



Australian Government

UEP06 Electricity Supply Industry - Generation Sector Training Package

Release: 1.1

CONTENTS

Preliminary Information	6
Overview	9
The Generation Sector Training Package (UEP06)	13
Outline of this Training Package	14
AQF Qualifications in this Training Package	16
Responsibility for Training Package Maintenance	18
Transition to NQC Training Package packaging rules for Flexibility	21
1.1.01 ESI - Generation Sector Qualifications Framework	22
1.1.02 Key Features and Design Needs	28
1.1.03 Structuring of Qualifications	30
1.1.04 Valuation of Competency Standard Units	33
1.1.05 Qualifications - Completion Requirements Framework	35
1.1.06 Qualifications and Competency Recognition Issuance Requirements	38
1.1.07 Pathways into Individual Qualifications	39
1.1.08 Maintenance of Qualifications	45
1.1.09 The Australian Qualification Framework	45
1.1.10 ESI - Generation Qualifications Structures	53
1.1.11 Schedule of Electives	53
1.2.0 Introduction	85
1.2.1 Competency Standards	86
1.2.2 Components of Competency Standard Units	92
1.2.3 Assessment Guidelines	97
1.2.4 National Qualifications	97
1.2.5 Regulatory Arrangements - Generation Sector	97
1.2.6 Maintenance of Competency Standards	99
1.2.7 List of ESI - Generation Competency Standard Units	100
1.2.8 Mapping Qualifications to the former Training Package (UTP98)	137
1.2.9 Mapping Competency Standard Units to the former Training Package (UTP98)	139
1.3.01 Assessment Guidelines - Introduction	175
1.3.02 Assessment System Overview	175
1.3.03 Learning and Assessment pathways	180
1.3.04 Assessment Principles - Electricity Supply Industry - Generation Sector	188
1.3.05 Assessment Processes - Electricity Supply Industry - Generation Sector	192
1.3.06 Assessor Requirements	193
1.3.07 Assessment Tools	198
1.3.08 Guidelines for Designing Assessment Materials	201
1.3.09 Guide to Assessment Methods and Items	205
1.3.10 Guidelines for Conducting Assessments	210
1.3.11 Maintenance of Assessment Guidelines	214
1.3.12 General Resources	214
1.3.13 Further Sources of Information	217
1.3.14 Appendix A - New Apprenticeships Application	219
1.3.15 Appendix B - Sample Assessment Instruments to Support Training and Assessment Material Design	223
1.3.16 Appendix B - Enclosure A: List of Sample Assessment Instruments	235
1.3.17 Appendix B - Enclosure B: Administrative Forms	271
1.3.18 Appendix B - Enclosure C: Glossary of Terms	277
2.1 Preliminary Information & Glossaries	284
2.2 Index of Competency Standards Units	322

2.3.1 Key Competencies	361
2.3.2 Performance Levels.....	362
2.3.3 Working Example of Key Competencies	363
2.2.1 Language, Literacy and Numeracy	364
2.4.1 Skills Enabling Employment.....	374

Modification History

Version modification history

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

Version	Release Date	Authorisation	Comments
UEP06 Version 1.1.	8 October 2010	ISC Upgrade Authorised by NQC to meet Packaging Rule requirements and the inclusion of Sustainability Skills in qualifications.	Modification of the following qualifications to comply with NQC Packaging Rules. UEP20110 Certificate II in ESI Generation (Operations Support) Imported Units identified by industry added: MEM05012C Perform routine manual metal arc welding MEM05007C Perform manual heating and thermal cutting MEM05004C Perform routine oxy acetylene welding TLILIC108ALicence to operate a forklift truck
1	22 Nov 2006	NQC	Primary Release of Revised Training Package replacing UTP98

The first Training Package was released in 1998 as the Training Package for the Electricity Supply Industry – Generation Sector (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.

In its revised form the Electricity Supply Industry – Generation Sector Training Package has gone even further in improving currency and relevance to industry by enhancing the range of qualifications and competency standard units available with added flexibility to the industry. It includes an array of new qualifications and revised competency standard units, pathways and design features.

The Generation 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, the qualifications and competency standards in this Training Package cover approximately one third of the direct workforce of Electricity Supply Industry – 47,000 employees. The standards provide a benchmark for the industry as it continues the shift towards outsourcing, and coverage for the increasing contractor workforce, which is required to support day to day sector activities.

The previous competency standard units have been reviewed, reorganised and updated to over 350 new Competency Standards Units across Australian Qualification Framework levels two (2) to five (5). The result is a Training Package that is more relevant to the industry as it readily responds to the needs and responsibilities of the future, 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, Operations, System Operations and Maintenance associated with Electricity Power Generation.

Users of this Industry Training Package include:

- State Training and Recognition Authorities which use the Training Package as the industry's pre-eminent advice to government and as a statement of the minimum requirements to be satisfied by RTOs in the delivery of services
- State/Territory Industry Training Advisory Bodies/Industry Skills Councils which use the Training Package to underpin their relationship with, and support for, the State Training and Recognition Authorities quality systems, including providing advice
- RTOs which issue national 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 use the provisions of the Training Package to establish their responsibilities and to protect their prerogatives
- Organisations mapping and benchmarking their human resource processes and arrangements to national competency standard units in this Training Package.

Preliminary Information

Preliminary Information

The Generation Industry

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.¹ 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.

¹ In 2002, the Australian Greenhouse Office reported that the status of the Australian Electricity generation industry was:

Operating Plants:	120 Fossil Fuel Power Station sites
	275 Renewable Energy sites (including hydroelectric and wind power)
Proposed Plants:	62 Fossil Fuel Power sites
	147 Renewable Energy sites (including hydroelectric)

The Electricity Generation Sector in 2006 is not the same industry as it was when the original Generation Sector Training Package was developed in 1998. 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.

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 given to employees who undertake a wide range of functions within the 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 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. The following websites can be a useful starting point for the latest information:

www.fed.gov.au	www.standards.org.au
www.nsw.gov.au	www.erac.gov.au/
www.qld.gov.au	http://www.acma.gov.au
www.sa.gov.au	http://www.dewr.gov.au/
www.nt.gov.au	http://www.ascc.gov.au/
www.act.gov.au	http://www.workplace.gov.au/tra
www.wa.gov.au	http://www.dest.gov.au/
www.tas.gov.au	http://training.com.au/

Other industry standards

It is recognised that the Generation Sector Standards do not cover all the competencies, which are likely to be required and applied within our 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 for the importation of units from elsewhere have been included within this Training Package.

Overview

Overview of Training Packages

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 recognising performance and determining training, recognising and assessing people's skills. A Training Package may also have optional support materials.
- enables nationally recognised qualifications to be awarded through assessment against given industry competency standard units
- encourages the development and delivery of flexible training and assessment which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable industry outcomes.

How do Training Packages fit within the National Training Framework?

The National Training Framework is made up of the nationally agreed quality arrangements for the vocational education and training sector, the Australian Quality Training Framework (AQTF), and Training Packages which contains the vocational standards for industry, endorsed by the National Quality Council (NQC).

How are Training Packages developed?

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

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace. Training Packages do not prescribe how people should be trained. It is acknowledged that people can achieve vocational competency in many ways and Training Packages emphasise what learners 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.

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?

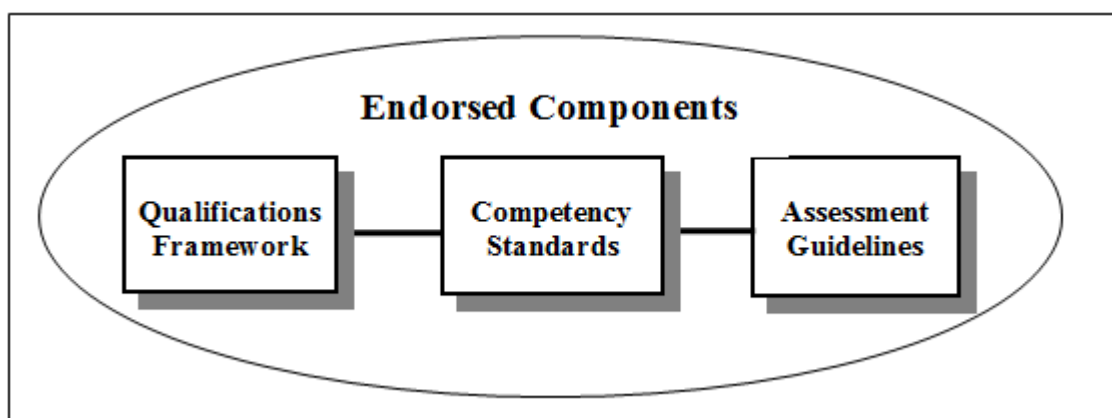
Training and assessment, using Training Packages must be conducted by an RTO that has the qualifications or specific competency standard units on its scope of registration, or that works in partnership with another RTO as specified in the AQTF Standards for RTOs.

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 Qualification Framework, Competency Standards and Assessment Guidelines. These form the basis of training and assessment in the Training Package and, as such, they must be used.

Training Package Components



Qualifications Framework

Each Training Package provides details of those competency standards that must be achieved to award AQF qualifications or Statements of Attainment for part thereof a qualification. The rules around which competency standard units can be combined to make up a valid AQF qualification in the Training Package are referred to as "packaging rules". The packaging rules must be followed to ensure the integrity of validating recognised qualifications issued.

Competency Standards

Each competency standard unit 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 competency standard units must be adhered to in training and assessment to ensure consistency of outcomes.

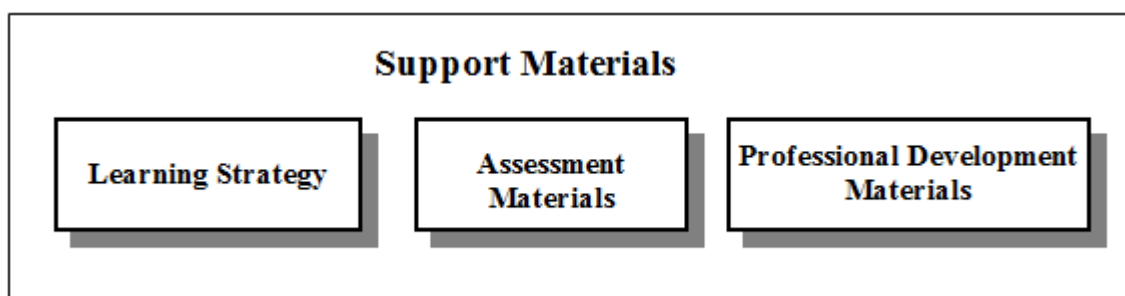
Assessment Guidelines

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

Training Package Support Materials

The endorsed components of a Training Package 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, RTOs and learners. In some instances, the Industry Skills Council may have developed a Training Package and industry support material to assist RTOs in delivering the preferred industry approach. These support materials should be considered by RTOs in accordance with the relevant AQTF standard in an effort to support increased national consistency and assure industry of the quality of outcomes.

A Training Package 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 as illustrated below.



A range of stakeholders can produce Training Package support materials. However, to ensure national consistency, partnership or collaborative approaches are preferred. Support materials developers include Industry Skills Councils, RTOs, individual trainers and assessors, private and commercial developers and Government agencies.

Where such materials have been quality assured through a process of 'noting' by the NQC, they display the following official logo. Noted support materials are listed on the National Training Information Service (NTIS), together with a detailed description and information on the type of product and its availability (www.ntis.gov.au).



It is not compulsory to submit support materials for noting, any resources that meet the requirements of the Training Package can be used.

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 title always following the code.

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example UEP06. 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

Each Training Package qualification has a unique eight-character code, for example in this Training Package UEP30106. In qualification codes, the:

- first three characters are letters identify the Training Package
- fourth is a number reflecting the AQF level for the qualification
- fifth and sixth characters represent the number of the qualification for the given level. That is in the case of UEP30106, it is the first and only AQF level 3 qualification on offer in the Training Package
- seventh and eight numbers identify the year in which the qualification was endorsed. Any subsequent amendments to the qualification result in this number changing to reflect the new year of endorsement.

Competency Standard Unit Codes

Each competency standard unit has a unique code. A typical code is made up of a maximum of 12 characters; normally a mixture of upper-case letters and numbers. For example in this Training Package the following approach has been adopted:

Unit Number									
U	E	G	N	S	G				A
Industry — EE-Oz Training Standards identifier			Training Package identifier			Industry Streams: Numbers 000 to 999			Version
← 12 Characters Maximum →									

Where an amendment is made to a competency standard unit the following applies:

- Where changes do not affect the outcome of the unit the last character alpha identifier is incremented to indicate the new version. For example, UEPOPS407A is changed to UEPOPS407B.
- Where changes alter the outcome, a new unit title and code is assigned.

Training Package Titles

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

Qualification Titles

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

- firstly, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma or Advanced Diploma
- this is followed by the words ‘in’ for Certificates I to IV and ‘of’ for Diploma and Advanced Diploma
- then the industry descriptor follows, for example Electricity Supply Industry (ESI) – Distribution, Transmission or Rail, and
- if applicable, the occupational or functional stream follows in brackets, for example (Powerline), Certificate III in ESI Generation (Operations) or Diploma of ESI Generation (Electrical/Electronics).

Competency Standard Unit Titles

Each competency standard unit title is unique. The Unit title describes the competency outcome concisely and is written in sentence case, eg:

- UEPOPS230A Operate lifting and load shifting equipment for loads greater than ten tonnes
- UEPOPS505A Produce maintenance strategies for generation production plant

The Generation Sector Training Package (UEP06)

The Generation Sector Training Package (UEP06)

The Electricity Supply Industry – Generation Training Package has been developed on behalf of the EnergyUtilities industry and community stakeholders from all States and Territories of Australia by EE-Oz Training Standards, with the support of the Department of Science, Education and Training (DEST). EE-Oz Training Standards operates under a charter from DEST as a recognised 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 Generation Sector Training Package was developed, reviewed and validated through extensive industry consultation, and it reflects the views of a wide cross-section of the industry and its key stakeholders/practitioners throughout Australia. It describes the skills and knowledge which pertain to vocations within the field of Generation and offers a choice and range of qualifications or units of competency, through appropriate training for organisations and for 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 Training Package for the Electricity Supply Industry – Generation Sector (UEP06) 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 2.2 Language, Literacy and Numeracy

Part 2.3 Key Competencies

Part 2.4 Skills Enabling Employment

Outline of this Training Package**Outline of this Training Package**

The endorsed components of this 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 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.

There are over 125 competency standard units included in Volume 2, each listed according to their respective industry discipline area.

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 Standards Units in their respective CSU Schedules, eg Schedule 1 – Operations units AQF2, Schedule 5 – Maintenance units AQF4.

Volume 2 also contains 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; Key Competencies and Skills Enabling Employment.

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

Important Note to Users

Training Packages are dynamic 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 National Training Information Service (www.ntis.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 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 technologies and other circumstances. The review date is not an expiry date. An endorsed Training Package remains current until it is reviewed or replaced.

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).

Note the change of National Code from UTP98 to UEP06 for this Training Package.

AQF Qualifications in this Training Package

AQF Qualifications in this Training Package

Generation Sector Training Package Qualifications can be achieved by completing the AQF Qualifications (Certificates I – IV, Diploma or Advanced Diploma) or by completing Possible Skill Clusters Competency Standard Units (ie Independent Units).

1. AQF Qualifications

The AQF qualifications in this Training Package are listed below:

AQF Code	Qualification Title
UEP20110	Certificate II in ESI Generation (Operations Support)
UEP30106	Certificate III in ESI Generation (Systems Operations)
UEP30206	Certificate III in ESI Generation (Operations)
UEP40106	Certificate IV in ESI Generation (Systems Operations)
UEP40206	Certificate IV in ESI Generation (Operations)

UEP40306	Certificate IV in ESI Generation Maintenance (Mechanical)
UEP40406	Certificate IV in ESI Generation Maintenance (Fabrication)
UEP40506	Certificate IV in ESI Generation Maintenance (Electrical/Electronic)
UEP50106	Diploma of ESI Generation (Systems Operations)
UEP50206	Diploma of ESI Generation (Operations)
UEP50306	Diploma of ESI Generation (Maintenance)
UEP50406	Diploma of ESI Generation (Electrical/Electronic)

2. Possible Skill Clusters CSUs

A list of competency standard units that meet regulatory or specialist requirements recognised by Statements of Attainment have been included in the Package to support possible skill cluster outcomes. These outcomes generally support requirements associated with regulatory, safety, or specialised/hazardous functions of work.

Mapping Qualifications of this Training Package to the former

This Training Package includes a table mapping the former Generation Sector Industry Training Package (UTP98) to this new Generation Sector Training Package. This information is included to assist in linking previous units to new units and to assist in minimising any translation issues that may arise.

This information is detailed in Volume 1 Part 1 – Qualifications Framework, Table 1.

Relationship of CSUs to former Training Package and Prerequisites

Included in this Training Package is a summary of:

- competency standard units in the ESI – Generation Sector Training Package
- the relationship to former competency standard units
- AQF alignment and weighting points of each competency standard unit
- prerequisite requirements.

