other consultative and planning committees health and safety and other employee representatives employee and supervisor involvement in OHS activities such as inspections and audits procedures for reporting hazards, and raising and addressing OHS issues employee and workgroup meetings. <p>Factors that should be considered when developing consultative arrangements include:</p> <ul style="list-style-type: none"> language shift work and rostering arrangements timing of information and data provision literacy and numeracy levels workers with special needs workplace organisational structures, eg size of organisation,

NOHSC Term	Explanation
	<p>geographic, hierarchical</p> <ul style="list-style-type: none"> • cultural diversity • management approach • workplace culture and approach to OHS by managers, supervisors and employees.
Controls	<p>The devices and methods of controlling the effect of the hazard so that the risk of injury is minimised. The ‘quality’ of the control is the level and reliability of the control compared with the level of risk. The quality of the controls is determined by:</p> <ul style="list-style-type: none"> • the best available technology or approach should be applied when the most probable outcome is death or serious injury • the best practical technology or approach may be applied where the most probable outcome is less serious <p>Refer also <i>Hierarchy of control</i>.</p> <p>Workplace factors that impact on the controls selected and the implementation include:</p> <ul style="list-style-type: none"> • language • shift work and rostering arrangements • literacy and numeracy • workplace organisational structures (e.g. geographic, hierarchical) • cultural diversity • training required • workplace culture related to OHS, including commitment by managers and supervisors and compliance with procedures and training.
Control measures	Devices, systems (including work methods) or approaches that reduce exposure to workplace hazards
<p>Crisis management plan</p> <p>The term <i>emergency management</i> may also apply but <i>crisis management</i> infers a more holistic approach encompassing the full range of business affairs.</p>	<p>A flexible document that can cope with a broad range of crisis types and:</p> <ul style="list-style-type: none"> • is approved at the highest levels of the organisation • focuses on management control • identifies responsibilities for decision making • details communication processes and psychological support • addresses arrangements with any contractors or shared tenancy • integrates the emergency response plans as well as recovery

NOHSC Term	Explanation
	<ul style="list-style-type: none"> incorporates dealing with external agencies and support addresses planning for recovery before crisis occurs. <p>Documentation for a crisis management plan may include:</p> <ul style="list-style-type: none"> policy emergency response structure initial response instructions for various roles/areas, responsibility and authority of individual roles warning systems training requirements resource inventory for response and recovery program review and monitoring processes risk management documentation, such as team lists, communications strategies, identification of issues, risk assessments/evaluations, vulnerability profiles, risk registers and treatment strategies.
Dangerous Goods (DG)	<p>Those gases, liquids and solids identified and classified under the internationally agreed system which is followed in Australia and that are subject of so called ‘dangerous goods’ standards and legislation.</p> <p>The objective of the Dangerous Goods legislation is to control the storage, handling and transport of DGs to protect the safety of workers, the public, property and the environment. While dangerous goods may also be hazardous the terms should not be confused.</p>
Dangerous parts of plant	<p>Potential contact or entrapment points to which the operator may be exposed during:</p> <ul style="list-style-type: none"> operation examination lubrication adjustment maintenance
Design	<p>The process of bringing together innovation, aesthetics, and functionality to plan and create a product, process or system to meet the artistic, industrial or performance requirement of an individual or group. The Design Process involves a series of activities where an idea is conceived, shaped, developed, produced and then acted upon to produce a design product. It also includes any subsequent alteration of a design product (redesign or retrofit).</p>
Design process	<p>The stages of the design process include:</p> <ul style="list-style-type: none"> the concept design phase. This phase includes concept design,

NOHSC Term	Explanation
	<p>research and development, feasibility and risk management (including OHS risks). In this phase preliminary design options are considered and assessed against product specifications to determine the best preliminary design</p> <ul style="list-style-type: none"> the detailed design phase. In this phase the selected design is developed to its final state. This includes research and development, feasibility studies, concept and detail design, technical and functional specifications, plans and drawings, operational systems, construct/manufacture options and detailed quantities, cost and risk analysis (including analysis of OHS risks).
Designed-product	<p>The item to be designed, including a built environment, structure, an item of plant or equipment, chemical, work system or process; or any other physical attribute or system associated with either the work or its interface with people.</p>
Duty of care	<p>Arises from common law but is enshrined in OHS statute law and that places into a legal form a moral duty to anticipate possible causes of injury and illness and to do everything reasonably practicable to remove or minimise these possible causes of harm.</p> <p>The key factors relating to duty of care are that:</p> <ul style="list-style-type: none"> duty of care applies wherever there is special relationship (employer – employee, employer – contractor, supervisor – work team member, tradesperson – apprentice) duty of care applies to all circumstances of the relationship individual duty of care cannot be delegated (but roles and functions may be delegated) applies personally to individuals applies to all risks that are foreseeable and preventable includes the concept of <i>reasonable</i>.
Elements of systematic approaches to managing OHS <i>including OHSMSs</i>	<p>A list of key requirements or major principles that are combined in a methodical and ordered manner to minimise the risk of injury or ill health in the workplace; and may include processes of OHS planning, allocation of resources, communication and consultation, hazard management, record keeping and reporting, training and competency, and review and evaluation for ongoing improvement of OHS.</p>
Emergency	<p>Events such as:</p> <ul style="list-style-type: none"> serious injury events emergencies requiring evacuation fires and explosions