This information is contained in Volume 1 Part 2 – Competency Standards, Table 2.

List of Imported Competency Standard Units

Included in this Training Package is a list of competency standard units imported from other endorsed Training Packages into the ESI – Generation Sector Training Package. This advice is detailed in Volume 1 Part 2 – Competency Standards, Table 6.

Language, Literacy, Numeracy and Key Competencies

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 reading, writing and numeracy skill levels.

A specific section for Literacy and Numeracy Skills, Key Competencies and Skills Enabling Employment has been included in Volume 2 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 Generation sector of the EnergyUtilities Industry are comprehensive and cover many employment opportunities. The competency standards reflect this range of knowledge and skills. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

As a matter of policy the Industry and this Training Package do not exclude 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.

Responsibility for Training Package Maintenance

Responsibility for Training Package Maintenance

The Training Package for the Generation Industry is to be managed and maintained by the National Generation Industry Training Group (NGTG – see below for membership details). NGTG is a standing working group of the ElectroComms and Energy Utilities Industry Skills Council Ltd trading as EE-Oz Training Standards, a DEST declared Industry Skills Council (ISC). The group is representative of the Generation Industry and related stakeholders. It includes RTOs from around Australia and is represented by Employers and Unions, making it bipartite. The EE-Oz Training Standards Board and Sector Council determine its composition and representatives. The Board and Sector Council may vary its membership from time to time.

The charter of the NGTG is to monitor, review and maintain the ESI – Generation Sector Training Package. This Charter encompasses the following responsibilities:

- *Maintenance of Competency Standards* – to initiate and respond to the need to review, vary, delete and add to the Generation sector competency standard units, as part of the sector's standards inventory
- *Maintenance of Competency Delivery Processes* – to monitor the effectiveness of the delivery of competency and so initiate and respond to issues, which may impact on those processes

- *Maintenance of Assessment Guidelines* – to monitor the effectiveness of the Assessment Guidelines and supporting systems; to initiate and respond to issues which impact, or are likely to impact, on the quality of the assessment systems; and to promote quality improvements throughout the system
- *Maintenance of the Qualifications and Recognition Systems* – to monitor the effectiveness of the application of the Qualification and Recognition Systems contained in the Training Package which contains the vocational standards for industry; and to review/revise the system as required
- *Validation of imported Competency Standard Units* — to monitor the effectiveness and value of imported units for the purpose of their inclusion in the Training Package qualifications framework.

The NGTG meets at least annually to review and plan the Industry maintenance and management processes related to the Training Package which contains the vocational standards for industry. The majority of the considerations by the Group will require prompt response and, therefore, business and decisions will normally be handled by electronic/mail means. Support for the NGTG will be provided by the EE-Oz Training Standards network, who will act as the secretariat.

The NGTG is an integral part of the Generation Industry and EE-Oz Training Standards Electricity Supply Industry Sector Council consultative mechanisms.

Current Membership of the National Generation Training Group (NGTG)

Name	Title	Organisation
Allwright, Trevor	Manager Network Services	Power and Water Corporation
Britten, John	Operations Training and Standards Supervisor	Hydro Tasmania
Curry, Ian	Official	AMWU
Dyer, Yvette	Admin Liaison Officer	MITAC
Gill, Mark	Workers Inspector	Australian Services Union (ASU)
Gould, Wayne	Operations	TXU Torrens Island
Graham, Ian	Chief Electrical Inspector	Office of the Chief Electrical Inspector
Gullan, Rob	Executive Director	EPIC Training
Howard, Jan	Industry Liaison Officer	Department of Education and Training
Howlett, Bob	CEO	ESITO

Ingram, John	National Assistant Secretary	CEPU, Victoria
Karznia, John	Executive Officer	Energy Skills Australia
Leverenz, A. J.	Executive Officer	SA ITAB
Love, David	Project Consultant	Workplace Skills Management Pty Ltd
Lovell, Peter	Project Officer	Connell Wagner PPI
Marshall, Wolfgang	Project Officer	EITO
McCloskey, Kevin	Executive Officer	QUSITAB
McGrath Max	Technical Officer	Tech Comm Simulation
McLean, Greg	Official	Australian Services Union (ASU)
McMullan, Patrick	Executive Assistant	ESAA
Oakley, Tony	Senior Consultant	Power Training Services
Palladino, Tony	Chief Executive Officer	EE-OZ Training Standards
Phillips, David	Consultant	CS Energy, Queensland
Roberts, Bill	Project Manager	WA IEUITC
Ross Robert	Operations	NT Power and Water
Taylor, Bob	Executive Officer	U&LMITAB
Thompson, Carl	Technical Training Officer	Connell Wagner PPI
Thornton, Ken	Operations	Eraring Energy
Van Den Bergen, Bernard	Ezitrain Manager	Energex Ltd
Walker, Christine	Human Resource	Southern Hydro
Waring, Peter	Operations	TXU Torrens Island
Wilson, Russell	Official	ETU
Industry Officers	Observers	DEST

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:

- Electricity Supply Industry Sector Council of the EE-Oz Training Standards Board
- Electricity Supply Industry – National Training Committee (ESI-NTC)
- National Generation Steering Group (NGSG)
- Chairs, Executive Officers, and Members of the EE-Oz Training Standards State and Territory Network (ITABs) and their various sub-committees
- State and Territory Training Authorities
- State and Territory Regulatory Authorities
- OH&S Skills Development and Practical Guidance Team of the National Occupational Health and Safety Commission
- Industry sector registered training organisations and practitioners for contributing to and being supportive of the project
- Industry sector practitioners for contributing to and being supportive of the project.

Transition to NQC Training Package packaging rules for Flexibility

Transition to NQC Training Package packaging rules for Flexibility

The following qualifications have been modified to meet the requirements of the National Quality Council's Training Package packaging rules for flexibility.

UEP20110 Certificate II in ESI Generation (Operations Support)

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 a qualification is permitted from either 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 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 must be sought from the relevant EE-Oz Technical Advisory Committee

Advice should 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 imported unit/s.

1.1.01 ESI - Generation Sector Qualifications Framework

1.1.1 ESI – Generation Sector Qualifications Framework

The Qualifications Framework in this Electricity Supply Industry (ESI) – Generation Sector Training Package provides for two outcomes, i) Qualifications and ii) Possible Skill Clusters competency standard units.

The qualifications listed in this Training Package adhere to the advice provided in the *AQF Implementation Handbook 3rd Edition 2002*. They have been developed by the respective sectors of the ESI – Generation Sector in accordance with the principles listed here.

Qualifications:

- are competency based
- are made up by clustering or grouping individual Competency Standard Units
- are relevant, in terms of both level and scope, reflecting the realistic vocational needs of the industry
- facilitate real career pathways
- reflect industry work requirements and not be influenced by the variety of existing qualifications which may have been used in the past for career progression
- are constructed so as to enhance the prospects for consistency, equity of effort, transferability and portability within and across industries.

Note: *Qualification structures are not designed nor intended to be misrepresented for other purposes.*

The qualifications have been designed and structured by industry in consultation with a range of stakeholders, including regulators, RTOs and the community. They facilitate worthwhile career pathways within the industry. The structure, composition and range of the qualifications and the requirements necessary for obtaining them have been designed to allow employers and employees to select the qualification and units as needed to meet their skill and work organisation requirements. The structure of each qualification has the flexibility to provide the necessary competencies (knowledge, skills and transferable abilities and capacities) related to the industry sector and the needs of the enterprise.

The benefits to industry, individuals and the community from individuals having attained a qualification from a Training Package are that they:

- can apply their knowledge and skills as they become more adaptable, productive and better skilled
- maintain pace with technological advancement
- control highly technical equipment
- can provide improved service delivery supported by new levels of technological competence
- critically assess and appraise situations and apply creative, diagnostic and problem solving techniques on a day-to-day basis
- communicate ideas by speech and in writing
- can perform work safely.
- For the industry and the community the benefits are:
- improved productivity and efficiency and enhanced risk mitigation
- employee qualifications (based on competent performance) are portable across State/Territory borders – *can be used more effectively by enterprises for recruitment, skilling/re-skilling and retention*
- incorporation of an external national benchmark skills recognition framework within an Enterprise's culture and assures those deemed competent have met a minimum Industry standard of performance (*Use for benchmarking and compliance purposes*)
- communication to employees, regulators, customers, the community and other stakeholders that an enterprise takes its responsibilities as a corporate citizen and compliance seriously
- portability of enterprises is enhanced when competing for interstate and/or national contracts

Access, Equity and Cultural Diversity

The qualifications in this Training Package reflect the range of competencies required of employees in the Generation sector of the Electricity Supply Industry, 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.

Key Competencies

Key Competencies interrelate with qualification outcomes through the medium of each competency standard unit making up the qualification. The Key Competencies are described in detail in Part 2 – Competency Standards of this Training Package and in its own section in the unit and Volume 2, Part 4 Key Competencies.

Skills Enabling Employment

Consideration has been given to the inclusion of formative information related to specific skills enabling employment, that combined enhance entry into the industry and the qualifications on offer. This information has been introduced in each competency standard unit. The Skills Enabling Employment is described in more detail Part 2 – Competency Standards and in its own section in the unit and Volume 2, Part 5 Skills Enabling Employment.

Recently, the NQC resolved that Employability Skills are to be embedded into Training Packages where these skills are deficient. In consideration of this, the NQC has supported the establishment of a quality assurance panel to oversee audits of endorsed Training Packages in collaboration with declared Industry Skills Councils (ISCs).

EE-Oz Training Standards in agreement with DEST has agreed to undertake an activity to audit and map the ‘Skills Enabling Employment’ model framework developed by EE-Oz Training Standards against the NQC’s endorsed employability skills. The audit process is expected to take 12 months from the Training Package endorsement date. From the gap identified, an action plan will be implemented to enable transition from the existing ‘Skills Enabling Employment’ model framework to the new arrangement.

Language, Literacy and Numeracy

A new and 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 advice on the relevant language, literacy and numeracy entry-level requirements that maximise the possibility of successful completion of the competency standard units and, subsequently the qualification.

The language, literacy and numeracy definitions and requirements are described in more detail in Volume 2, Part 3 Language, Literacy and Numeracy Skills. Each competency standard units in Volume Part 2 Competency Standards references the respective language, literacy and numeracy skills that apply.

New Apprenticeship – application

New Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. For further information regarding new apprenticeships and their application in relation to this Training Package refer to Appendix A – New Apprenticeship – application. Appendix A is located at the end of Volume 1 Part 3 – Assessment Guidelines.

List of Generation Sector Qualifications

The full range of the Electricity Supply Industry (ESI) – Generation Sector Training Package are summarised below:

AQF	Qualification Title	Code
2	Certificate II in ESI Generation (Operations Support)	UEP20110
3	Certificate III in ESI Generation (Systems Operations)	UEP30106
	Certificate III in ESI Generation (Operations)	UEP30206
4	Certificate IV in ESI Generation (Systems Operations)	UEP40106
	Certificate IV in ESI Generation (Operations)	UEP40206
	Certificate IV in ESI Generation Maintenance (Mechanical)	UEP40306
	Certificate IV in ESI Generation Maintenance (Fabrication)	UEP40406
	Certificate IV in ESI Generation Maintenance (Electrical/Electronic)	UEP40506
5	Diploma of ESI Generation (Systems Operations)	UEP50106
	Diploma of ESI Generation (Operations)	UEP50206
	Diploma of ESI Generation (Maintenance)	UEP50306
	Diploma of ESI Generation (Electrical/Electronic)	UEP50406

Allied Qualifications

Allied Qualifications relevant to the ESI – Generation sector that reside in other nationally endorsed Training Packages are identified below.

AQF	Qualification Title	Training Package	Code
1	Certificate I in Utilities Industry Operations Certificate I in Electrotechnology Certificate I in Sustainable Energy (Electrotechnology)	Gas Electrotechnology	UEG10106 Relevant Training Package
2	Certificate II in Utilities Industries Operations	Gas	UEG20106
3	Certificate III in Electrotechnology (Electrician)	Electrotechnology	Relevant Training Package

4	Certificate IV in System Electrician (Distribution)	Electrotechnology	Relevant Training Package
---	---	-------------------	---------------------------

Possible Skills Clusters

As a result of the High Level Review completed in 2004, it was agreed that a separate section, Possible Skill Clusters competency standard units would be included in Training Packages. The High Level Review findings stated:

‘Statements of Attainment

A set of related competencies below the level of a full qualification can be highly portable and valuable for individuals. The tool for recognising this achievement – the Statement of Attainment – is an important recognition of personal achievement, and is a legitimate credential in its own right, but it has no wider community standing or recognition.

We see a need to enhance the market standing of Statements of Attainment by re-positioning and promoting them as an important tool for nationally recognising related skill sets below full qualification level and which will be valued by individuals and by industry.

We also see a need to

- review the current systems for reporting the enrolment in and achievement of individual competency standard units to achieve greater clarity for the issuers, recipients and end users of Statements of Attainment, and to
- clarify and harmonise advice on Statements of Attainment within AQTF documents and the AQF Implementation Handbook.’
- Moving on ... Report of the High Level Review of Training Packages, April 2004 (ANTA)"

Research into the review of the ESI – Generation Sector Training Package identified occasions when stand-alone or specialist Competency Standard Units are needed by the industry for particular circumstances and environments.¹ To address this issue a list of competency standard units that meet regulatory or specialist requirements recognised by Statements of Attainment have been included in this Training Package to support possible skill cluster outcomes. These outcomes generally support requirements associated with regulatory, safety, or specialised/hazardous functions of work. Typically, these CSUs relate to work functions that are associated with regulatory or specialised functions. They may augment or be incidental to existing competencies held by individuals, or be required for workplace entry associated with OHS issues.

¹Many qualified people in the industry seek further skill sets training in only one or two units at any one time, after attaining their primary qualification – not an additional qualification. The previous Training Package Development policy prohibited the declaration of stand-alone (orphan) Competency Standard Units in their own right. This limited opportunities for individuals and employers to meet their specialised needs.

Skills Clusters CSUs may not be found in any of the qualification structures in this Training Package. The units do not form a qualification in their own right and often are not able to be regarded as an elective or a replacement competency standard unit within mainstream qualifications.²

² For instance, the field of Gas and Electrical Safety on and around equipment is a unique environment and often a full qualification is not required. RTOs in this environment are often specialist in discrete areas and do not wish to offer full qualifications.

Skill Cluster CSUs

The competency standard units listed below may appear within a qualification in this Training Package. However they may be independent from any qualification in which case they can be delivered and assessed independently for a Statement of Attainment.

UNIT CODE	UNIT TITLE
UEPOPS228A	Conduct forklift operations
UEPOPS229A	Operate lifting and load shifting equipment for loads less than ten tonnes
UEPOPS230A	Operate lifting and load shifting equipment for loads greater than ten tonnes
UEPOPS231A	Operate explosive powered tools
UEPOPS302A	Perform advanced rigging work
UEPOPS303A	Perform advanced scaffolding
UEPOPS316A	Operate and monitor a boiler steam/water cycle
UEPOPS339A	Operate and monitor a boiler unit
UEPOPS340A	Operate and monitor a steam turbine
UEPOPS341A	Shut down a steam turbine
UEPOPS349A	Operate H.V. primary switchgear
UEPOPS357A	Operate H.V. secondary switchgear
UEPOPS409A	Start-up a boiler unit
UEPOPS410A	Shut down a boiler unit

1.1.02 Key Features and Design Needs

1.1.2 Key Features and Design Needs

These refer to the Qualifications Structures and to the Possible Skill Clusters CSUs

Qualification structures have been developed to satisfy flexibility, quality of outcomes, equity and consistency within this Training Package while achieving valid alignment with the Australian Qualifications Framework (AQF). The approach has been to provide a range of purpose-built qualifications at the various AQF levels that align to specific and well recognised workplace outcomes. It also identifies a range of emerging new areas within the Generation Sector. Qualification titles have been chosen after much consultation with a host of stakeholders and practitioners to ensure that they meet the needs of the market now and into the future.

Consideration has been given to the relationship of this Training Package to the full suite of EE-Oz Training Standards Electrotechnology and EnergyUtilities and to other allied Training Packages in ESI – Transmission, Distribution and Rail Sector; Electrotechnology Industry, and Gas Industry, as well as Metals and Engineering, Telecommunications and others.

To achieve this, the design processes have:

- facilitated flexibility by maximising the range of options available within the qualifications structures
- satisfied quality requirements by ensuring the integrity of the AQF in terms of relative equity and flexibility between and across competency levels
- been cognisant of any prevailing Regulatory requirements
- achieved consistency of outcomes across the range of qualifications on offer at respective AQF levels.