NOHSC Term	Explanation
	<ul style="list-style-type: none"> hazardous substance and chemical spills explosion and bomb alerts security emergencies, such as armed robberies, intruders and disturbed persons internal emergencies, such as loss of power or water supply and structural collapse external emergencies and natural disasters, such as flood, storm and traffic accident impacting on the organisation. <p>May also be referred to <i>hazardous event</i>.</p>
Emergency agency	Includes fire, police, ambulance, relevant government departments, hazardous materials response teams (HAZMAT) and OHS authorities.
Emergency control organisation (ECO) is:	Structured group within the organisation that includes roles such as emergency controller, communications recorder, media liaison and employee support.
Emergency equipment	<p>Includes:</p> <ul style="list-style-type: none"> first aid equipment eye wash shower or portable eye washes fire extinguishers and equipment communication equipment evacuation alarms evacuation equipment, especially that for disabled persons torches clothing items such as coloured hats and vests.
Emergency stops and warning devices	<p>Are fitted to plant and equipment that have a risk of entrapment or other hazard and must be:</p> <p>prominently, clearly and durably marked</p> <p>coloured red (push buttons, bars or handles)</p> <p>unable to be affected by electrical or electronic circuit malfunction</p> <p>fitted where risk assessment identifies a need.</p>
Enforcement	<p>Processes and instruments available to the OHS regulator under legislation may include:</p> <ul style="list-style-type: none"> prosecution prohibition notices improvement notices on-the-spot fines provisional improvement notices.

NOHSC Term	Explanation
Epidemiology	The study of the distribution and determinants of disease within human populations. Patterns of injury or illness in groups of people are studied to determine causes, identify groups at risk and to identify and evaluate methods of treatment and prevention.
Ergonomics	The study of the relationship between people, the equipment they use and their physical and social work environment.
Ergonomic interventions	Includes: <ul style="list-style-type: none"> • design of tools • design of workplaces • design of products • design of equipment • design of work systems, processes or organisation including work flow, planning and control • job design • development of new decision making processes • new forms and organisations of work
Ergonomic tools and databases	May include: <ul style="list-style-type: none"> • engineering models • Australian and International Standards • Australian and International anthropometric databases
Explosive substance	Substance that explodes if it comes into contact with heat, flame, an ignition source or incompatible substance.
Fail-to-safe	Design feature of equipment that ensures if there is a failure or defect in the product, or another factor such as loss of power, then the product is left in a safe condition.
Functional areas and management systems	Other than OHS but that impact on the management of OHS may include: <ul style="list-style-type: none"> • strategic planning • purchasing, procurement and contracting • logistics • HR, IR and personnel management, including payroll • engineering and maintenance • information, data and records management • finance and auditing • environmental management • quality management.

NOHSC Term	Explanation
Guarding	<p>Devices fitted to machinery to separate the operator from dangerous parts of the machine. Devices may include:</p> <ul style="list-style-type: none"> • permanently fixed physical barriers where no access of any part of a person is required • interlocking physical barriers where access to dangerous areas is required during operation • physical barriers securely fixed by means of fasteners or devices • presence-sensing safeguarding systems.
Hazard	<p>A source or a situation with a potential for harm in terms of human injury or ill-health, damage to property, damage to the environment, or a combination of these.</p>
Hazards of long latency	<p>Conditions, illnesses and other health risks that result from longer term exposure to specific triggers such as chemicals, noise, radiation and psychosocial factors.</p>
Hazards of low frequency/high consequence	<p>High impact events that occur rarely such as explosions, fires and building collapses but may result in very serious injury, death or multiple death situations.</p>
Hazard identification	<p>The process of identifying sources of harm. Hazard identification may be required:</p> <ul style="list-style-type: none"> • at design or pre purchase of buildings, equipment and materials • at commissioning or pre-implementation of new processes or practices • before new forms of work and organisation of work are implemented • before changes are made to workplace, equipment, work processes or work arrangements • as part of planning major tasks or activities, such as equipment shutdowns • following an incident report • when new knowledge becomes available • at regular intervals during normal operations • prior to disposal of equipment, buildings or materials. <p>Different methods may be used to identify hazards, including:</p> <ul style="list-style-type: none"> • observation • consultation with workers, clients or other users • trial of models or prototypes • review of technical standards and other information sources

NOHSC Term	Explanation
	<ul style="list-style-type: none"> monitoring and measurement.
Hazard identification tools and processes	<p>These include:</p> <ul style="list-style-type: none"> analysis of incident investigations analysis of incident, injury and claims statistics workplace inspections job safety analysis (JSA) audits cause and effect diagrams surveys review of research and industry literature.
Hazardous event	Includes incidents with the potential to seriously harm life, health, property, the environment or a combination. May also be referred to as <i>emergencies</i> .
Hazardous substance	A substance that is listed on the National Commission's List of Designated Hazardous Substances (NOHSC:10005) or has been classified as a hazardous substance by the manufacturer or importer in accordance with the National Commission's Approved Criteria for Classifying Hazardous Substances (NOHSC:1008).
Hazardous substance register	Listing of all the hazardous substances that are used or produced in a workplace together with a current Material Safety Data Sheet for each substance. May also contain risk assessments for individual hazardous substances.
HAZCHEM	An initial response emergency action code that provides information vital to emergency services to enable them to stabilise the incident scene during the early stages of a HAZMAT incident. The Code is displayed on emergency information panels on transport vehicles and on signs on buildings. HAZCHEM codes are assigned to chemicals on the basis of their flammability, toxicity, reactivity and other relevant chemical and physical properties.
HAZMAT	A contraction of the words <i>hazardous materials</i> and may be used in a range of circumstances including HAZMAT emergency response units, HAZMAT emergency response equipment and HAZMAT registers of hazardous substances.
HAZOP (Hazard and Operability Study)	An advanced risk analysis technique that involves a systematic review of a process to determine risks and risk minimisation strategies.
Health and safety	An employee, elected by the workgroup, who represents the OHS