To achieve the above outcome requirements, research was undertaken with stakeholders. and recommendations agreed on. It was necessary to consider how best to structure and advise on the completion requirements of a qualification. It was decided to use a core and elective approach, and to introduce a system for the valuing elective competency standard units to realise the completion of the qualification. It was proposed that the system would value each of the elective competency standard units. It would assign a total weighting value required for the completion of the respective qualification. The weighting system and process would aim to assure that the AQF characteristics and distinguishing features were met for each qualification outcome. In addition, it would ensure that it related to realistic work organisation and outcomes. The result is a qualification that reflects actual worth, breadth, depth and complexity of outcomes required for performance in and across the EnergyUtilities Industry.

These design features and needs determined the production, packaging, alignment, completion rules and definitions for each qualification.

ESI Generation Sector Qualifications Packaging Requirements

The qualification structures that follow must be read in conjunction with Volume 1 Part 2 – Competency Standards, Unit Construction. The structures of the qualifications that follow include the competency standard units relevant to the outcome of the particular qualification.

Qualifications titles

UEP20110 Certificate II in ESI Generation (Operations Support)

UEP30106 Certificate III in ESI Generation (Systems Operations)

UEP30206 Certificate III in ESI Generation (Operations)

UEP40106 Certificate IV in ESI Generation (Systems Operations)

UEP40206 Certificate IV in ESI Generation (Operations)

UEP40306 Certificate IV in ESI Generation Maintenance (Mechanical)

UEP40406 Certificate IV in ESI Generation Maintenance (Fabrication)

UEP40506 Certificate IV in ESI Generation Maintenance (Electrical/Electronic)

UEP50106 Diploma of ESI Generation (Systems Operations)

UEP50206 Diploma of ESI Generation (Operations)

UEP50306 Diploma of ESI Generation (Maintenance)

UEP50406 Diploma of ESI Generation (Electrical/Electronic)

Each qualification is made up of Core and Stream Core units and a number of Elective units that can be drawn from the Schedules of Electives provided in Volume 2 Part 2.

There are eight (8) Schedules of Elective units that are integral to this Training Package. Users are able to draw electives from the Schedules as detailed in the following qualification packaging rules.

- Schedule 1 of 8 (AQF 2 Operations) Units UEPOPS201A – UEPOPS249A
- Schedule 2 of 8 (AQF 3 Operations) Units UEPOPS301A – UEPOPS356A
- Schedule 3 of 8 (AQF 3 Maintenance) Units UEPMNT301A – UEPMNT360A
- Schedule 4 of 8 (AQF 4 Operations) Units UEPOPS401A – UEPOPS442A
- Schedule 5 of 8 (AQF 4 Maintenance) Units UEPMNT401A – UEPMNT433A
- Schedule 6 of 8 (AQF 5 Operations) Units UEPOPS501A – UEPOPS515A
- Schedule 7 of 8 (AQF 5 Maintenance) Units UEPMNT501A – UEPMNT504A
- Schedule 8 of 8 Imported Units from other Training Packages

Imported Competency Standard Units

Units of competence imported from other Training Packages are listed by notional AQF level and can be used as electives in qualifications from this package at the same AQF level or lower. Imported units are listed in Schedule 8: Imported Units from other Training Packages.

Those wishing to use imported units will need to contact the respective original Training Package developer or the NTIS to obtain copies of the most recent version of the unit of competence. Imported units must be approved and valued by the National Generation Training Group in order for them to contribute to an ESI qualification¹.

² 1Contact EE-Oz Training Standards for information about having units of competence valued by the National Generation Training Group.

1.1.03 Structuring of Qualifications

1.1.3 Structuring of Qualifications

The qualifications for this Training Package have been constructed with flexibility and quality of vocational outcomes, ie competency standard units are clustered and packaged to include a Core and sometimes Stream Core as well as an Elective group of units. For the elective group, a valuation weighting system has been developed and adopted to facilitate choice, whilst assuring equity across the respective range of qualifications on offer. The structures of the qualifications are typically constructed as follows:

Core and Stream Core Core Units are compulsory units required for the industry. They form the core group and together with relevant Stream Core the substantive part of the overall group of competency standard units that make up the structure of the qualification. The core and stream core units do not attract any weighting value for the purpose of the qualification completion requirements. They must be attained along with a number of Elective units.

Core Units can also be Stream Core. Stream Core units contextualise qualifications based on known industry disciplines/sectors.

Stream core units do not attract any weighting value for the purpose of the qualification completion requirements.

Electives Elective Units are those units that provide the flexibility required specifically for enterprise work organisation and outcomes. They are included to meet particular work organisation and skill requirements of enterprises and the completion requirements of the qualification. Elective Units are treated as complementary and as key building blocks to enhancing the contextualisation and relevance of outcomes of the Core Units within the qualification. They are weighted to facilitate flexibility.

Note: Core Units in one qualification may appear as Elective Units in another and thus a weighting value is assigned to them for that qualification(s).

It should be noted that each Qualification stands alone from other related Qualifications. Each is treated independently when determining the group of units required for completion, relative to the chosen Qualification.

Flexibility

The Qualifications Framework aims to provide the maximum flexibility permissible within the regulated context of the Industry and, for all parties using the qualifications.

The qualifications have been structured to meet the needs of the industry. Particular regard has been given to allowing sufficient access for all employers and their employees. The qualifications contain a core and sometimes a stream core requirement supplemented by a broad range of electives, sufficiently broad enough to reflect and respond to diverse approaches to work requirements and organisation. Of the considerable array of elective competency standard units on offer within the qualifications, all are distributed across a selection of discipline areas. It includes a large number of imported units.

Contextualisation

Whilst the opportunity for contextualisation is acknowledged, this is to occur in the context of the following:

- no individual competency standard units shall be varied or contextualised in any way without regard for any prevailing legislative, regulatory codes of practice, guidelines and advisory standard requirements mandated by a relevant State/Territory electricity or regulatory authority
- industry or enterprise developed competency standard units may be added to the elective group of units within the qualification framework, provided the additional unit(s):
 - is relevant and complementary to the core competency standard units; and
 - does not change the intended vocational outcome or equity of the overall qualification,
 - is submitted to the ElectroComms and EnergyUtilities Industry Skills Council, EE-Oz Training Standards for inclusion into this Training Package in accordance with the importation rules and continuous improvement arrangements defined by the National Quality Council (NQC);

Imported competency standard units from other endorsed Training Packages may also be proposed for inclusion into this Training Package to contextualise the qualification, however, they too must be submitted in accordance with, and conform to, the points above.

Regulatory Arrangements

Licensing and regulatory authorities will use a range of Qualifications contained within this Training Package for their respective purposes. In construction of such qualifications EE-Oz Training Standards and respective Regulators have given consideration to the link between the issuance of the qualification and a respective licence. It is expected that the assessment and preferred training regime, which meets the competency outcomes of the qualification, will therefore meet the regulatory requirements. For instance, the Electrical Regulatory Authorities Council (ERAC) promulgated and released a policy in March 2001 as important advice to both Registered Training Organisations (RTOs) as well as apprentice electricians to ensure that persons being trained and assessed under Training Packages, as electricians, have met national licensing requirements.

The ERAC policy required that where a Training Program is recommended by the industry, Registered Training Organisations (RTOs) shall deliver such. The policy stated that, *"Failure by an RTO to provide evidence (to the satisfaction of the relevant licensing authority) that the training (including assessment) delivered to a licence applicant satisfies the stated requirements and forms an integral part of an 'approved Training Package qualification, which means the applicant has successfully passed a "electrical safety assessment" in accordance with specified requirements, will result in the applicant being required to undertake further assessments at the discretion of the licensing authority."*

¹Approved Training Package means an ANTA National Quality Council (NQC) endorsed Training Package qualification, that includes the "electrical safety assessment" as approved by ERAC/NUELAC, within the respective industry's Training Program where recommended (ERAC Policy released 1st July 2001).

In recognising the interrelationship that exists between qualification outcomes and licensing/registration, development of qualifications in this Training Package has encompassed respective requirements. Every effort has been made to ensure currency in regulatory requirements is included and thus, RTOs must ensure they are observed. This includes utilising any recommended industry training program designed to meet the Competency Standard Units and qualification outcome related to licensing/registration applications.

It must be remembered that an RTO registered under the Australian Quality Training Framework (AQTF) requirements is given full responsibility for deeming a learner/apprentice competent for the respective Competency standard units making up a Training Package qualification. Where the learner/apprentice is deemed competent by the RTO and is to be issued the qualification and statement for the Competency standard units, the RTO is to also provide all the necessary documentation required by the regulatory authority to support an application of eligibility. That is, where regulatory endorsed training strategies/learning specifications and support materials are advised, such as modules/subjects, learning specifications, programs or other, and these are aligned and used to provide the underpinning essential knowledge and associated skills specified in the competency standard units, then, because of licensing and/or industrial requirements, the relevant titles of the aligned subjects/topics or learning specifications within the specified training programs including their results (preferably percentile based) shall be issued. It shall form part of a statement of results attached to the qualification or statement of attainment.

It should be noted that regulatory authorities have advised that the quality of RTOs 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 issuance of the qualification to satisfy the eligibility requirements for issuance of the licence.

1.1.04 Valuation of Competency Standard Units

1.1.4 Valuation of Competency Standard Units

In this Training Package a balance between flexibility and consistency of outcomes, both between qualifications at the same AQF level and across qualifications of different AQF levels, has been achieved by developing and adopting completion guidelines (valuation weighting system). These guidelines are based on an industry-developed weighting system for Competency Standard Units. It takes into account the electives required to 'trigger' the completion of a qualification. Each Elective Unit is assigned a weighting value that reflects its level of content, breadth, complexity, autonomy, context, and comparative effort of application related to work performance, relative to the Core Units of the qualification level sought within the Electricity Supply Industry, as well as ElectroComms and EnergyUtilities industry.

The elective units selected for completion of the qualification will require, where applicable, relevant prerequisites to also be attained and these too may require weighting relative to the core of the qualification.

ESI Competency Standard Units – Valuation processes and procedures

1. Weighting System – An Overview

To assist with the structuring and completion requirements of the qualifications, all Elective Units contained in the ESI - Generation Sector Training Package have been valued. The method adopted complements the Training Package Developer's Handbook Part 2 Section 1, *"The "size" of a Competency Standard Unit is a reflection of the complexity of skills and knowledge incorporated, or the range of activities undertaken, which may vary"*.

The ESI – Generation Sector reviewed this document and statement and subsequently developed a simple and notionally relative valuation weighting system. The system identified three typical types of competency standard units that existed within the industry relative to work organisation and aligned or requisite skill sets. This contrasted slightly from the four types identified in the ANTA handbook. The Industry resolved that only three types of competency standard units applied that were relevant and that each should be assigned a value relative to the type and the AQF level.

The following AQF/Unit Value Table therefore represents the weighting system and allocated points assigned to each unit type and AQF level by the Industry. The system applies to the full suite of elective units contained within this Training Package. The result is the optimal choice/variance of competency standard units elective group packaging.

AQF/Unit Value Table

		Type 1	Type 2	Type 3
AQF	6	180	200	220
	5	140	150	160

	4	110	120	130
	3	80	90	100
	2	30	35	40

2. Unit Type Definitions

The *AQF/Unit Value* Table above specifies the notional weighting points assigned to three levels of competency standard units complexity (ie Type 1, 2 and 3) applying across the six AQF levels.

Type 1 – Type one competency standard units are considered generally to require less effort/complexity relative to work performance than a type two.

Type 2 – Type two competency standard units are considered generally to require a moderate level of effort/complexity relative to work performance than a type one.

Type 3 – Type three competency standard units are considered generally to require more effort/complexity relative to work performance than a type two.

The same principle applies at each AQF level. The weighting points are notional and relative to each other for the specific AQF level as applied within this Training Package. They should not be used or applied for any other use but to assist in meeting the completion requirements of the relevant qualification within this Training Package.

3. Applying the Unit Values

It should be noted that the unit valuation process will never provide an absolute solution for all situations, nor does it attempt to do so. However, in relation to the ESI Generation Sector Training Package, the notional and relative weighting assigned to elective units has been determined by the industry and coordinated by EE-Oz Training Standards.

To ensure optimisation of flexibility and consistency of AQF vocational outcomes across qualifications in the EnergyUtilities Industry and to maintain the integrity of the Core AQF alignment within the Qualification, values for each of the elective unit(s) have been attributed dependent on their breadth and complexity relative to the Core. As previously mentioned; the greater the breadth and complexity, the higher the relative weighting.

Importing units and valuing imported units

1. Importation of Units

To further enhance flexibility the ESI – Generation Sector Training Package has imported a number of other nationally endorsed Training Package competency standard units. Many of these units have been identified for use in the elective range of the qualifications on offer. These too have been valued in accordance with the competency standard units valuation weighting rules. These weightings are applied for this Training Package only and are utilised for the triggering of the qualifications within it.

It is acknowledged that at the time of developing this Training Package it was not possible to identify the full range of competency standard units that the Industry may have wished to include into the future. To assure continued flexibility, relevancy and currency, a process has been established for users to request the inclusion of competency standard units in the Training Package in accordance with this section of the ESI – Generation Sector Training Package. RTOs and enterprises may identify and wish to submit competency standard units for inclusion in the Training Package, to assist in its continuous improvement. In doing so, competency standard units will need to be submitted, processed and valued in accordance with the Training Package requirements. It is anticipated that this option is not likely to occur frequently given the high degree of imported units already included.

Where enterprises or RTOs wish to have competency standard units included into the elective group of units, or the core of a particular Qualification(s) they can do so in accordance with the *Process for importation and valuation section* (below) of this Part of the ESI – Generation Sector Training Package.

2. Units for importation

When importing competency standard units regulators and users of this Training Package must consider new technology, shared/converging technology, specialist needs or other needs.

Imported units may be:

- those from other industries, which have been nationally endorsed by the National Quality Council (NQC), and/or
- those that may have been developed at an enterprise or local level and they wish to have them submitted for inclusion in range of ESI – Generation Sector Competency Standards.

As previously stated, for the purposes of this Training Package all imported units are to be valued against the same criteria as applied to the ESI – Generation Sector Competency Standards.

3. Process for importation and valuation

The process for inclusion and valuation of imported units is coordinated by the EE-Oz Training Standards, the DEST declared Industry Skill Council for ElectroComms and EnergyUtilities Industry. Importation valuation and inclusion arrangements are facilitated by EE-Oz Training Standards in concert with the relevant Industry advisory committee. Where assistance is required in this regard, contact EE-Oz Training Standards.

Exporting ESI – CSUs from this Training Package

Competency standard units in this Training Package include matters related to language, literacy and numeracy, access, equity, cultural diversity and regulatory arrangements. These sections are interrelated and linked with the Definitions/Glossary section of the Volume. No competency standard unit is to be used in isolation or exported without these interrelated components.

1.1.05 Qualifications - Completion Requirements Framework

1.1.5 Qualifications – Completion Requirements Framework

Qualifications have been structured to provide an appropriate mix of competency standard units to enhance flexibility whilst assuring consistency and quality of outcomes.

The requirements for individuals to complete each qualification are outlined in the Qualification Structure that follows. Each qualification describes the minimum requirement for the issuance of the qualification. Individuals may undertake additional Elective Units, Specialisations and/or Optional Units concurrent with or after the completion of the qualification.

Typically the trigger for a qualification contained in the Generation Industry Qualifications Structure requires selection and completion of elective units in addition to the Core Units. RTOs are to confirm, in accordance with the approved training plan, that all the critical aspects of evidence are present on completion of the respective competency standard units making up the qualification.

It should be noted that units taken in addition to the minimum requirements of the qualification are not to be included within the qualification completion requirements but are to be appended to it.

Endorsements

In some instances there may be a requirement for a formal statement of ‘endorsement’ to be issued to individuals for a particular range of outcomes within a Competency standard unit. Individuals are required to confirm this for compliance with Regulatory or Industry duty-of-care purposes.

The requisite information that is to be reported on is detailed in the respective competency standard unit, and confirms the context the individual was deemed competent in, relative to the endorsement in the Competency standard unit. This occurs in some Training Package Competency standard units.

In the event that such units are included in this Training Package, further information will be provided. Examples of this are:

UTENES208SA means that the unit Disconnect and reconnect fixed wire electrical equipment connected to supplies up to 1000 Volts a.c. or 1500 Volts d.c, needs to be reported with the endorsement (of motors).

On records and reports it will appear as:

UTENES208SA Disconnect and reconnect fixed wired electrical equipment connected to supplies up to 1000 Volts a.c. or 1500 Volts d.c. (*motors*)

Qualification Completion Values

The following pages detail the range of Qualifications, their respective structure, composition and completion requirements:

AQF	Qualification Title	Core and Stream Core	Elective Points	Selection of Elective Units
-----	---------------------	----------------------	-----------------	-----------------------------

AQF	Qualification Title	Core and Stream Core	Elective Points	Selection of Elective Units
2	UEP20110 Certificate II in ESI Generation (Operations Support)	All core 190 Points	130	Group A up to 60 points Group B at least 70 points Maximum 130 points
3	UEP30106 Certificate III in ESI Generation (Systems Operation)	All core and 6 of 7 Stream Core	450	Any combination of elective units from specified Schedules or approved imported units from any other Training Package
3	UEP30206 Certificate III in ESI Generation (Operations)	All core and 6 of 7 Stream Core	450	

AQF	Qualification Title	Core and Stream Core	Elective Points	Selection of Elective Units
4	UEP40106 Certificate IV in ESI Generation (Systems Operation)	All core and 6 Stream Core	600	Any combination of elective units from specified Schedules or approved imported units from any other Training Package
4	UEP40206 Certificate IV in ESI Generation (Operation)	All core and 5 of 7 Stream Core	600	
4	UEP40306 Certificate IV in ESI Generation (Mechanical)	All core and 5 of 7 Stream Core	600	
4	UEP40406 Certificate IV in ESI Generation (Fabrication)	All core and 5 Stream Core	600	
4	UEP40506 Certificate IV in ESI Generation (Electrical/Electronic)	All core and 5 of 9 Stream Core	600	
5	UEP50106 Diploma of ESI Generation (Systems Operation)	All core and 5 of 9 Stream Core	750	Any combination of elective units from
5	UEP50206 Diploma of	All core and 5	750	

	ESI Generation (Operations)	of 9 Stream Core		specified Schedules or approved imported units from any other Training Package
5	UEP50306 Diploma of ESI Generation (Maintenance)	All core and 5 of 8 Stream Core	750	
5	UEP50406 Diploma of ESI Generation (Electrical/Electronic)	All core and 5 of 9 Stream Core	750	

1.1.06 Qualifications and Competency Recognition Issuance Requirements

1.1.6 Qualifications and Competency Recognition Issuance Requirements

Formal recognition of competency achievement may be in the form of:

- A full Qualification in accordance with the criteria established under the ESI — Generation Sector Qualifications Framework and Structure and be in accord with AQTF Standard 10. Where the title of the qualification within the framework and structure requires further clarity to satisfy State/Territory, enterprise and/or regulatory requirements, then an additional occupational identifier to the title in the ESI - Generation Sector Qualifications Framework and Structure shall be provided.
- A Statement of Attainment, and, where appropriate, an authorised entry in an individual's Statement of Competency or Industry Skills Passport or approved instrument, which recognises the attainment of a subset group of individual competency standard units within a full qualification. Where the Statement of Attainment within the qualification structure requires further clarity to satisfy State/Territory, enterprise and regulated requirements, then an additional identifier, Record of Achievement/Statement of results or other such statement is to be provided.

Formal recognition of respective types is to be issued by the RTO. The recognition is to be recorded on formats established by these requirements and/or relevant State Training Authorities and include additional items, which have been agreed by industry and/or regulators in concert with the Industry Skill Council for the ElectroComms and EnergyUtilities Industry or its nominated representatives. Industry and Regulators would expect the formal recognition to include, as a minimum:

- the name of the recipient
- the title of the qualification or Statement of Attainment
- the title and logo of the RTO
- the logos of the relevant State/Territory Training and Recognition Authorities, the Nationally Recognised Training logo and, preferably, the logo of Industry Skill Council

- an attached transcript of information that is meaningful for maximum recognition and skills transfer. Generally this would be the individual competency standard unit titles and any endorsement or subset thereof, as well as detailed formal advice about the achieved results of the interrelated essential knowledge and associated skills. It should be noted that the successful attainment of the specified essential knowledge and associated skills for each competency standard unit forms a critical part of the unit outcome, and reporting is to include its achievement and be in accord with the industry preferred approach. Where regulated requirements advise the use of training support material(s) and they are used to provide the essential knowledge and skills specified in the competency standard unit, then, details of the support material(s) and their achievement should form part of the statement of results attached to the qualification or statement of attainment.
- any endorsements for regulatory outcomes/recognition.

1.1.07 Pathways into Individual Qualifications

1.1.7 Pathways into Individual Qualifications

Within the ESI – Generation Sector three learning pathways have been identified (and listed in Part 2 Assessment Guidelines); within these learning pathways six qualifications pathways are available for individuals:

- entry-level contracted employment as a New Apprenticeship
- employee whose occupation is Operations, System Operations or Maintenance and needs to upgrade to a new ESI – Generation Sector Qualification (including individuals who are trained outside Australia).
- electricians wishing to multi-skill by seeking to obtain an ESI – Generation Sector Qualification (including individuals who are trained outside Australia).
- maintenance employees of a contracting company who have limited Power Station maintenance skills seeking to obtain an ESI – Generation Sector Qualification (including individuals who are trained outside Australia).
- a pathway utilising an institutional only delivery model that produces quality outcomes to the standard of performance specified in the competency standard units of the Training Package.
- others with related and allied skill sets.

In general these pathways will include outcomes equivalent to a combination of on-and off-the-job training strategies, supported by the industry and regulators, leading to the achievement and demonstration of competence. That is, the pathways identify how competence is developed and how evidence is gathered for the assessment of competence.

While there are historically established norms in apprentice duration of learning and particularly for new entry-level contracted employment entrants, some reduction in this time could be achieved through comprehensive structured arrangements set in a workplace or an institution. This can be achieved by reducing any peripheral activity that naturally occurs in an actual workplace, however the burden is on an institute/skill centre, or assisted by an employer where appropriate, to assure the required outcomes are met. To ensure the replication of the world of work is achieved, it is likely in relation to costs that this would be considerable and possibly prohibitive, and a matter for respective parties. Accordingly, the Industry's preferred arrangement is a combination of off-and on-the-job pathway for new entrants. It is clearly recognised as the more cost effective medium to that of an institutional pathway or all on-the-job approach where developing competency is underpinned by a rich knowledge base. However, it is acknowledged that all pathways are recognised as possible and are only limited by costs. The decision as to where the training and assessment is provided, and work performance evidence gathered, is a matter for the RTO, provided that it is in consultation and in accord with, the Industry and employer/learner.

It does not, however, limit in any way opportunities for entry into respective qualifications for those considered under-represented or from identified disadvantaged groups. These groups include persons from non-English speaking backgrounds, women, indigenous persons or persons with a disability. Appropriate measures should be utilised to accommodate reasonable adjustments for entry into, and completion of the respective qualifications.

The RTO would be expected to carry out such activity in accordance with the criteria established by the relevant State or Territory Training Authority, the AQTF Standards for RTOs to effect a realistic assessment outcome and as outlined in the respective Volumes and related parts of this Training Package including any prevailing regulatory requirements.

The industry also acknowledges that the institutional pathway would clearly be much more expensive than a structured learning/training model that assures a combination of all on-the-job approach to developing competence.

The industry is of the view that it is critical that all evidence with respect to the competency standard units performance requirements and critical aspects of evidence must be present for competence to be attributed. Assessment processes and methodologies must ensure that best practice in assessment and the process of making judgement about attributing competence remains valid and reliable.

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 new apprentices as entry-level contracted employees.

All qualifications are open entry and open exit and are available for use as new apprenticeship entry-level contracted employment. New 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.

New 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. Where the entry requirements are not met industry would expect a requisite entry-bridging program would be developed by an RTO. RTOs would submit these programs in consultation with EE-Oz Training Standards for information and distribution. Entry into all qualifications is also available through Recognised Prior Learning (RPL) arrangements.

Access, Equity and Cultural Diversity

The skills required of employees in the Gas Industry 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.

Key Competencies

Key Competencies inter-relate with qualification outcomes through the medium of each Competency Standard Unit making up the qualification. The Key Competencies are described in more detail Part 2 – Competency Standards of this Training Package and in its own section in the unit and Volume 2 Part 4 – Key Competencies.

Skills Enabling Employment

Consideration has been given to the inclusion of formative information related to specific skills enabling employment. Combined these enhance entry into the industry and the qualifications on offer. This information has been introduced in each Competency standard unit. The Skills Enabling Employment is described in more detail in Part 2 – Competency Standards of this Training Package and in its own section in the unit and Volume 2 Part 5 – Skills Enabling Employment.

Recently the NQC resolved that employability skills are to be embedded into Training Packages where these skills are deficient. In consideration of this, the NQC has supported the establishment of a quality assurance panel to oversee audits of endorsed Training Packages in collaboration with declared Industry Skills Councils (ISCs).

EE-Oz Training Standards in agreement with DEST has agreed to undertake an activity to audit and map the 'Skills Enabling Employment' model framework developed by EE-Oz Training Standards in its suite of Training Packages against the NQC's endorsed employability skills. The audit process is expected to take 12 months from the Training Package endorsement date. From the gap identified an action plan will be implemented to enable transition from the existing 'Skills Enabling Employment' model framework to the new arrangement.

Language, Literacy and Numeracy

A new and 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 Volume 2, Part 3 – Language, Literacy and Numeracy Skills. Each Competency Standard Unit in Volume Part 2 references the respective language, literacy and numeracy skills that apply.

New Apprenticeship – application

New Apprenticeships are work related competency programs designed for entry-level contracted employment for new entrants to the industry. For further information regarding New Apprenticeships and their application in relation to this Training Package refer to Appendix A – New Apprenticeship – application. Appendix A is located at the end of Volume 1 Part 3 – Assessment Guidelines.

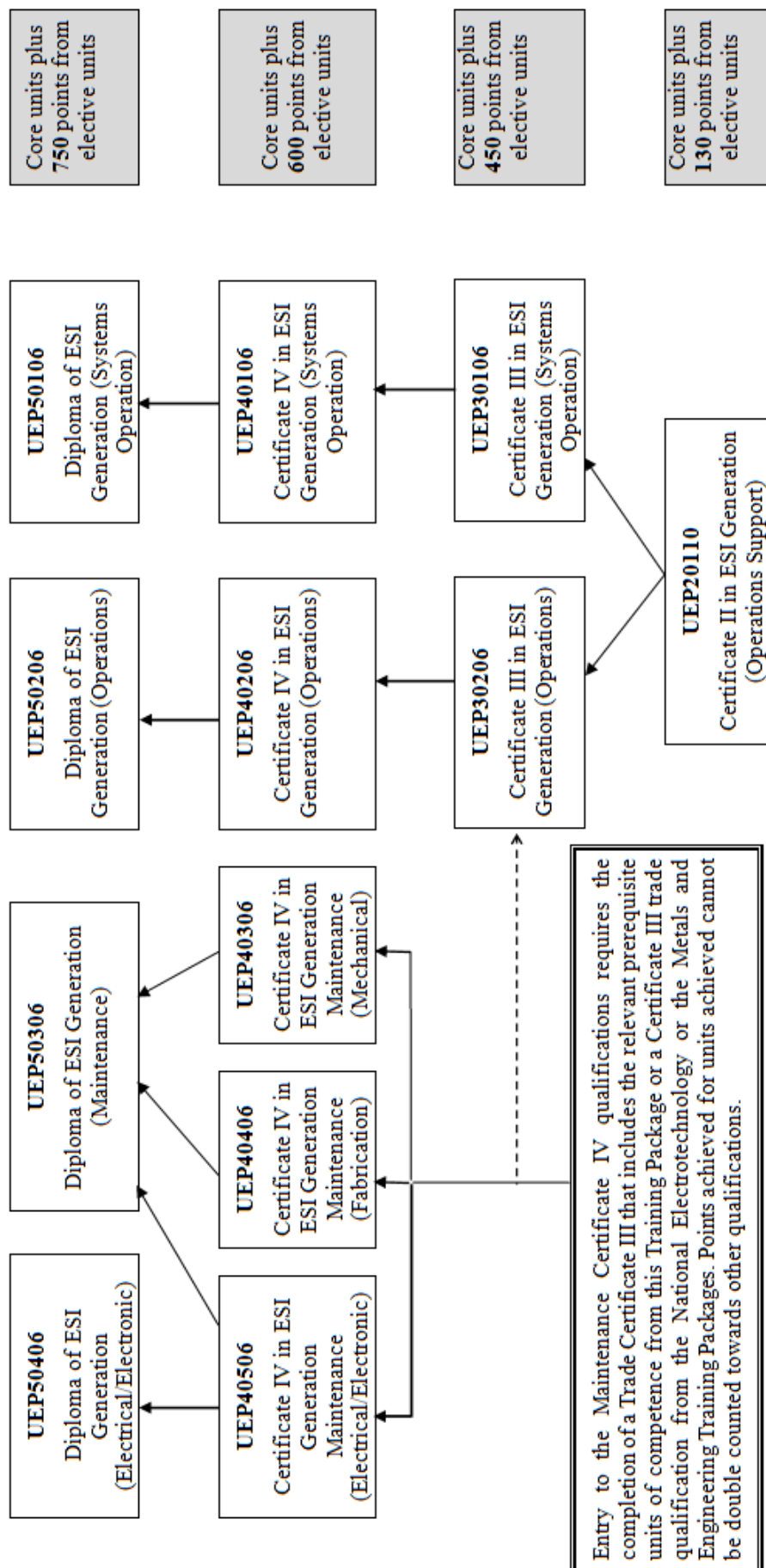
Entry Requirements for Certificate IV Maintenance Qualifications

Entry to the Certificate IV Maintenance qualifications (UEP40306, UEP40406, UEP40506) requires the completion of a Certificate III trade qualification from the Electrotechnology or Metals and Engineering Training Packages or equivalent. Where an individual possesses the respective qualification they cannot for the purpose of gaining a Certificate IV from this Training Package claim RPL for units they already hold by virtue of their trade qualification. The opportunity to double count competency standard units and their points value towards another qualification does not exist.

Specific competency standard units in this Training Package also require a Certificate III trade qualification as a prerequisite for entry. This is particularly so for competency standard units that require the individual to possess an Electrical Licence.

Qualification Pathways – Suggested Generation Sector Stream Pathways

This Training Package provides a range of entry and exit points at each of the AQF levels, shown in the diagram below:



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

1.1.08 Maintenance of Qualifications

1.1.8 Maintenance of Qualifications

The ESI – Generation Sector Qualifications structure was developed by, and is therefore owned by the industry. The Qualifications structure 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 Qualifications structure is shared by the parties who constitute the sector:

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

1.1.09 The Australian Qualification Framework

1.1.9 The Australian Qualification Framework

What is the Australian Qualification Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF see the AQF Implementation Handbook, 3rd Edition 2002 and any replacement thereof. You can download this document from the Australian Qualifications Advisory Board (AQFAB) website (www.aqf.edu.au) or obtain a hard copy by contacting AQFAB on phone (03) 9639 1606 or by emailing AQFAB on aqfab@curriculum.edu.au.

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 Packages contain the vocational standards for industry qualifications in the VET sector and must comply with the titles and guidelines of the AQF. Endorsed Training Packages that describe the vocational standards for industry provide a unique title for each AQF qualification which must always be reproduced accurately and are not to be copied in other jurisdictions or varied in any way.

Qualifications

Training Packages can incorporate the following six AQF qualifications:

Certificate I in ...

Certificate II in ...

Certificate III in ...

Certificate IV in ...

Diploma of ...

Advanced Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation may issue the respective nationally recognised AQF qualification. Issuance of AQF qualification(s) also must comply with the advice provided in the *AQF Implementation Handbook* and the *Australian Quality Training Framework Standards (AQTF)* for Registered Training Organisations, in particular, Standard 10.

Statement of Attainment

Where an AQF qualification is partially achieved through the achievement of one or more endorsed competency standard units, an RTO may issue a Statement of Attainment. Issuance of Statements of Attainment must comply with the advice provided in the *AQF Implementation Handbook* and the *Australian Quality Training Framework Standards (AQTF)* for Registered Training Organisations, particularly Standard 10.

Under the Standards for Registered Training Organisations, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs as stated in Standard 5 of the AQTF standards. 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.

Additionally, to provide users with a broad depiction of industry applications for each Qualification level outcome in this Training Package, a description has been included against each AQF Guideline outcome.

The information also includes possible employment outcomes.

Certificate I

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

demonstrate knowledge by recall in a narrow range of areas
 demonstrate basic practical skills, such as the use of relevant tools
 perform a sequence of routine tasks given clear direction
 receive and pass on messages/information.

There are no Certificate I Qualifications in this Training Package.

AQF – 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.

UEP20110 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.

AQF Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new 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.

UEP30206 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.

UEP30106 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.

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 new 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.

UEP40506 Certificate IV in ESI Generation Maintenance (Electrical/Electronic)

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

- Installation, repair and maintenance of electrical, electronic, instrumentation 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.

UEP40406 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

UEP40306 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

UEP40206 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

UEP40106 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

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 co-ordination.

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.

UEP50406 Diploma of ESI Generation (Electrical/Electronic)

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

- Installation, repair and maintenance of electrical, electronic, instrumentation systems
- 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

UEP50306 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

UEP50206 Diploma of ESI Generation (Operations)

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

- Development of 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

UEP50106 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. Development of 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

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 new 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.

There are no Advanced Diploma Qualifications in this Training Package.

1.1.10 ESI - Generation Qualifications Structures

1.1.10 ESI – Generation Qualifications Structures

The Electricity Supply Industry (ESI) – Generation Sector qualification structures are detailed in the following pages. The qualification structures must be read in conjunction with Volume 1 Part 2 Competency Standards, Unit Construction. The qualifications listed include the competency standard units relevant to the outcome of the particular qualification.