NOHSC Term	Explanation
representative	interests of the people with whom they work. The function is carried out in addition to the normal work role. Processes for election of health and safety representatives, their role and rights are specified in state and territory legislation.
Health promotion	The promotion of health, especially as a workplace program, designed to improve and enhance employee health undertaken as a complementary activity to the prevention of work-related injury and disease. Also called <i>wellness</i> .
Health surveillance	Monitoring or checking individuals for the purpose of identifying changes due to exposure to hazards in the workplace. May include biological monitoring.
Hierarchy of control	The priority order in which hazard and risk controls should be considered with the eventual outcome often being a combination of measures. The prime emphasis is on <i>elimination</i> , and where this is not practicable, <i>minimisation of risk</i> by: <ul style="list-style-type: none"> • substitution • isolating the hazard from personnel • engineering controls • administrative controls, eg procedures, training • personal protective equipment (PPE)
Hot work	Involves using equipment that generates heat, sparks, flames or any other sources of ignition in an atmosphere that may be flammable. It includes work with welders and cutters, including oxygen cutters, power tools, grinding, mobile phones. Hot work can also include breaking into 'live' equipment or performing work on live equipment that has the potential to release its contents, eg hot tap in chemical plants.
Housekeeping	Describes workplace and personal routines designed to improve hygiene and safety, for example, cleaning up spills and keeping walkways, exits and traffic areas clear.
Incident	An event that has caused or has the potential for injury, ill-health or damage. (<i>Incident</i> is the preferred term rather than <i>accident</i>)
(Sources of OHS) Information:	May be internal, including: <ul style="list-style-type: none"> • hazard, incident and investigation reports

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • workplace inspections • incident investigations • minutes of meetings • Job Safety Analyses (JSA's) and risk assessments • organisational data such as insurance records, enforcement notices and actions, workers compensation data, OHS performance data • reports and audits • material safety data sheets (MSDSs) and registers • employees handbooks, including questionnaire results • OHS advisors • manufacturer manuals and specifications.
	<p>Or external, including:</p> <ul style="list-style-type: none"> • regulatory bodies and OHS Acts regulations, codes and guidance material • other relevant legislation • National Occupational Health and Safety Commission (NOHSC) and Australian Bureau of Statistics • databases such as national and State injury data and NICNAS (National Industrial Chemicals Notification and Assessment Scheme) • OHS specialists and consultants • newspapers and journals, trade/industry publications • Internet sites • industry networks and associations including unions and employer groups • OHS professional bodies • research information
Isolation	<p>A safety device system that includes devices such as isolating switches, locks, safety bars, shields, full pressure blanks, spectacle blanks to lock controls, especially moving parts, equipment, systems or devices with stored energy, to an 'off' position while a worker is in a vulnerable position such as carrying out maintenance on rotating equipment, and electrical and hydraulic systems.</p> <p>Isolation systems generally use locking switches that need keys to open the lock and are used in conjunction with a danger tag system that promotes greater safety consciousness amongst the workforce for all situations in which danger to persons could arise from:</p> <ul style="list-style-type: none"> • the operation of machinery, plant or equipment • the flow of steam, electricity, gases or liquids • the use of faulty or unsafe plant and equipment

NOHSC Term	Explanation
	<ul style="list-style-type: none"> include multiple locking systems and involve written authorisation by a competent person <p>Also called <i>lock-out</i> and <i>tag-out</i>.</p>
Job Safety Analysis (JSA)	Process of examining all aspects of a task to identify hazards and conditions with a potential for injury or ill health with the objective of developing risk controls including written job instructions.
Legislation relevant to OHS	<p>Includes Commonwealth and relevant State/Territory OHS specific acts and regulations as well as:</p> <ul style="list-style-type: none"> workers compensation privacy legislation contract law trade practices criminal law common law industrial relations law equal employment opportunity and anti-discrimination law.
Life-cycle	<p>All phases in the life of a product. Specific phases depend on the type of product but may include:</p> <ul style="list-style-type: none"> design development manufacture, construction, assembly import supply, distribution sale, hire, lease storage transport installation, erection commissioning, use, operation, consumption, maintenance, servicing, cleaning, adjustment, inspection, repair, modification, refurbishment, renovation, recycling resale decommissioning, dismantling, demolition, discontinuance, disposal.
Likelihood	The likelihood of the occurrence of the consequence, not the likelihood of the hazard or the particular scenario.