Prerequisite CSUs

Prerequisite competency standard units are not included in the qualifications listed here. These should be identified directly from individual competency standard units¹.

¹Supporting advice is provided in Volume 1 Part 1 Qualification Framework – Schedule of Electives to Qualifications Structure; Part 2 Competency Standards Index – Table of Index of Units and Prerequisite requirements and Relationship of units to the former Training Package. Any prerequisite unit not listed in a qualification framework attracts no weighting value, but must be acquired.

In relation to the delivery of prerequisite 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 of competency for a unit is adherence to the prerequisite sequence. The decision is based on evidence of competence acquired in the prerequisite unit(s).

1.1.11 Schedule of Electives

Schedule of Electives to Qualifications Structure

The following Schedules form an Integral Part of each Qualification structure. There are eight (8) Schedules of Electives, aligned to respective Qualifications of this Training Package. They are summarised in the following table and then detailed individually thereafter.

Users are able to draw electives from the Schedules as detailed in the qualification packaging rules included in qualification completion requirements.

The Schedules are as follows:

SCHEDULE	DISCIPLINE	SERIES
----------	------------	--------

SCHEDULE 1	Operations Units AQF 2	UEPOPS201A – UEPOPS250A
SCHEDULE 2	Operations Units AQF 3	UEPOPS301A – UEPOPS357A
SCHEDULE 3	Maintenance Units AQF 3	UEPMNT301A – UEPMNT360A
SCHEDULE 4	Operations Units AQF 4	UEPOPS401A – UEPOPS442A
SCHEDULE 5	Maintenance Units AQF 4	UEPMNT401A – UEPMNT433A
SCHEDULE 6	Operations Units AQF 5	UEPOPS501A – UEPOPS515A
SCHEDULE 7	Maintenance Units AQF 5	UEPMNT501A – UEPMNT504A
SCHEDULE 8	Imported Units	

Note:

Where prerequisites in the following table indicate ‘Trade Certificate needed’, the competency standard units should be reviewed for relevant comment. The following typically applies:

Entry to the Maintenance Certificate IV qualifications requires the completion of a Trade Certificate III that includes the relevant prerequisite units of competence from this Training Package or a Certificate III trade qualification from the National Electrotechnology or the Metals and Engineering Training Packages. Points achieved for units completed cannot be double counted towards other qualifications.

‘Trade may apply’ refers to units that may be undertaken as part of an apprenticeship program under the auspices of a regulated contract prescribed by a relevant State/Territory. Relevant information should be obtained from the State/Territory training authority and related regulator, where applicable, to confirm requirements.

Schedule 1: Units UEPOPS201A – UEPOPS250A

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE

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 UEPOPS214A	UTPNEG016A
UEPOPS213A	Perform Intermediate	2	30	UEPOPS212A UEPOPS302A	UTPNEG017A

	Rigging Work				
UEPOPS214A	Perform Dogging Work	2	30	UEPOPS201A UEPOPS212A	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

Schedule 1: Units UEPOPS201A – UEPOPS250A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS220A	Shift and Transfer Materials using a Scraper	2	40	UEPOPS201A	UTPNEG028Bb
UEPOPS221A	Shift and Transfer Materials using a Front end	2	40	UEPOPS201A	UTPNEG028Bc

	loader				
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 Oxy-Acetylene (Fuel Gas) Welding (OAW)	2	30	None	UTPNEG111A
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
UEPOPS239A	Conduct Minor/Basic Electrical Maintenance	2	30	None	UTPNEG136A
UEPOPS240A	Operate and Monitor Fuel Supply (Coal)	2	40	None	UTPNEG152A

Schedule 1: Units UEPOPS201A – UEPOPS250A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS241A	Operate and Monitor Ash and Dust Disposal Plant	2	40	None	UTPNEG153A
UEPOPS242A	Operate and Monitor Dust Collection Plant	2	40	None	UTPNEG154A
UEPOPS243A	Operate Air Conditioning Plant	2	30	None	UTPNEG163A
UEPOPS244A	Operate and Monitor Site Services Water Systems	2	30	None	UTPNEG164A
UEPOPS245A	Conduct Chemical Batching Operations	2	30	None	UTPNEG176A
UEPOPS246A	Operate Waste and Contaminated Water Plant	2	35	None	UTPNEG177A
UEPOPS247A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	2	40	None	UTPNEG191A
UEPOPS248A	Operate and	2	40	None	UTPNEG192A

	Monitor an Internal Combustion Dual Fuel Reciprocating Engine				
UEPOPS249A	Liaise with Stakeholders	2	30	None	UTPNEG269A
UEPOPS250A	Perform process plant inspections	2	35	None	UTPNEG238A

Schedule 2: Units UEPOPS301A – UEPOPS356A

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS301A	Conduct Single Energy Source Isolation Procedures for Permit to Work	3	90	UEPOPS201A	UTPNEG004A
UEPOPS302A	Perform Advanced Rigging Work	3	90	UEPOPS213B	UTPNEG018A
UEPOPS303A	Perform Advanced Scaffolding	3	90	UEPOPS216A	UTPNEG022A
UEPOPS304A	Make and Spread a Stockpile	3	100	UEPOPS201A	UTPNEG045A
UEPOPS305A	Operate & Monitor Briquette Coal Cooling Plant	3	80	UEPOPS201A	UTPNEG048A

UEPOPS306A	Operate & Monitor Briquette Coal Drying Plant	3	80	UEPOPS201A	UTPNEG049A
UEPOPS307A	Operate & Monitor Briquette Coal Press Plant	3	80	UEPOPS201A	UTPNEG050A
UEPOPS308A	Perform Briquette Laboratory Tests	3	80	UEPOPS201A	UTPNEG051A
UEPOPS309A	Operate and Monitor Air Conditioning Equipment and Ventilation Systems	3	100	None	UTPNEG134A
UEPOPS310A	Operate Bulk Coal Handling Plant	3	100	None	UTPNEG150A
UEPOPS311A	Operate Fabric Filter Dust Collection Plant	3	90	None	UTPNEG155A
UEPOPS312A	Operate and Monitor Fuel Supply (Biomass)	3	80	None	UTPNEG156A
UEPOPS313A	Operate and Monitor Boiler Draught System	3	90	None	UTPNEG157A
UEPOPS314A	Operate and Monitor Fuel Firing Plant (Gas or Oil)	3	90	None	UTPNEG159A
UEPOPS315A	Operate and Monitor Fuel Firing Plant (Coal)	3	90	None	UTPNEG161A

UEPOPS316A	Operate and Monitor Boiler Steam/Water Cycle	3	90	None	UTPNEG162A
UEPOPS317A	Operate and Monitor Fixed Fire Protection Systems	3	80	None	UTPNEG165A
UEPOPS318A	Operate and Monitor Compressed Gas Systems	3	90	None	UTPNEG166A
UEPOPS319A	Operate and Monitor Gas Production Plant	3	80	None	UTPNEG167A
UEPOPS320A	Operate and Monitor Compressed Air Systems	3	90	None	UTPNEG168A

Schedule 2: Units UEPOPS301A – UEPOPS356A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS321A	Operate and Monitor Water Treatment Plant	3	90	None	UTPNEG171A
UEPOPS322A	Operate and Monitor Alkalinity Reduction Plant	3	80	None	UTPNEG172A
UEPOPS323A	Operate and	3	80	None	UTPNEG173A

	Monitor Reverse Osmosis Plant				
UEPOPS324A	Operate and Monitor Brine Concentrator Plant	3	80	None	UTPNEG174A
UEPOPS325A	Operate and Monitor Water Quality Control Systems	3	90	None	UTPNEG175A
UEPOPS326A	Operate and Monitor Oil Systems	3	90	None	UTPNEG179A
UEPOPS327A	Monitor and Maintain Civil Assets	3	90	None	UTPNEG180A
UEPOPS328A	Undertake Dam Safety Surveillance	3	90	None	UTPNEG181A
UEPOPS329A	Operate and Monitor Auxiliary Steam Systems	3	90	None	UTPNEG182A
UEPOPS330A	Operate and Monitor Heat Exchangers	3	90	None	UTPNEG183A
UEPOPS331A	Operate and Monitor Water Systems (Condensate & Feedwater)	3	90	None	UTPNEG184A
UEPOPS332A	Operate and Monitor Condensing and Cooling Water System	3	90	None	UTPNEG185A
UEPOPS333A	Operate and Monitor H.R.S.G. Hot Gas Control	3	90	None	UTPNEG186A

	System				
UEPOPS334A	Operate and Monitor a Wind Generator	3	80	None	UTPNEG190A
UEPOPS335A	Operate A Hydro Generator Synchronous Condenser/Pump Unit	3	90	None	UTPNEG193A
UEPOPS336A	Operate and Monitor a Gas Turbine	3	90	None	UTPNEG196A
UEPOPS337A	Maintain Quality Systems within the Team	3	80	UEPOPS202A	UTPNEG201A
UEPOPS338A	Facilitate Effective Workplace Communication	3	80	None	UTPNEG203A
UEPOPS339A	Operate and Monitor a Boiler Unit	3	90	None	UTPNEG207A
UEPOPS340A	Operate and Monitor a Steam Turbine	3	90	None	UTPNEG210A
UEPOPS341A	Shut Down a Steam Turbine	3	90	None	UTPNEG211A

Schedule 2: Units UEPOPS301A – UEPOPS357A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
------	------------	--------------------	------------------	---	-----------------

UEPOPS342A	Interpret and Analyse Single Operation Protection Devices	3	90	None	UTPNEG276A
UEPOPS343A	Operate Hydro-Electric Generating Plant and Auxiliary Equipment	3	90	None	UTPNEG227A
UEPOPS344A	Conduct Water Conveyance and Control	3	90	None	UTPNEG228A
UEPOPS345A	Implement Dam Safety Surveillance Procedures	3	90	None	UTPNEG229A
UEPOPS346A	Conduct Non-Routine Operational Testing	3	80	None	UTPNEG239A
UEPOPS347A	Operate and Monitor Supervisory, Control and Data Acquisition Systems	3	90	None	UTPNEG266A
UEPOPS348A	Respond to Critical Incidents	3	80	None	UTPNEG272A
UEPOPS349A	Operate H.V. Primary Switchgear	3	80	None	UTPNEG277A
UEPOPS350A	Develop Contingency Plans	3	80	None	UTPNEG278A
UEPOPS351A	Operate H.V. Condition Changing Apparatus	3	80	None	UTPNEG283A

UEPOPS352A	Conduct Operational Checks on In-Service Mechanical Plant	3	80	UEPOPS201A	NEW UNIT
UEPOPS353A	Conduct Operational Checks on In-Service Electrical Plant	3	80	UEPOPS201A	NEW UNIT
UEPOPS354A	Operate and Monitor a Dual Fuel-Firing Plant	3	90	None	NEW UNIT
UEPOPS355A	Monitor the Implementation of Under Frequency Load Shed	3	80	None	NEW UNIT
UEPOPS356A	Apply Environmental and Sustainable Energy Procedures	3	80	None	NEW UNIT
UEPOPS357A	Operate H.V Secondary Switchgear	3	80	None	UTPNEG282A

Schedule 3: Units UEPMNT301A – UEPMNT360A

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT301A	Install and Maintain Hydraulic/Pneumatic	3	90	Trade may apply	UTPNEG058A

	Components				
UEPMNT302 A	Install and Maintain Industrial Pipework	3	90	Trade may apply	UTPNEG059 A
UEPMNT303 A	Maintain Mechanical Valves	3	90	Trade may apply	UTPNEG062 A
UEPMNT304 A	Maintain Mechanical Pumps	3	90	Trade may apply	UTPNEG064 A
UEPMNT305 A	Maintain Industrial Fans	3	90	Trade may apply	UTPNEG066 A
UEPMNT306 A	Maintain Industrial Transmissions	3	90	Trade may apply	UTPNEG067 A
UEPMNT307 A	Maintain Industrial Screens, Strainers and Filters	3	90	Trade may apply	UTPNEG069 A
UEPMNT308 A	Maintain Conveyors and Associated Equipment	3	90	Trade may apply	UTPNEG070 A
UEPMNT309 A	Maintain Material Feeders	3	100	Trade may apply	UTPNEG071 A
UEPMNT310 A	Maintain Material Crushers	3	100	Trade may apply	UTPNEG072 A
UEPMNT311 A	Maintain Fuel Transport Equipment	3	100	Trade may apply	UTPNEG073 A
UEPMNT312 A	Maintain Industrial Pressure Vessels	3	100	Trade may apply	UTPNEG074 A
UEPMNT313 A	Maintain Internal Combustion Engines	3	100	Trade may apply	UTPNEG076 A
UEPMNT314 A	Maintain Hydro Turbines	3	100	UEPMNT402 A	UTPNEG077 A
UEPMNT315 A	Maintain Wind Turbines	3	100	UEPMNT402 A	UTPNEG078 A
UEPMNT316 A	Perform Advanced Machining Operations	3	100	Trade may apply	UTPNEG081 A

UEPMNT317 A	Diagnose and Repair Faults in Mechanical Equipment	3	90	Trade may apply	UTPNEG082 A
UEPMNT318 A	Conduct Generator Mechanical Maintenance	3	100	Trade may apply	UTPNEG083 A
UEPMNT319 A	Maintain and Test Fixed Fire Protection Systems	3	90	Trade may apply	UTPNEG084 A
UEPMNT320 A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	3	90	Trade may apply	UTPNEG085 A
UEPMNT321 A	Weld using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG090 A
UEPMNT322 A	Weld using Gas Metal Arc Welding Process (GMAW)	3	80	Trade may apply	UTPNEG091 A

Schedule 3: Units UEPMNT301A – UEPMNT360A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT323A	Weld using Gas Tungsten Arc Welding Process (GTAW)	3	80	Trade may apply	UTPNEG092A
UEPMNT324A	Weld using Oxyacetylene	3	80	Trade may	UTPNEG093A

	Welding Process (OAW)			apply	
UEPMNT325A	Weld using Submerged Arc Welding Process (SAW)	3	80	Trade may apply	UTPNEG094A
UEPMNT326A	Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG095A
UEPMNT327A	Perform Advanced Welding using Gas Metal Arc Welding (GMAW)	3	80	Trade may apply	UTPNEG096A
UEPMNT328A	Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)	3	80	Trade may apply	UTPNEG097A
UEPMNT329A	Perform Advanced Welding using Oxyacetylene Welding Process (OAW)	3	80	Trade may apply	UTPNEG098A
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
UEPMNT331A	Perform Manual Metal Arc	3	80	Trade may	UTPNEG100A

	Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)			apply	
UEPMNT332A	Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)	3	80	Trade may apply	UTPNEG101A
UEPMNT333A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe)	3	80	Trade may apply	UTPNEG102A
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
UEPMNT335A	Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E	3	80	Trade may apply	UTPNEG104A
UEPMNT336A	Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)	3	80	Trade may apply	UTPNEG105A

UEPMNT337A	Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)	3	80	Trade may apply	UTPNEG106A
UEPMNT338A	Perform Submerged Arc Welding to Weld to AS1796 Certificate 9	3	80	Trade may apply	UTPNEG107A
UEPMNT339A	Perform Sheet Metal Work	3	100	Trade may apply	UTPNEG108A

Schedule 3: Units UEPMNT301A – UEPMNT360A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT340A	Fabricate Metal Structures and Components	3	100	Trade may apply	UTPNEG109A
UEPMNT341A	Repair/Replace/Modify Metal Structures and Components	3	100	Trade may apply	UTPNEG110A
UEPMNT342A	Install Electrical Equipment	3	90	Trade may apply	UTPNEG115A
UEPMNT343A	Install Electrical Wiring Systems	3	90	Trade may apply	UTPNEG116A
UEPMNT344A	Install Complex Electrical Equipment	3	90	Trade may apply	UTPNEG117A

UEPMNT345 A	Install Electronic Electrical Equipment	3	90	Trade may apply	UTPNEG118 A
UEPMNT346 A	Maintain Electrical Equipment	3	90	Trade may apply	UTPNEG119 A
UEPMNT347 A	Maintain Complex Electrical Equipment	3	90	Trade may apply	UTPNEG120 A
UEPMNT348 A	Maintain Electrical Electronic Equipment	3	90	Trade may apply	UTPNEG121 A
UEPMNT349 A	Diagnose and Repair Faults in Electrical Equipment	3	90	Trade may apply	UTPNEG122 A
UEPMNT350 A	Modify Electrical Equipment	3	90	Trade may apply	UTPNEG126 A
UEPMNT351 A	Test and Commission Electrical Equipment	3	90	Trade may apply	UTPNEG129 A
UEPMNT352 A	Test and Commission Electronic Electrical Equipment	3	90	Trade may apply	UTPNEG131 A
UEPMNT353 A	Install Instrumentation Equipment	3	90	Trade may apply	UTPNEG243 A
UEPMNT354 A	Install Instrumentation Wiring Systems	3	90	Trade may apply	UTPNEG244 A
UEPMNT355 A	Install Complex/Electronic Instrumentation Equipment	3	90	Trade may apply	UTPNEG245 A
UEPMNT356 A	Maintain Instrumentation Equipment	3	90	Trade may apply	UTPNEG246 A
UEPMNT357 A	Diagnose and Repair Faults in Instrumentation Equipment	3	90	Trade may apply	UTPNEG249 A
UEPMNT358 A	Modify Instrumentation	3	90	Trade may apply	UTPNEG252 A

	Equipment				
UEPMNT359 A	Test and Commission Instrumentation Equipment	3	90	Trade may apply	UTPNEG255 A
UEPMNT360 A	Terminate Fibre Optic Cables	3	80	Trade may apply	UTPNEG259 A

Schedule 4: Units UEPOPS401A – UEPOPS442A

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS401A	Monitor Compliance with Occupational Health and Safety Policy and Procedures	4	120	UEPOPS201A	UTPNEG002A
UEPOPS402A	Conduct Multiple Energy Source Isolation Procedures for Permit to Work	4	130	UEPOPS301A	NEW UNIT
UEPOPS403A	Coordinate Permit to Work System	4	130	UEPOPS402A	UTPNEG005A
UEPOPS404A	Coordinate First Response Team Operation	4	120	UEPOPS201A	UTPNEG008A
UEPOPS405A	Operate and Monitor AC Electrical Systems	4	130	UEPOPS426A	UTPNEG187A
UEPOPS406A	Operate and Monitor DC Electrical Systems	4	120	UEPOPS426A	UTPNEG188A
UEPOPS407A	Start and Run Up A Gas Turbine	4	120	None	UTPNEG195A

UEPOPS40 8A	Shut Down a Gas Turbine	4	120	None	UTPNEG19 7A
UEPOPS40 9A	Start-Up A Boiler Unit	4	130	None	UTPNEG20 6A
UEPOPS41 0A	Shut Down A Boiler Unit	4	120	None	UTPNEG20 8A
UEPOPS41 1A	Run Up A Steam Turbine	4	130	None	UTPNEG20 9A
UEPOPS41 2A	Undertake Operations Commissioning/Decommissioning	4	130	None	UTPNEG21 7A
UEPOPS41 3A	Coordinate Operational Strategies for Power Production	4	120	None	NEW UNIT
UEPOPS41 4A	Perform Risk Analysis of Generation Plant	4	120	None	UTPNEG22 1A
UEPOPS41 5A	Perform Cost Estimations	4	120	None	UTPNEG22 2A
UEPOPS41 6A	Monitor the Implementation of the Enterprise's Production/Maintenance Quality Control procedures	4	120	UEPOPS33 8A	NEW UNIT
UEPOPS41 7A	Monitor and Implement Environmental Plans and Procedures	4	120	None	UTPNEG23 0A
UEPOPS41 8A	Deliver and Review Training	4	120	None	UTPNEG20 5A
UEPOPS41 9A	Reserved			None	
UEPOPS42 0A	Coordinate the Network/System	4	130	None	NEW UNIT
UEPOPS42 1A	Manage Critical Incidents	4	130	None	NEW UNIT

Schedule 4: Units UEPOPS401A – UEPOPS442A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS422A	Schedule Generation	4	120	None	UTPNEG273A
UEPOPS423A	Plan a Scheduled Outage	4	120	None	UTPNEG274A
UEPOPS424A	Coordinate Local H.V. Networks	4	110	None	UTPNEG275A
UEPOPS425A	Produce Maintenance Plans For Generation Production Plant	4	130	None	UTPNEG219A
UEPOPS426A	Interpret and Analyse Multi-Operation Protection Devices	4	120	UEPOPS344A	NEW UNIT
UEPOPS427A	Interpret and Analyse Low Voltage Mechanical Protection Devices	4	120	None	NEW UNIT
UEPOPS428A	Develop H.V. Switching Programs	4	120	None	UTPNEG281A
UEPOPS429A	Coordinate and Direct Switching Program	4	110	None	UTPNEG284A
UEPOPS430A	Control Permit to	4	130	None	NEW UNIT

	Work Operations				
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 System	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	Co-Ordinate Electrical Energy Production	4	130	None	UTPNEG212A
UEPOPS439A	Plan and Organise Work	4	110	None	UTPNEG200A
UEPOPS440A	Coordinate Team Activities	4	110	None	UTPNEG202A
UEPOPS441A	Operate and Monitor System Equipment	4	110	None	UTPNEG267a
UEPOPS442A	Monitor and	4	110	NEPOPS314A	NEW UNIT

	Coordinate the Operation of a Combined Cycle Gas Turbine Unit				
--	---	--	--	--	--

Schedule 5: Units UEPMNT401A – UEPMNT433A

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT401A	Install and Maintain Complex Mechanical Seals	4	120	Trade Cert. needed	UTPNEG060A
UEPMNT402A	Conduct Complex Levelling and Alignment	4	120	Trade Cert. needed	UTPNEG061A
UEPMNT403A	Maintain Complex Mechanical Valves	4	120	UEPMNT303A	UTPNEG063A
UEPMNT404A	Maintain Complex Mechanical Pumps	4	120	UEPMNT304A	UTPNEG065A
UEPMNT405A	Maintain Fluid Power Systems	4	130	UEPMNT301A	UTPNEG068A
UEPMNT406A	Install and Maintain a Steam Turbine	4	130	UEPMNT402A	UTPNEG075A
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

UEPMNT410 A	Diagnose and Repair Faults in Electronic Equipment	4	120	Trade Cert. needed	UTPNEG123 A
UEPMNT411 A	Diagnose and Repair Faults in Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG124 A
UEPMNT412 A	Modify Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG127 A
UEPMNT413 A	Modify Electronic Electrical Equipment	4	120	Trade Cert. needed	UTPNEG128 A
UEPMNT414 A	Test and Commission Complex Electrical Equipment	4	120	Trade Cert. needed	UTPNEG130 A
UEPMNT415 A	Diagnose and Repair Faults in Complex Refrigeration/Air Conditioning and Systems	4	120	Trade Cert. needed	UTPNEG135 A
UEPMNT416 A	Overhaul Electrical Generators	4	130	UEPMNT351 A	NEW UNIT
UEPMNT417 A	Inspect Electrical Generators and Diagnose Faults	4	120	Trade Cert. needed	NEW UNIT
UEPMNT418 A	Perform Mechanical and Fabrication Drafting	4	120	Trade Cert. needed	UTPNEG145 A
UEPMNT419 A	Perform Civil Drafting	4	120	Trade Cert. needed	UTPNEG146 A
UEPMNT420 A	Perform Electrical/Electronic Drafting	4	120	Trade Cert. needed	UTPNEG147 A
UEPMNT421 A	Conduct Technical Inspection of Process Plant and Equipment	4	120	Trade Cert. needed	UTPNEG232 A

Schedule 5: Units UEPMNT401A – UEPMNT433A (cont)

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT422A	Conduct Performance Testing on Process Plant and Equipment	4	120	Trade Cert. needed	UTPNEG233A
UEPMNT423A	Conduct/Implement Condition Monitoring	4	120	Trade Cert. needed	UTPNEG234A
UEPMNT424A	Monitor Efficiency of Thermal Steam Cycle Power Plant	4	110	Trade Cert. needed	UTPNEG235A
UEPMNT425A	Maintain Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG247A
UEPMNT426A	Maintain Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG248A
UEPMNT427A	Diagnose and Repair Faults in Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG250A
UEPMNT428A	Modify Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG253A
UEPMNT429A	Modify Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG254A

UEPMNT430A	Test and Commission Complex Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG256A
UEPMNT431A	Test and Commission Electronic Instrumentation Equipment	4	120	Trade Cert. needed	UTPNEG257A
UEPMNT432A	Write Programs for Control Systems	4	120	Trade Cert. needed	UTPNEG260A
UEPMNT433A	Conduct Routine Generation Electrical Maintenance	4	120	Trade Cert. needed	UTPNEG137A

Schedule 6: Units UEPOPS501 – UEPOPS515

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPOPS501A	Manage Occupational Health and Safety Policy and Procedures	5	160	UEPOPS401A	UTPNEG003A
UEPOPS502A	Manage Permit to Work System	5	160	UEPOPS403A	NEW UNIT
UEPOPS503A	Manage First Response Team Operations	5	160	UEPOPS404A	NEW UNIT

UEPOPS50 4A	Develop Implement and Monitor Environmental Management Systems	5	160	None	UTPNEG00 9A
UEPOPS50 5A	Produce Maintenance Strategies For Generation Production Plant	5	150	UEPOPS42 5A	UTPNEG21 8A
UEPOPS50 6A	Establish and Implement Operational Strategies for Power Production	5	150	None	UTPNEG22 0A
UEPOPS50 7A	Conduct Project Management	5	150	None	UTPNEG22 3A
UEPOPS50 8A	Manage Commissioning/Decommissioning	5	150	None	UTPNEG22 4A
UEPOPS50 9A	Manage Quality Control Procedures	5	150	None	UTPNEG22 5A
UEPOPS51 0A	Monitor Power Generation Plant Reliability	5	140	None	UTPNEG23 6A
UEPOPS51 1A	Tune Process Plant and Equipment	5	150	None	UTPNEG23 7A
UEPOPS51 2A	Manage the Network/System	5	160	UEPOPS42 0A	UTPNEG27 1A
UEPOPS51 3A	Manage Operational Crisis to Maintain/Restore Power System Integrity	5	140	None	UTPNEG27 9A
UEPOPS51 4A	Control Hydro Generation/Pumping	5	140	None	UTPNEG28 0A
UEPOPS51 5A	Coordinate Power Generation	5	150	None	UTPNEG28 5A

Schedule 7: Units UEPMNT501 – UEPMNT504

The following Schedule forms an Integral Part of a relevant qualification structure; it must be read and used in conjunction with such.

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites (for relevant prerequisite or co-requisite refer respective unit)	UTP98 UNIT CODE
UEPMNT501A	Diagnose and Repair Faults in Electrical and Electronic Systems	5	160	Trade Cert. needed	UTPNEG125A
UEPMNT502A	Test and Commission Electronic Electrical Systems	5	160	Trade Cert. needed	UTPNEG132A
UEPMNT503A	Diagnose and Repair Faults in Instrumentation Systems	5	160	Trade Cert. needed	UTPNEG251A
UEPMNT504A	Test and Commission Instrumentation Systems	5	160	Trade Cert. needed	UTPNEG258A

Schedule 8: Imported Competency Standard Units from other Training Packages

The following Schedule forms an integral part of a relevant qualification structure, it must be read and used in conjunction with such. The following Imported Competency Standard Units form part of this Schedule.

Users are advised that imported units are listed by notional AQF level and can be used as electives in qualifications from this package at the same AQF level or lower.

Users wishing to import units will need to contact the respective original Training Package developer or the NTIS to obtain copies of the most recent version of the competency standard unit to determine their relevance and, utilise them, where appropriate in accordance with the requirements of this Training Package.

Users intending to import units of competence from other Training Packages must have them approved and valued in accordance with the requirements of this Training Package, by the National Generation Training Group in order for them to contribute to an ESI qualification.

BSB01 Business Services	BSBADM304A	Design and develop text documents	3	80
		Create and Use Data Bases	3	80
	BSBADM305A	Develop Keyboard Skills	2	30
	BSBCMN108A	Communicate in the Workplace	2	30
		Provide information to clients	2	30
	BSBCMN203A	Produce Simple Word Processed Documents	2	30
	BSBCMN209A	Organise personal work priorities and development	3	80
			3	80
	BSBCMN213A	Deliver and Monitor a Service to Customers	3	80
			3	80
	BSBCMN302A	Maintain Workplace Safety		
		Support Innovation and Change		
	BSBCMN310A			
BSB Frontline Management (BSB01)	BSBFLM302A	Support leadership in the workplace	3	80
		Contribute to effective workplace relationships	3	80
	BSBFLM303B	Participate in work teams	3	80
			3	80
	BSBFLM304A	Support operational plan		
	BSBFLM305B	Provide workplace information and resourcing plans	3	80
	BSBFLM306B	Support continuous improvement systems and processes	3	80
			3	80
	BSBFLM309B	Support a workplace learning environment		
	BSBFLM311B			

BSB Frontline Management (BSB01)	BSBCMN40 2A	Develop Work Priorities	4	110
		Show leadership in the workplace	4	110
	BSBFLM402 A	Implement effective workplace relationships	4	110
			4	110
	BSBFLM403 B	Lead work teams	4	110
			4	110
	BSBFLM404 A	Implement operational plans	4	110
		Implement workplace information system	4	110
	BSBFLM405 B	Implement continuous improvement	4	110
	BSBFLM406 B	Develop teams and individuals	4	110
		Coordinate implementation of customer service strategies	4	110
	BSBFLM409 A	Monitor a Safe Workplace	4	110
BSB Frontline Management (BSB01)	BSBCMN40 4A	Promote Innovation and Change		
	BSBCMN41 0A			
	BSBCMN41 1A			
	BSBCMN41 2A			
	BSBFLM501 B	Manage personal work priorities and professional development	5	140
		Provide leadership in the workplace	5	140
	BSBFLM502 A	Manage effective workplace relationships	5	140
			5	140
	BSBFLM503 B	Facilitate work teams	5	140
			5	140
	BSBFLM504 A	Manage operational plan	5	140
		Manage workplace information systems	5	140
BSB Frontline Management (BSB01)	BSBFLM505 B	Manage quality customer service	5	140
			5	140
	BSBFLM506 B	Facilitate continuous improvement	5	140
		Facilitate and capitalise on change and innovation	5	140
	BSBFLM507 B		5	140
		Develop a workplace learning	5	140

	BSBFLM509 B BSBFLM510 B BSBFLM511 B BSBFLM512 A BSBMGT50 5A	environment Ensure team effectiveness Ensure a Safe Workplace		
Metal and Engineering Training Package (MEM05)	MEM05012 C MEM05007 C MEM05004 C	Perform routine manual metal arc welding Perform manual heating and thermal cutting Perform routine oxy acetylene welding	2 2 2	20 20 20
Transport and Logistics Training Package (TLI07)	TLILIC108A	Licence to operate a forklift truck	2	40

1.2.0 Introduction

Volume 1 Part 2

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. 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.

There are over 350 Competency Standard Units included.

A definitions/glossary to compliment the competency standard units is included in Volume 2 Part 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 – Table 1. The units have been placed in schedules that would typically relate to a particular or special area of industry need and for ease in recognition of related unit groupings. Included at the end of Table 1 are the imported units that are located within the core of the qualifications in this Training Package.
- prerequisites of each Competency Standard Unit can be obtained from Table 2. Reference is also given for the correlation of the units within a qualification(s).
- a list of imported Competency Standard Units – Table 1.

1.2.1 Competency Standards

1.2.1 Competency Standards

National Competency Standards are the benchmark for the national system of vocational education and training. Through national standards, the industry has established the competencies required for effective performance in employment. Hence, the system is industry led and responsive to its changing skill needs. A competency-based system involves the delivery, assessment and certification of training. It is predicated on the identification and demonstrated attainment of the knowledge, the skills and the application required for effective performance in work. Hence the system is oriented towards outcomes rather than a traditional preoccupation with inputs.

Competency Standards, which are developed by industry parties and subsequently endorsed by the National Quality Council (NQC) form the keystone of the National vocational education and training system. The development, endorsement and ongoing review of Competency Standards provides a vehicle for industry parties to ensure the integrity and continuing relevance of national vocational education and training, both on and off-the-job.

National standards define the competencies required for effective performance in the workplace. A competency comprises the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance required in the workplace.

- The concept of competency focuses on what is expected of an employee in the workplace rather than on the learning process and embodies the ability to transfer and apply skills and knowledge to new situations and environments.
- In competency standards the emphasis is on outcomes and on the application of skills and knowledge, not just specification.
- Competency standards are concerned with what people are able to do, eg maintain and use networks, and also with the ability to do this in a range of contexts, eg maintain and use networks of suppliers, government agencies.

The national concept of competency includes all aspects of work performance, not only narrow task skills. The four components of competency are:

- task skills
- task management skills
- contingency management skills
- job/role environment skills.

While not every unit will contain all four components, in a group of units these components of competency should be covered effectively. The four components of competency may emerge in the different parts of the standard format, ie Elements, Performance Criteria and the Range Statement.

In developing the respective competency standard units the following policy considerations were included:

a) A combination of units must cover the four primary components of competency:

- task skills
- task management skills
- contingency management skills
- job/role environment skills.

b) Competency standards must be drafted to:

- avoid any direct or indirect bias or discrimination
- support participation by a diverse workforce
- encourage successful outcomes.

c) When developing competency standards developers must incorporate other relevant industry or cross-industry standards in consultation with the original developer. If relevant standards are not used, the reason for this decision must be stated in the Training Package endorsement submission.

e) A single Competency Standard Unit is the smallest competency achievement that can be nationally recognised and recorded.

f) The standards developed must be the result of an extensive consultation process and the application of sound development methodologies. Key stakeholders, both from within and outside the industry for which the standards were developed must validate the outcomes.