NOHSC Term	Explanation
Locked out	<p>Equipment, which is not to be operated for any reason, may be padlocked, or otherwise prevented from operation using a keyed lock. A lockout may be accompanied by a tag out, or a lock out system may incorporate a tag.</p> <p>Lockout means the isolation by a mechanical device, generally a lock, which, when applied at the source, physically prevents the control to any electrical or mechanical equipment being turned on.</p> <p>Refer also to <i>Isolation</i>.</p>
Manual handling	The use of force applied by a person to lift, move, carry, push, pull or otherwise move or restrain an animate or inanimate object.
Material Safety Data Sheet (MSDS)	Document describing the properties and hazards of a material or substance including statements about its chemical and physical properties, health hazards, precautions for use and safe handling instructions. All manufacturers and suppliers of chemicals are obliged to produce an MSDS for each hazardous chemical.
Monitoring	Involves the use of valid and suitable techniques to estimate the exposure of employees to a hazard.
Musculoskeletal disorder (MSD)	An injury, illness or disease that arises in whole or part from manual handling in the workplace, whether occurring suddenly or over a prolonged period of time. (Does not include injuries caused by crushing, entrapment or cut resulting primarily from the mechanical operation of plant.
Occupational Overuse Syndrome (OOS)	Previously called RSI and refers to a range of conditions characterised by persistent discomfort and pain in and around joints and associated with repeated movement of the joint. Recent state and territory legislation tends to group these conditions with those arising from manual handling as Musculoskeletal Disorders.
OHS inspection	<p>The process of physically examining and evaluating the extent to which hazards and risks exist, and/or particular OHS requirements, procedures or standards are being met.</p> <p>Refer also to <i>workplace inspection</i>.</p>
OHS specialists	<p>Include:</p> <ul style="list-style-type: none"> • safety professionals • ergonomists • occupational hygienists • safety engineers • injury management advisors

NOHSC Term	Explanation
	<ul style="list-style-type: none"> health professionals.
Operator certification	The process by which a certificate to use or operate industrial equipment is issued by a certifying authority.
OHS management system (OHSMS)	<p>That part of the organisation's overall management system that covers developing, implementing, reviewing and maintaining the activities for managing OHS. It is NOT a standard, a commercial package or folders on the shelf; however it may involve use of OHS management systems developed in the workplace to meet the OHS situation in that particular workplace.</p> <p>Also referred to in broader context as systematic approaches to managing OHS.</p>
Operational controls for plant and equipment	<p>Should:</p> <ul style="list-style-type: none"> be suitability identified have nature and function clearly indicated be readily and conveniently located be guarded to prevent unintentional activation be capable of locking in 'off' position to enable disconnection of all motive power and forces be of 'fail safe' type.
Participative arrangements May also be referred to as <i>consultative arrangements</i> , however <i>participation</i> implies a higher level of involvement.	Are those arrangements that inform employees and other stakeholders of OHS matters, seek their input and offer opportunity for stakeholders to participate in decisions that may impact on their OHS.
Permit to work	<p>A written authority document such as hot work and confined space entry that:</p> <ul style="list-style-type: none"> includes approval to undertake work and activities including tests, measurements and monitoring is authorised by a responsible or designated person directly in control of the work certifies appropriate precautions and controls to be followed incorporates checklists, conditions and actions such as the frequency and duration of the work and atmospheric tests

NOHSC Term	Explanation
	<ul style="list-style-type: none"> follows recognised industry standard recording practices.
Plant	<p>As defined in National Standard for Plant includes:</p> <ul style="list-style-type: none"> machinery, equipment (including scaffolding), appliance, implement or tool and any other component, fitting or accessory fixed and or specified plant as cited in commonwealth, state and territory OHS legislation mobile plant and load shifting equipment pressure equipment such as boilers, pressure vessels and pressure piping electrical installation and plant such as wiring, accessories, fittings, consuming devices, control and protective gear, converters and generators.
Plant Registration	<p>The administrative process by which a certifying authority or state OHS regulator requires an organisation or industry to register plant, machinery and equipment.</p>
Personal protective equipment (PPE)	<p>Equipment designed to be worn by a person to provide protection from hazards, and may include:</p> <ul style="list-style-type: none"> head protection face and eye protection respiratory protection hearing protection hand protection clothing and footwear <p>Personal protective equipment is considered the least satisfactory control measure.</p>
Policies and procedures	<p>Relevant to OHS include:</p> <ul style="list-style-type: none"> policies and procedures underpinning OHS, including those for hazard and incident reporting, OHS communication, consultation, issue resolution and risk management quality system documentation purchasing and contracting procedures documents describing how tasks, projects, inspections, jobs and processes are to be undertaken standard operating procedures, work instructions job or batch sheets, recipes operators manuals employee and contractor handbooks job/task statements.

NOHSC Term	Explanation
Positive performance indicators	Focus on assessing how successfully a workplace is performing through measuring OHS processes.
(OHS) Records	<p>Requirements for OHS record keeping may be defined in:</p> <ul style="list-style-type: none"> • OHS legislation and regulations governing reporting of incidents and maintenance of records related to specific hazards, including chemical registers and material safety data sheets (MSDSs) • privacy legislation • organisational procedures • OHS records may include: <ul style="list-style-type: none"> • hazard and incident reports, first aid records • risk assessments • hazardous substances and dangerous goods registers, MSDSs • risk registers • OHS audit and inspection reports • maintenance and testing records • OHS training records • outcomes of health surveillance and environmental monitoring • workers compensation claims and return to work records. <p>OHS records must be stored taking account of:</p> <ul style="list-style-type: none"> • privacy • confidentiality • enabling access to personal records, within legislative requirements • commercial in confidence issues as appropriate.
(OHS) Reporting requirements	Under legislation include serious injury and serious incident reporting to OHS authorities.
(OHS) Responsibilities	<p>Those with legislated OHS responsibilities include:</p> <ul style="list-style-type: none"> • company director • manager • supervisors • OHS representatives • employees and contractors • designers, manufacturers, installers, suppliers.
Residual risk	Risk that is unable to be designed out of a product or process.
Risk Refer also to <i>Consequence</i> and	The chance of something occurring that will result in injury or damage. It is measured in terms of consequences (injury or damage) and likelihood of the consequence.

NOHSC Term	Explanation
<i>Likelihood.</i>	
Risk analysis	<p>Identifying factors influencing risk and the range of potential consequences</p> <p>Analysing the:</p> <ul style="list-style-type: none"> • risk to effectiveness of existing controls • likelihood of each consequence considering exposure and hazard level <p>Combining these in some way to obtain a level of risk.</p> <p>Factors influencing risk may be associated with:</p> <ul style="list-style-type: none"> • equipment • work environment • work organisation • task • the individual/operator • frequency and duration of exposure • number of people exposed/involved.
Risk assessment Refer also to <i>Risk Analysis</i> and <i>Risk evaluation</i> .	<p>Risk assessment is a two-step process that involves risk analysis and risk evaluation.</p> <p>Risk assessment as required under various OHS legislation does not necessarily require this second step of evaluation.</p>
Risk evaluation	Comparison of risk with pre-established criteria for tolerance (or as low as reasonably achievable) and the subsequent ranking of risks requiring control. This activity will usually be carried out by or in conjunction with others with advanced OHS skills and knowledge.
Risk management	The whole systematic process directed towards identifying hazards, assessing the risk and developing controls to minimise the risk and monitoring the effectiveness of the controls (and taking further action as required).
Risk ranking	A process of rating risks according to their severity and likelihood. Common systems are based on matrices or nomograms but are usually highly subjective.
Risk register May also be referred to as <i>Hazard Register</i> .	<p>Includes:</p> <ul style="list-style-type: none"> • a list of hazards, their location and people exposed • a range of possible scenarios or circumstances under which these hazards may cause injury or damage • the results of the risk assessment, and may also include;

NOHSC Term	Explanation
	<ul style="list-style-type: none"> possible control measures and dates for implementation.
Safe Design	A design process that generates options to eliminate hazards, or minimise potential risk to health and safety of those who make the product and those that use it by involving decision makers and considering OHS risks throughout the life cycle of the designed product.
Stakeholders	<p>In workplace OHS include:</p> <ul style="list-style-type: none"> managers supervisors health and safety and other employee representatives OHS committees employees and contractors the community.
Standards	<p>Relevant to OHS include:</p> <ul style="list-style-type: none"> OHS regulations and standards developed by OHS regulators national standards (NOHSC) Australian standards International national standards industry standards codes of practice exposure standards guidance notes.
Statute Law	Law created by legislation passed by government (acts and regulations) as distinct from common law.
(OHS) plan	<p>A document that:</p> <ul style="list-style-type: none"> is usually developed annually but may be developed for a shorter or longer period reviewed regularly has OHS performance indicators (ie objectives and targets that are achievable and practical) reflecting systematic approaches to managing OHS.
System of work	<p>The overall process of work including:</p> <ul style="list-style-type: none"> method by which the work is carried out organisation of the work selection and maintenance of tools and equipment supervision and training selection of workers

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • allocation of tasks and responsibilities.
Systemic approach to managing OHS	<p>Requires:</p> <ul style="list-style-type: none"> • comprehensive processes that are combined in a methodical and ordered manner to minimise the risk of injury or ill health in the workplace • processes of planning, allocation of resources, communication and consultation, hazard management, record keeping and reporting, training and competency, and review and evaluation for ongoing improvement. • Factors that may impact on the implementation of a systematic approach to managing OHS may include: <ul style="list-style-type: none"> • barriers to communication, such as language/literacy • workplace culture issues, such as management commitment, supervisors' approach to compliance and general acceptance of the priority of safety • diversity of workers • structural factors, such as multiple locations, shift work and supervisory arrangements.
Tag out	Refer to <i>Isolation</i> .
Technical advisors	<p>To the OHS function may include:</p> <ul style="list-style-type: none"> • legal practitioners • engineers (such as design, acoustic, mechanical, civil) • security and emergency response personnel • workplace trainers and assessors • maintenance and trade persons.
Wellness	Refer to <i>Health promotion</i> .
Workplace policies	Comprise written statements of employer's intentions and how the employers will action those intentions in the workplace. For example OHS, access and equity, discrimination and manual handling.
Workplace inspection	Process of examining the workplace, usually with the aid of a checklist, to identify hazards and level of compliance with workplace procedures.

Some terms in the glossary have been taken from, or modified from the CCH Occupational Health and Safety Glossary, 1992 and National Guidelines for Integrating OHS Competencies into National Industry Competency Standards [NOHSC: 7025 (1998)] 2nd edition.