Some of the issues associated with constructing competency standard units included:

- breadth
- unit size
- transferability
- interrelationships between units

Breadth

In best practice standards, units:

- reflect a broad based expression of the application of knowledge and skills

- are useful for the purposes of recognition and transferability of competencies particularly noting the requirements of the Australian Quality Training Framework
- facilitate use in a variety of locations, eg in different enterprises.

Unit size

Because a competency standard unit must be useful and manageable for the purposes of recognition and assessment, it is difficult to generalise about an appropriate size. The size of the unit is a reflection of the complexity of skills and knowledge incorporated, or the range of activities undertaken and what was considered important for attention when constructing the units. Factors such as the apparent 'importance' of discrete functions within an industry, or the time required for training were not considered indicators of appropriate unit size.

Whatever concept of appropriate size, care was taken not to have widely different approaches to the size of units in the same Training Package. This was not always possible however, and measures were introduced to attend to differences such as a weighting system for qualifications and completion requirements.

Development of the Competency Standard Units also focused on the uses of the standards and the relative breadth required for flexible job construction. This meant consideration was given to constructing units so as not to be so broad that they contained functions that would not normally all be completed by one person, as competency in that unit could not normally be achieved. Alternatively, if units were too small, assessment would become inefficient as it would be repetitive and unnecessarily fragmented. At best, a balance between these two issues was achieved.

Transferability

Transferability refers to the need for standards to be used in a range of different contexts within an Industry or across Industries. Development required the use of other endorsed industry or cross industry standards where those standards were relevant. This supported the portability of standards and helped to reduce duplication of development. In general terms, the standards needed to be broad enough to be used across a range of settings, but flexible enough to be useful in any specific context.

Interrelationship between units

Competency Standard Units are constructed in such a way that they can facilitate the recognition, certification and transferability of skills. It is for these reasons that units in their construction deal with discrete functions. At the same time, it was important to examine the interdependence of units as they were being developed. Some closely related competencies emerged which were sufficiently discrete to warrant specification in separate units, but which logically benefited being assessed together.

Importantly however, prerequisites have been designed such that it does not preclude concurrent training and formative assessment events to occur prior to conducting the final assessment event, which attributes competence. Regard must be had for any prevailing regulatory requirements that may apply. It is the final assessment event that must ensure that the prerequisite and co requisite advice is adhered to.

Language, literacy, numeracy and key competencies

The Competency Standards have been written to reflect the technical and operational needs of industry and include appropriate language and literacy requirements.

In general the Key Competencies are embedded within the technical aspects of the industry units and in some instances, the Units of Competency directly address the Key Competencies. The relationship of Key Competencies to industry competencies is shown in the relevant section of each respective competency standard unit.

Access and equity

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

Development of ESI – Generation Competency Standards

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 minor 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 (UEO06). 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 nation wide 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.

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.

Language, Literacy, Numeracy and Key Competencies

The Competency Standards have been written to reflect the technical and operational needs of the 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 Registered Training Organisations on the entry requirements for each unit. It characterises how participants are to be best equipped to achieve the respective unit, in terms of reading, writing and maths skill levels.

A specific section for Literacy and Numeracy Skills, Key Competencies and Skills Enabling Employment has been encompassed in Volume 2 of this Training Package. In addition, there is an explanation on their relationship to the Performance Criteria and assessed 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 Generation sector of the EnergyUtilities Industry are comprehensive. The Competency Standards reflect the range of knowledge and skills required in the Industry. They are written in a non-exclusive manner so as to increase the participation rates of under-represented groups and to minimise unintentional bias.

As a matter of policy the Industry and this Training Package do not exclude 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.

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 related to technical content principles, technology, equipment, or processes that may be used to cover the outcomes. 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 therefore expected and encumbered on RTOs to continue to be current in the content of their delivery arrangements. It is therefore appropriate for RTOs to use the notes in relation to technology and equipment references 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 units 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 the competency standard units from its intended outcome requires a new or varied competency standard unit. 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 Volume 1 Part 1 – Qualifications Framework, of this national ESI – Generation Sector Training Package that describes vocational standards for the Industry.

Other Industry Standards

It is recognised that the Generation Sector Standards do not cover all the competencies, which are likely to be required and applied within our 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 for the importation of units from elsewhere have been included within this Training Package.

Unit Construction

Competency Standard Units that have been successfully attained by learners are to be acknowledged. Some Training Packages have been constructed in a manner that will allow reporting without further explanation. However, there are competency standard units that have been constructed in a manner that require further explanation for the purposes of reporting the units intended outcome. These units include a reporting statement associated with the explanation. For example, one term used is *Endorsements*. This statement has been included in recognition of the high degree of commonality in process or function related to Elements and Performance Criteria when applied across the industry irrespective of the required technical knowledge. For instance, *Endorsements* provide the means of including information in the Evidence Guide of the Units that relate to a particular application and vocational outcome. This type of unit is considered to be several units in one. That is, every *Endorsement* within the unit proper represents the equivalence of one unit. Hence a unit with five *Endorsements* has five specific outcomes. Additional information is contained within the respective units.

Recognition of a specific outcome for a unit that includes *Endorsement* requires that all aspects of a selected *Endorsement* must be completed in order to attribute formal recognition.

It should be noted that in some instances the *Endorsement* may be affected by, and interrelated with, the selection of same for the requisite qualifications which are detailed in, and to be completed in accordance with Volume 1 Part 1 – Qualifications of this Training Package. In particular refer to section re Qualifications Structure. In such cases where units that contain *Endorsement* should not be interpreted independently from the qualification selected, as detailed in Volume 1 Part 1 – Qualifications Framework, which requires the nomination of an *Endorsement*.

Prerequisites

It is important to note that in relation to training delivery of pre-requisite 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 pre-requisite sequence.

1.2.2 Components of Competency Standard Units

1.2.2 Components of Competency Standard Units

Competency Standards in Training Packages are determined by industry to meet identified industry skill needs. Competency standards are made up of a number of competency standard units each of which describes a key function or role in a particular job function or occupation.

The components of Competency Standard Units are summarised below, in the order in which they appear in the unit:

Unit Title

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

Scope/Unit Descriptor

The unit scope /descriptor broadly communicates the content and purpose of the Competency Standard Unit and the skill area it addresses. Where Competency Standard Units have been contextualised from Competency Standard Units from other endorsed Training Packages, summary information is provided.

Prerequisite Competencies and Language, Literacy and Numeracy (optional)

If there are any Competency Standard Units that must be completed before or concurrently, these will be listed. Also, included maybe a sub-section on entry advice, related to levels of language and numeracy applicable to the unit.

Application of the Unit

This sub-section fleshes out the scope, purpose and operation of the Competency Standard Unit in different contexts eg, by showing how it applies in the workplace. It may include a sub-section or second paragraph that describes its relationship with other industry sectors and any licensing application or requirements, such as a licence to practice.

Competency Field (Optional)

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

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 competency standard unit. 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, processes, 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 Essential Knowledge and Associated Skills

The essential knowledge and associated skills (EKAS) are identified within the competency standard units. 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 and includes the ability to transfer it to new situations and environments.

Range Statement

The Range Statement provides a context for the competency standard unit, 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 an integral part of the competency standard unit as it provided the critical assessment information to the RTO and Assessors about the critical aspects of assessment and how the described competency may be demonstrated. The Evidence Guide does this by providing a range of evidence and assessment contexts. 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 competency standard units
- 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,
- the required critical aspects and underpinning knowledge and skills, and
- application against relevant legislation, regulation, industrial instruments, codes of practice, guidelines and advisory standards. This also includes anti-discrimination and equal employment opportunity statutes (encompassing application of access, equity and cultural diversity principles associated with under-represented groups).

Key Competencies

All Training Packages require the integration of Key Competencies either in each competency standard unit, or across a qualification, depending on industry needs and preferences.

The Key Competencies were first defined in 1992 in the project report, *Putting General Education to Work: The Key Competencies Report* (Mayer Committee 1992). The skills and knowledge they describe are essential for effective workplace participation and involve the sorts of capabilities commonly used by employers as selection criteria. They underpin the ability of employees to adapt to technological, organisational, societal and functional change.

The Key Competencies are generic, in that they apply to work in general, rather than to particular occupations or industries. They focus on the application of knowledge and skills in an integrated way in workplace situations. The seven Key Competencies are:

1. Collecting, analysing and organising information

The capacity to locate, sift and sort information in order to select what is required and to present it in a useful way and evaluate both the information itself and the sources and methods used to collect it.

2. Communicating ideas and information

The capacity to communicate effectively with others using the range of spoken, written, graphic and other non-verbal means of expression.

3. Planning and organising activities

The capacity to plan and organise one's own work activities, including making good use of time and resources, sorting out priorities and monitoring one's performance.

4. Working with others in teams

The capacity to interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of a client and working effectively as a member of a team to achieve a shared goal.

5. Solving problems

The capacity to apply problem-solving strategies in purposeful ways, both in situations where the problem and the solution are clearly evident and in situations requiring creative thinking and a creative approach to achieve a desired outcome.

6. Using mathematical ideas and techniques

The capacity to use mathematical ideas, such as number and space, and techniques such as estimation and approximation for practical purposes.

7. Using technology

The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.

Performance Levels

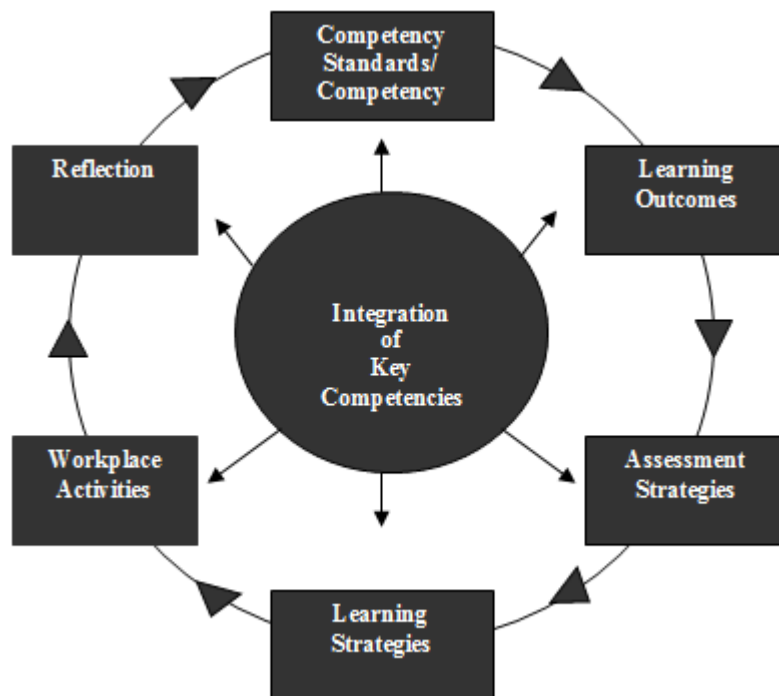
There are three levels of performance defined within the Key Competencies. These are stand-alone levels and do not correspond to the AQF qualification levels.

- **Performance Level 1** is concerned with the level of competence needed to **undertake** activities efficiently with sufficient self-management to meet the explicit requirements of the activity, and to make judgements about the quality of outcomes against established criteria.
- **Performance Level 2** describes the competence needed to **manage** activities requiring the selection, application and integration of a number of elements, and to select from established criteria to judge quality of process and outcome.
- **Performance Level 3** describes the competence needed to **evaluate and reshape** processes, to establish and use principles in order to determine appropriate ways of approaching activities, and to establish criteria for judging quality of process and outcome.

However relating performance to the specific industry or workplace context may be more useful than interpreting the somewhat abstracted performance levels provided above. Where the Key Competencies are defined in the competency standard unit they are included in a table together with examples of their application to help with assessment of their performance. Further, in evaluating the level of performance for the Key Competencies consideration has been given to the performance expectations at the AQF qualification level involved.

Delivery and Assessment of Key Competencies

The Key Competencies are integral to workplace competency and as such must be explicitly considered in the design, customisation, delivery and assessment of vocational education and training programs as represented diagrammatically below.



Skills Enabling Employment

A new feature included on the competency standard units of this Training Package is the inclusion of Skills Enabling Employment.

The enabling skills and knowledge performance conditions required for employment are essential for effective workplace participation and involve the sorts of aptitudes and capabilities commonly used by employers as selection criteria. They enable employees to develop and use skills for real life experiences in work, self-learning, reflecting on performance, interpreting the workplace, planning and organising work, responding to new situations that are non-routine.

Skills enabling employment are generic, in that they apply to work in general as enabling skills, rather than to particular occupations or industries. They focus on the enabling qualities of knowledge and skills as they are applied in an integrated way in workplace situations. There are six enabling knowledge and skills performance conditions:

1. Developing and using skills within a real workplace
2. Learning to learn in the workplace
3. Reflecting on the outcome and process of work task
4. Interacting and understanding of the context of the work task

5. Planning and organising the meaningful work task
6. Performing the work task in non-routine or contingent situations

1.2.3 Assessment Guidelines

1.2.3 Assessment Guidelines

The ESI Generation Sector has developed guidelines for the assessment of these standards. The guidelines are included at Volume 1 Part 3 – Assessment Guidelines of this Training Package.

1.2.4 National Qualifications

1.2.4 National Qualifications

The ESI – Generation Sector has identified qualifications, which are linked to and use these competency standards. These are included in Volume 1 Part 1 – Qualifications Framework of this Training Package.

A list of the qualification titles contained in this Training Package is provided in Volume 1 Part 1. Included 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 their application and gives added meaning to the group of units making up the respective qualification.

1.2.5 Regulatory Arrangements - Generation Sector

1.2.5 Regulatory Arrangements – Generation Sector

The Electricity Generation Industry is subject to a high level of regulation and codes of practice related to the assembly, installation and maintenance of parts, components and the control and operation of equipment, apparatus and the like. The regulations and Codes of Practice are based on principles of the operation of wiring systems and associated circuits 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.

Statutes, Regulations and Codes of Practice

Federal, State and Territory Electricity, Telecommunications, Occupational Health and Safety and Work Cover Acts and Regulations typically cover the Generation Industry. Further, there are other statutes, regulations, industrial instruments, Codes of Practice, guidelines and advisory standards, Australian/New Zealand and International Standards, that apply to the Generation Industry.

Information relevant to the Generation sector can be found in the following Internet sites:

www.fed.gov.au	www.standards.org.au
www.nsw.gov.au	www.erac.gov.au/
www.qld.gov.au	http://www.acma.gov.au
www.sa.gov.au	http://www.dewr.gov.au/
www.nt.gov.au	http://www.ascc.gov.au/
www.act.gov.au	http://www.workplace.gov.au/tra
www.wa.gov.au	http://www.dest.gov.au/
www.tas.gov.au	http://training.com.au/

Other sources of information are also available.

Contextualisation of Competency Standard Units by RTOs

Registered Training Organisation (RTOs) may contextualise Competency Standard Units to reflect local outcomes required, provided all requirements and /or completion rules of the Training Package are not infringed upon. This also includes any prevailing regulatory requirements that may apply to the Competency Standard Units. Contextualisation, provided it does not dilute in any way the Competency Standard Units could involve additions or amendments to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. The integrity of the overall intended outcome of the competency standard units must be maintained and not reduced.

Any contextualisation of Competency Standard Units in this endorsed Training Package must be within the bounds of the following advice. In contextualising Competency Standard Units, RTOs:

- must not contravene, diminish or detract from any regulatory/licensing arrangement that may apply to the unit, or its related delivery arrangements
- must not remove or add to the number and content of Elements and Performance Criteria
- may add specific industry terminology to Performance Criteria where this does not distort or narrow the competency outcomes, **and /or**
- may make amendments and additions to the Range Statement as long as such changes do not diminish the breadth of application of the competency and reduce its portability, **and/or**
- may add detail to the Evidence Guide in areas such as the critical aspects of evidence or resources and infrastructure required where these expand the breadth of the competency but do not limit its use.

Exporting ESI CSUs from this Training Package

Competency Standard Units in this Training Package are interrelated and linked with the Definitions/Glossary sections of the Volume and each unit includes relevant Essential Knowledge and Associated Skills. It also includes, matters related to language, literacy and numeracy, access, equity, cultural diversity and any regulatory arrangements in which the competency standard units may apply. No Competency Standard Unit is to be used in isolation or exported without these interrelated components.

1.2.6 Maintenance of Competency Standards

1.2.6 Maintenance of Competency Standards

The Electricity Supply Industry Generation Sector 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 Sector Training Package and respond in a timely manner to changed technologies and circumstances.

What is competency?

A competency comprises the specification of the knowledge and skill, and the application of that knowledge and skill, within an industry, to the standard of performance required in employment. The broad concept of ‘industry competency’ relates to demonstrated performance of specified tasks and duties, expected in the workplace to a given standard as expressed in industry standards.

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 the work environment and working with others.

Work performance competency requires the demonstrated application of specified skills, knowledge and aptitudes consistently over time and to a quality standard in the workplace, as well as the ability to transfer it to new situations and environments. In line with this concept of competency, Training Packages describe the vocational standards for industry and 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. The measure is not what the individual/learner knows, but has the individual/learner demonstrated performance to a standard, with what they know in a range of situations and range of applications.