2.2.1 Language, Literacy and Numeracy

Volume 2 Part 2.2

2.2.1 Language, Literacy and Numeracy

The reading, writing and numeracy skills/competencies in each competency standard unit describe the recommended prerequisite entry requirements typically needed to successfully achieve the competency. A nationally-recognised language, literacy and numeracy framework has been used to provide advice as to the relevant entry level required.

The information has been derived from the National Reporting System report, *A mechanism for reporting outcomes of adult English language, literacy and numeracy programs*, The Australian National Training Authority (ANTA) and the Department of Employment Education and Training (DEET), 1994-5, jointly funded the report. Australian Training Products Ltd (ATP) distributes it for and on behalf of Language Australia Victorian Office. Stock code 3010A, ISBN: 0 7306 7493 2, April 1999.

The report:

- identifies adult English language, literacy and numeracy competencies required in the industry
- facilitates student pathways
- generates ideas for curriculum and assessment.

The report identifies a national framework of five vertical levels of competence related to complexity of language, literacy and numeracy competence. Six interrelated horizontal aspects of communication were found to apply in relation to differing orientations of social activity involving reading, writing, speaking, listening and/or numeracy. These were categorised as:

- procedural communication for performing tasks
- technical communication for using technology
- personal communication for expressing identity
- cooperative communication for interacting in groups
- systems communication for interacting in organizations
- public communication for interacting in the wider community.

The National Reporting System report should be referred to at all times for clarification, more detailed information and advice.

For the purposes of this Training Package writing, reading and numeracy competencies, have been selected from the five-level competence structure (using the Technical Communication aspect of the national framework), as a means of providing relevant entry-level advice. Registered Training Organisations should use this information to assist them in developing appropriate entry-level learning strategies and to assist learners to meet the entry-level requirements of respective competency standard units.

Table 6: Reading, Writing and Numeracy – Indicators of Competence**Reading**

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.1	Reads and interprets structurally intricate texts in chosen fields of knowledge and across a number of genres, which involve complex relationship between pieces of information and/or propositions.	Defines the purpose and objectives for the use of a particular technology, eg writes a report, which includes a detailed analysis of technology as, applied in a particular workplace or environment.
	5.2	Interprets subtle nuances, infers purpose of author and makes judgements about the quality of an argument.	Draws on prior knowledge of the application of technology in researching the capacity of a new system, eg writes a briefing and recommends purchase or use of a particular system.
	5.3	Reads and critically evaluates texts containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.	Uses technological principles to reduce constraints presented by environmental or physical capacity, eg writes a report, which compares the effectiveness and efficiency of manual and computerised record management systems. Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information. Adapts task instructions to suit changes in technology, eg writes plain English instructions for the operation of a new machine based on the manufacturer's instructions. Draws from a number of sources and uses computer skills to prepare a report, eg CV and job application letter.
4	4.1	Reads and interprets structurally intricate texts in chosen fields of knowledge which require integration of several pieces of information for generating meaning.	Compares and contrasts views on technology in newspaper articles.
	4.2	Interprets texts, which include ambiguity, and inexplicitness where reader needs to distinguish fact from opinion and infer purpose. Interprets and extrapolates from texts	Interprets the purposes and objectives for the use of technology after the reading a brochure or manual. Selects technological practices to conform with the guidelines for health and safety, environmental impact and ethical practice, and uses them within those guidelines.

Scale	IoC*	Indicators of Competence	Technical Communication
		containing data which includes some abstraction, symbolism, and technicality presented in graphic, diagrammatic, formatted or visual form.	<p>Uses guidelines to ensure technological equipment is used to its full capacity.</p> <p>Uses a computer to prepare a typed report from a hand-drafted report.</p> <p>Compares and contrasts different technologies and their impact, eg argues the case for new practices when using new technologies, reports on the effects of installation of new machinery.</p> <p>Writes a report on the impact of a particular technology for a specific audience, eg management committees, tri-partite committees.</p> <p>Reads a complex diagram to identify components and procedures for dealing with a technical fault or breakdown.</p>

IoC* – Indicators of Competency sub-level

Note: The five levels of competence (interrelated with six aspects of communication of the National Reporting System) is not an assessment system. It is not curriculum. It is not a model of language acquisition. It is not a means for categorising students by a simple "level", nor is it a set of broad competency statements. It is not a recruitment instrument for employers. The NRS suggests that the *"report of a person's competence derives from the interplay between the chosen activity, the features of the text/task, and the context and level of support under which the activity is performed"*.

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.1	Reads and interprets texts of some complexity, integrating (where relevant) a number of pieces of information in order to generate meaning.	<p>Reads a technical manual where the information is supported by diagrams, sufficiently well to be able to locate and comprehend particular information required, eg programs a VCR to record two programs in advance.</p> <p>Uses the author, title, key word and other search indexes of a library computer.</p> <p>Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs.</p> <p>Uses the word processing program on a</p>
	3.2	Displays awareness of purpose of text, including unstated meaning.	
	3.3	Interprets and extrapolates from texts containing data which is unambiguously presented in graphic, diagrammatic, formatted or visual form.	

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>computer to produce texts.</p> <p>Writes simple instructions for using familiar technology, eg how to use an automatic teller machine.</p> <p>Completes a formatted workplace test, eg damage or breakdown report.</p> <p>Writes a brief report on uses of technology, eg for classroom, workplace, domestic or community purposes.</p>
2	<p>2.1</p> <p>2.2</p>	<p>Reads and interprets short simple texts on a personally relevant topic.</p> <p>Locates specific information relating to familiar contexts in a text which may contain data in simple graphic, diagrammatic, formatted or visual form.</p>	<p>Reads short, relevant, explicit, clearly formatted texts related to technology, eg the author and title index of a library computer.</p> <p>Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge.</p> <p>Writes a short description, eg describes a damaged part of a machine to facilitate repair.</p> <p>Extracts information from a list with language and numeracy components, eg price lists of components for computer systems.</p> <p>Records simple and routine information using the telephone, eg takes a phone message, on a form designed for this purpose.</p> <p>Interprets instructions, which combine pictorial and written information, eg directions on how to operate a piece of machinery safely.</p>
1	<p>1.1</p> <p>1.2</p>	<p>Reads and identifies letter of the alphabet in the context of whole words, numbers, signs and symbols relating to personal details and immediate environment.</p> <p>Identifies specific information in a personally relevant text with familiar content, which may include personal</p>	<p>Recognises very short, explicit, pictorial texts, eg understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard.</p> <p>Reads graphic instructions accompanying a new piece of technology to learn new information or skills about a technology or medium, eg uses an automatic teller</p>

Scale	IoC*	Indicators of Competence	Technical Communication
		details, location or calendar information in simple graphic, diagrammatic, formatted or visual form.	machine by following instructions given graphically on the screen. Types own name or single words into a computer-assisted learning program.

Writing

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.4	Demonstrates well-developed writing skills by selecting stylistic devices to express complex relationships between ideas and purposes.	Defines the purpose and objectives for the use of a particular technology, eg writes a report, which includes a detailed analysis of technology as, applied in a particular workplace or environment.
	5.5	Generates complex written texts with control over generic structure.	<p>Draws on prior knowledge of the application of technology in researching the capacity of a new system, eg writes a briefing and recommends purchase or use of a particular system.</p> <p>Uses technological principles to reduce constraints presented by environmental or physical capacity, eg writes a report, which compares the effectiveness and efficiency of manual and computerised record management systems.</p> <p>Prepares a written or oral report, which critically evaluates the content, structure, and purpose of technical texts including graphic, diagrammatic or numerical information.</p> <p>Adapts task instructions to suit changes in technology, eg writes plain English instructions for the operation of a new machine based on the manufacturer's instructions.</p> <p>Draws from a number of sources and uses computer skills to prepare a report, eg CV and job application letter.</p>
4	4.4	Communicates complex relationships between ideas by matching style of writing to purpose and audience.	<p>Compares and contrasts views on technology in newspaper articles.</p> <p>Interprets the purposes and objectives for the use of technology after the reading a brochure</p>

Scale	IoC*	Indicators of Competence	Technical Communication
	4.5	Generates written texts reflecting a range of genres and using appropriate structure and layout.	<p>or manual.</p> <p>Selects technological practices to conform with the guidelines for health and safety, environmental impact and ethical practice, and uses them within those guidelines.</p> <p>Uses guidelines to ensure technological equipment is used to its full capacity.</p> <p>Uses a computer to prepare a typed report from a hand-drafted report.</p> <p>Compares and contrasts different technologies and their impact, eg argues the case for new practices when using new technologies, reports on the effects of installation of new machinery.</p> <p>Writes a report on the impact of a particular technology for a specific audience, eg management committees, tri-partite committees.</p> <p>Reads a complex diagram to identify components and procedures for dealing with a technical fault or breakdown.</p>

Note: IoC* - Indicators of Competency sub-level

Writing – continued

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.4 3.5	<p>Communicates relationships between ideas through selecting and using grammatical structures and notations, which are appropriate to the purpose.</p> <p>Produces and sequences paragraphs according to purpose of text.</p>	<p>Reads a technical manual where the information is supported by diagrams, sufficiently well to be able to locate and comprehend particular information required, eg programs a VCR to record two programs in advance.</p> <p>Uses the author, title, key-word and other search indexes of a library computer.</p> <p>Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs.</p> <p>Uses the word processing program on a computer to produce texts.</p> <p>Writes simple instructions for using familiar</p>

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>technology, eg how to use an automatic teller machine.</p> <p>Completes a formatted workplace test, eg damage or breakdown report.</p> <p>Writes a brief report on uses of technology, eg for classroom, workplace, domestic or community purposes.</p>
2	<p>2.3</p> <p>2.4</p>	<p>Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate.</p> <p>Completes forms or writes notes using factual or personal information relating to familiar contexts.</p>	<p>Reads short, relevant, explicit, clearly formatted texts related to technology, eg the author and title index of a library computer.</p> <p>Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge.</p> <p>Writes a short description, eg describes a damaged part of a machine to facilitate repair.</p> <p>Extracts information from a list with language and numeracy components, eg price lists of components for computer systems.</p> <p>Records simple and routine information using the telephone, eg takes a phone message, on a form designed for this purpose.</p> <p>Interprets instructions, which combine pictorial and written information, eg directions on how to operate a piece of machinery safely.</p>
1	<p>1.3</p> <p>1.4</p> <p>1.5</p>	<p>Copies letters of the alphabet, numbers, and dates in order to convey personal details such as name, address, telephone number.</p> <p>Writes basic personal details about self or others such as name, address, and signature.</p> <p>Writes one or two phrases/simple sentences conveying an idea, message or opinion drawing from a modelled text.</p>	<p>Recognises very short, explicit, pictorial texts, eg understands logos related to worker safety before using a piece of machinery, reads letters on a keyboard.</p> <p>Reads graphic instructions accompanying a new piece of technology to learn new information or skills about a technology or medium, eg uses an automatic teller machine by following instructions given graphically on the screen.</p> <p>Types own name or single words into a computer-assisted learning program.</p>

Numeracy

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.10	Interprets, selects and investigates appropriate mathematical information and relationships highly embedded in an activity, item or text.	Calculates distance, length and location using the trigonometry and geometry of triangles in relevant situations, eg locates grid reference on a map for a boat travelling on an given bearing with time and speed specified; uses dimensions provided on a scaled plan of a roof to find the pitch or slope of the roof. Calculates quantities of materials to tile the roof applying a 4% allowance for wastage.
	5.11	Selects and applies a wide range of mathematical strategies flexibly to generate solutions to problems across a broad range of contexts.	Plans and gathers information on a negotiated topic from a variety of sources including government, industry and media about relevant community or workplace issues. Organises information by grouping. Graphically represents and analyses information for a particular purpose. Presents, individually or in a team, a report expressing a viewpoint, which is substantiated by discussion of supporting statistical evidence.
	5.12	Uses a wide range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate mathematically.	Interprets and applies metric quantities and numbers in scientific notation, eg calculates the amount of oil in litres spilled from a tanker if it covers a surface area of water of approximately 1200 hectares ($1.2 \times 10^7 \text{m}^2$) to a thickness of $6 \times 10^{-3} \text{mm}$. Uses financial formulae, eg simple and compound interest to calculate and contrast the interest incurred in borrowing money from financial institutions.
4	4.10	Selects and investigates appropriate mathematical information and relationships embedded in an activity, item or text.	Uses ratio and scale to interpret dimensions on a basic plan.
	4.11	Selects and applies an expanding range of mathematical strategies flexibly to solve problems in a variety of contexts.	Applies similarity and ratio to estimate and calculate lengths, eg finds height of a building, a tree.
	4.12	Examines and questions the appropriateness, possible	Compares quality and costs of using imported vs Australian tiles, discount vs brand name paints.
	4.13		Presents information in appropriate graphical format to show different interpretations and influences, eg analysis of government spending on education.

Scale	IoC*	Indicators of Competence	Technical Communication
		<p>interpretations and implications of aspects of a mathematical activity.</p> <p>Uses a range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate mathematically.</p>	<p>Applies formulae and interprets results relevant to a familiar practical situation, measuring the dimensions needed and substituting them into the formula, adjusting units where necessary, eg length of edging for circular garden or pond, capacity of a water tank or bath.</p> <p>Uses area and perimeter to calculate a range of options, eg given a certain length of fencing, plan a range of options for paddock dimensions, which meet specific area requirements.</p> <p>Calculates and contrasts monthly income from average sales, given a variety of salary options involving retainers and commission rates.</p>

Note: IoC* - Indicators of Competency sub-level

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.10 3.11 3.12 3.13	<p>Selects appropriate mathematical information embedded in a real life activity, item or text.</p> <p>Selects and applies a range of mathematical strategies to solve problems in a number of familiar contexts which may be interrelated.</p> <p>Reflects on and questions reasonableness and appropriateness of the purpose, process and outcomes of a mathematical activity.</p> <p>Uses oral and written, informal and formal language and representation, including symbols and diagrams, to communicate mathematically.</p>	<p>Uses a distance scale to find the shortest route between two locations on a map and considers road terrain conditions in deciding preferred route.</p> <p>Expresses and calculates with metric quantities, eg interprets and costs quantities of cheese given different forms such as 350g, 0.35kg.</p> <p>Measures common three-dimensional shapes, eg room, and represents the information on an appropriate diagram drawn to scale.</p> <p>Calculates with common, fractions and metric measurements, eg adjusts the quantities in a recipe by halving or doubling to obtain the required amount.</p> <p>Uses a variety of methods to analyse advertising by comparing savings on a number of different items, eg at 12% off, 15% off, 1/3 off, price reduced by \$10.</p> <p>Compares casual and permanent rates of pay over a given time span for work of</p>

Scale	IoC*	Indicators of Competence	Technical Communication
			the same nature.
2	2.9 2.10 2.11 2.12	<p>Locates relevant mathematical information in a familiar real life activity text.</p> <p>Selects and uses straightforward mathematical actions in a familiar and predictable contexts.</p> <p>Uses estimation and prior experience to examine purpose and check reasonableness of the process and outcomes of a mathematical activity.</p> <p>Uses oral, written, informal and formal language and representation, including symbols and diagrams, to communicate mathematically.</p>	Compares measurements taken with estimated lengths of familiar objects, eg estimates and measures storeroom dimensions.
1	1.10 1.11 1.12 1.13	<p>Locates simple key mathematical information in a familiar real life activity text.</p> <p>Recognises and uses straightforward mathematical actions which relate to immediate contexts.</p> <p>Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity.</p> <p>Uses everyday informal spoken language and representation including familiar symbols and diagrams to communicate mathematically.</p>	Estimates lengths of familiar objects using metric units, eg a person's height, height of doorway.