The parties (as detailed in the Introduction to this Training Package) who constitute the ESI – Generation 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.

1.2.7 List of ESI - Generation Competency Standard Units

1.2.7 List of ESI – Generation Competency Standard Units

The following pages contain an index of the competency standard units together with scope descriptors contained in this Training Package. The Competency Standards Units are contained within eight (8) Schedules. Schedules 1 to 7 have been compiled based on a notional AQF level for the respective units within the streams of Operations and Maintenance. Schedule 8 lists those units approved for importation from other Training Packages into qualifications from this Training Package.

The Schedules are as follows:

SCHEDULE	DISCIPLINE	SERIES
SCHEDULE 1	Operations Units AQF 2	UEPOPS201A – UEPOPS250A
SCHEDULE 2	Operations Units AQF 3	UEPOPS301A – UEPOPS357A
SCHEDULE 3	Maintenance Units AQF 3	UEPMNT301A – UEPMNT360A
SCHEDULE 4	Operations Units AQF 4	UEPOPS401A – UEPOPS442A
SCHEDULE 5	Maintenance Units AQF 4	UEPMNT401A – UEPMNT433A
SCHEDULE 6	Operations Units AQF 5	UEPOPS501A – UEPOPS515A
SCHEDULE 7	Maintenance Units AQF 5	UEPMNT501A – UEPMNT504A
SCHEDULE 8	Imported Units	

Table 1: Index of Competency Standard Units and Scopes/Descriptors

Schedule 1 OPERATION UNITS UEPOPS201A – UEPOPS250A

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
UEPOPS201A	<p>Comply with Occupational Health and Safety policy and procedures</p> <p>This unit deals with the skills and knowledge required to follow defined Occupational Health and Safety policies and procedures related to the work being undertaken in order to ensure the individual's</p>

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
	own safety and that of others in the workplace.
UEPOPS202A	Apply Quality Systems to Work This unit deals with the skills and knowledge required to apply the desired standards to work as specified within the quality system.
UEPOPS203A	Operate and Monitor Communications System This unit deals with the skills and knowledge required to operate and monitor the application of communications systems.
UEPOPS204A	Maintain and Utilise Records This unit deals with the skills and knowledge required to maintain and use of recorded data.
UEPOPS205A	Conduct Minor Mechanical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with, but not limited to, mechanical equipment.
UEPOPS206A	Conduct Minor Electrical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with electrical equipment
UEPOPS207A	Perform Plant Lubrication This unit deals with the skills and knowledge required to maintain grease, oil levels and quality in all areas of plant.
UEPOPS208A	Operate Local Systems This unit deals with the skills and knowledge required to operate plant at the local position in conjunction with co-ordinated systems under the control of appropriate authorised personnel.
UEPOPS209A	Perform Process Plant Inspections This unit deals with the skills and knowledge required to conduct the inspection of generation production plant and associated equipment.
UEPOPS210A	Conduct First Response within a Workplace Team This unit deals with the skills and knowledge required to conduct first response within emergency team operations.

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
UEPOPS211A	Clean Plant and Equipment This unit deals with the skills and knowledge required to clean industrial plant, machinery and surrounds associated with Electricity Generation stations and related surroundings which may include the appropriate removal of excess or oil based soil.
UEPOPS212A	Perform Basic Rigging Work This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, in particular hoists, safety nets and static lines, safety screens and shutters.
UEPOPS213A	Perform Intermediate Rigging Work This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, all hoists, rigging of cranes, dual lifts, demolition.
UEPOPS214A	Perform Dogging Work This unit deals with the skills and knowledge required to apply slinging techniques, including the selection and inspection of lifting gear, and provision of direction to the crane/hoist operator in the movement of the load including when the load is out of view of the operator.
UEPOPS215A	Perform Basic Scaffolding This unit deals with the skills and knowledge required to perform the application of scaffolding work in an environment where electricity is being generated. This would include, but not limited to, free standing prefabricated scaffolds, cantilevered hoist with maximum working load limit not exceeding 500kg (materials only), bracket scaffolds (tank and formwork).
UEPOPS216A	Perform Intermediate Scaffolding This unit deals with the skills and knowledge required to erect and dismantle scaffolding work in an environment where electricity is being generated including, but not limited to, tube and coupler scaffolds, cantilevered and spurred scaffolds, barrow ramps and sloping platforms, mast climbers.
UEPOPS217A	Conduct Elevating Work Platform Operations This unit deals with the skills and knowledge required to conduct the

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
	inspection and pre-operational tests, positioning, setting up and operation of elevating work platforms in an environment where electricity is being generated.
UEPOPS218A	Shift and Transfer Materials using a Bulldozer This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a bulldozer in an environment where electricity is being generated.
UEPOPS219A	Shift and Transfer Materials using a Grader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a Grader in an environment where electricity is being generated.
UEPOPS220A	Shift and Transfer Materials using a Scraper This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a scraper in an environment where electricity is being generated.
UEPOPS221A	Shift and Transfer Materials using a Front End Loader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a front end loader in an environment where electricity is being generated.
UEPOPS222A	Shift and Transfer Materials using a Skidsteer Loader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a Skidsteer Loader in an environment where electricity is being generated.
UEPOPS223A	Shift and Transfer Materials using a Telescopic materials handler-loader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a telescopic materials handler-loader in an environment where electricity is being generated.
UEPOPS224A	Shift and Transfer Materials using a Backhoe This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a backhoe in an environment where electricity is being generated.
UEPOPS225A	Shift and Transfer Materials using an Excavator This unit deals with the skills and knowledge required to undertake the

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
	shifting, loading and carrying of materials using an excavator in an environment where electricity is being generated.
UEPOPS226A	Shift and Transfer Materials using Bobcats – wheeled and tracked This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using Bobcats – wheeled and tracked in an environment where electricity is being generated.
UEPOPS227A	Shift and Transfer Materials using Borers and related attachments This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using borers and related attachments in an environment where electricity is being generated.
UEPOPS228A	Conduct Forklift Operations This unit deals with the skills and knowledge required to undertake the inspection and pre-operational tests, driving, manoeuvring and the lifting and relocating of loads using a fork-lift in an environment where electricity is being generated.
UEPOPS229A	Operate Lifting and Load Shifting Equipment for Loads less than 10 tonnes This unit deals with the skills and knowledge required to undertake the operation of specified cranes and lifting equipment in an environment where electricity is being generated and used to facilitate the installation, modification or maintenance of equipment associated with the Power Generation industry sector.
UEPOPS230A	Operate Lifting and Load Shifting Equipment for Loads greater than ten tonnes This unit deals with the skills and knowledge required to undertake the operation of particular cranes and hoists for loads greater than ten tonnes in an environment where electricity is being generated and used to facilitate the installation, modification or maintenance of equipment associated with the Power Generation industry sector.
UEPOPS231A	Operate Explosive Powered Tool This unit deals with the skills and knowledge required to operate an explosive powered tool commonly known as a ramset gun.
UEPOPS232A	Transport Plant and Equipment This unit deals with the skills and knowledge required to transport plant

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
	and equipment.
UEPOPS233A	Perform Machining Operations This unit deals with the skills and knowledge required to perform basic machining operations that would not require the use of precision measuring instruments, or scaling from drawings and prints.
UEPOPS234A	Perform Routine Oxyacetylene (Fuel Gas) Welding (OAW) This unit deals with the skills and knowledge required to be applied in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent Codes and/or licensing requirements.
UEPOPS235A	Perform Routine Manual Arc Welding This unit deals with the skills and knowledge required to be applied in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent Codes and/or licensing requirements.
UEPOPS236A	Perform Manual Heating, Thermal Cutting and Gouging This unit deals with the skills and knowledge required to be applied in a maintenance environment and would be used to facilitate a wide range of maintenance activities.
UEPOPS237A	Perform Tool Store Duties This unit deals with the skills and knowledge required to cover the management and storage of tools and consumable items used in a workshop or similar environment associated within the Generation industry sector.
UEPOPS238A	Maintain Battery Banks and Cells This unit deals with the skills and knowledge required to undertake the maintenance of all battery cells/banks including hydrogen generation cells/banks.
UEPOPS239A	Conduct Minor/Basic Electrical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with electrical equipment.
UEPOPS240A	Operate and Monitor Fuel Supply (Coal) This unit deals with the skills and knowledge required to operate,

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
	inspect and monitor coal delivery systems to the generating unit storage bunker.
UEPOPS241A	Operate and Monitor Ash and Dust Disposal Plant This unit deals with the skills and knowledge required to operate, inspect and monitor ash and dust disposal plants associated with a coal fired power station.
UEPOPS242A	Operate and Monitor Dust Collection Plant This unit deals with the skills and knowledge required to operate, inspect and monitor dust collection plant associated with a power station.
UEPOPS243A	Operate Air Conditioning Plant This unit deals with the skills and knowledge required to operate and inspect all air conditioning plant.
UEPOPS244A	Operate and Monitor Site Services Water Systems This unit deals with the skills and knowledge required to operate, inspect and monitor of site services water systems, excluding fixed fire water services.
UEPOPS245A	Conduct Chemical Batching Operations This unit deals with the skills and knowledge required to conduct mixing of chemicals for the treatment of a primary substance.
UEPOPS246A	Operate Waste and Contaminated Water Plant This unit deals with the skills and knowledge required to operate, inspect and monitor waste contaminated water plant associated with a power generating complex.
UEPOPS247A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine This unit deals with the skills and knowledge required to operate, inspect and monitor single fuel internal combustion engines.
UEPOPS248A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine This unit deals with the skills and knowledge required to operate, inspect and monitor dual fuel reciprocating engines.

Schedule 1 Operation Units UEPOPS201 – UEPOPS250A
--

Unit Number	Title Descriptor
UEPOPS249A	Liaise with Stakeholders This unit deals with the skills and knowledge required to communicate with staff and external/internal stakeholders.
UEPOPS250A	Perform process plant inspections This unit deals with the skills and knowledge required to conduct the inspection of generation production plant and associated equipment.

Schedule 2 OPERATION UNITS UEPOPS301A – UEPOPS357A

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS301A	Conduct Single Energy Source Isolation Procedures for Permit to Work This unit deals with the skills and knowledge required to apply single energy source isolation procedures of the permit to work procedures at the isolating level. Job requirements including permits are co-ordinated with other personnel involved in, or affected by, the isolation in accordance with enterprise/site requirements.
UEPOPS302A	Perform Advanced Rigging Work This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, all hoists, rigging of cranes, dual lifts, suspended scaffolds and fabricated hung scaffolds.
UEPOPS303A	Perform Advanced Scaffolding This unit deals with the skills and knowledge required to perform the application of scaffolding work in an environment where electricity is being generated including, but not limited to, hung scaffolds, including scaffolds hanging from tubes, wire ropes and chains, and suspended scaffolds.
UEPOPS304A	Make and Spread a Stockpile

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to make and spread stockpiles.
UEPOPS305A	Operate & Monitor Briquette Coal Cooling Plant This unit deals with the skills and knowledge required for operations associated with the cooling of coal in the briquette manufacturing process.
UEPOPS306A	Operate & Monitor Briquette Coal Drying Plant This unit deals with the skills and knowledge required for operations associated with the drying of coal in the briquette manufacturing process.
UEPOPS307A	Operate & Monitor Briquette Coal Press Plant This unit deals with the skills and knowledge required for operations associated with the pressing of dried raw fine coal into briquettes.
UEPOPS308A	Perform Briquette Laboratory Tests This unit deals with the skills and knowledge required for activities associated with the testing of coal briquette products.
UEPOPS309A	Operate and Monitor Air Conditioning Equipment and Ventilation Systems This unit deals with the skills and knowledge required to diagnose and repair faults in air conditioning equipment/ventilation systems, and associated accessories and wiring systems.
UEPOPS310A	Operate Bulk Coal Handling Plant This unit deals with the skills and knowledge required to address the storage, reclaiming and dispatching of bulk coal.
UEPOPS311A	Operate Fabric Filter Dust Collection Plant This unit deals with the skills and knowledge required to operate, inspect and monitor fabric filter dust collection plant associated with coal fired power stations.
UEPOPS312A	Operate and Monitor Fuel Supply This unit deals with the skills and knowledge required to operate, inspect and monitor fuel supply from source to recipient unit storage.

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS313A	Operate and Monitor Boiler Draught System This unit deals with the skills and knowledge required to operate, inspect and monitor boiler draught equipment
UEPOPS314A	Operate and Monitor Fuel Firing Plant (Gas or Oil) This unit deals with the skills and knowledge required to operate, inspect and monitor gas or oil firing plant.
UEPOPS315A	Operate and Monitor Fuel Firing Plant (Coal) This unit deals with the skills and knowledge required to operate, inspect and monitor coal firing plant.
UEPOPS316A	Operate and Monitor Boiler Steam/Water Cycle This unit deals with the skills and knowledge required to operate, inspect and monitor boiler steam/water cycle.
UEPOPS317A	Operate and Monitor Fixed Fire Protection Systems This unit deals with the skills and knowledge required to operate, inspect and monitor fixed fire protection systems.
UEPOPS318A	Operate and Monitor Compressed Gas Systems This unit deals with the skills and knowledge required to operate compressed gas systems excluding air/steam.
UEPOPS319A	Operate and Monitor Gas Production Plant This unit deals with the skills and knowledge required to operate, inspect and monitor gas producing plant.
UEPOPS320A	Operate and Monitor Compressed Air Systems This unit deals with the skills and knowledge required to operate compressed air systems.
UEPOPS321A	Operate and Monitor Water Treatment Plant This unit deals with the skills and knowledge required to operate, inspect and monitor water treatment and purification plant.
UEPOPS322A	Operate and Monitor Alkalinity Reduction Plant This unit deals with the skills and knowledge required to operate, inspect and monitor alkalinity reduction plant which includes cooling tower water dosing plant.

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS323A	Operate and Monitor Reverse Osmosis Plant This unit deals with the skills and knowledge required to operate, inspect and monitor reverse osmosis plant.
UEPOPS324A	Operate and Monitor Brine Concentrator Plant This unit deals with the skills and knowledge required to operate, inspect and monitor of brine concentrator plant.
UEPOPS325A	Operate and Monitor Water Quality Control Systems This unit deals with the skills and knowledge required to operate and monitor water quality control systems in a power station.
UEPOPS326A	Operate and Monitor Oil Systems This unit deals with the skills and knowledge required to operate, monitor and inspect oil systems.
UEPOPS327A	Monitor and Maintain Civil Assets This unit deals with the skills and knowledge required to monitor and conduct remedial maintenance required to ensure the integrity of civil assets encountered with in the hyrdo-electric generating system.
UEPOPS328A	Undertake Dam Safety Surveillance This unit deals with the skills and knowledge required to conduct ongoing surveillance of water storage facilities to ensure structural integrity and water quality is maintained.
UEPOPS329A	Operate and Monitor Auxiliary Steam Systems This unit deals with the skills and knowledge required to operate, inspect and monitor auxiliary steam systems in a power station.
UEPOPS330A	Operate and Monitor Heat Exchangers This unit deals with the skills and knowledge required to operate and monitor heat exchangers/cooling systems within power stations.
UEPOPS331A	Operate and Monitor Water Systems (Condensate and Feedwater) This unit deals with the skills and knowledge required to operate, inspect and monitor the condensation and feedwater system.

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS332A	Operate and Monitor Condensing and Cooling Water Systems This unit deals with the skills and knowledge required to operate, inspect and monitor condenser cooling water and auxiliary cooling water systems.
UEPOPS333A	Operate and Monitor H.R.S.G. Hot Gas Control System This unit deals with the skills and knowledge required to operate, inspect and monitor waste heat recovery systems.
UEPOPS334A	Operate and Monitor a Wind Generator This unit deals with the skills and knowledge required to operate, inspect and monitor wind generator plant of any capacity.
UEPOPS335A	Operate a Hydro Generator/Synchronous Condenser/Pump Unit This unit deals with the skills and knowledge required to start-up, maintain steady state running and shutdown a hydro unit operating in generator or synchronous condenser or pump mode.
UEPOPS336A	Manage, Operate and Monitor a Gas Turbine Unit This unit deals with the skills and knowledge required to undertake the management of an in-service gas turbine unit.
UEPOPS337A	Maintain Quality Systems Within the Team This unit deals with the skills and knowledge required to oversee compliance with performance indicators through the maintenance of quality systems within a team environment.
UEPOPS338A	Facilitate Effective Workplace Communication This unit deals with the skills and knowledge required to facilitate effective workplace communication.
UEPOPS339A	Operate and Monitor a Boiler Unit This unit deals with the skills and knowledge required to operate and monitor the in-service boiler unit capable of supplying steam.
UEPOPS340A	Operate and Monitor a Steam Turbine This unit deals with the skills and knowledge required to operate and monitor of an in-service steam turbine.

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS341A	Shut-down a Steam Turbine This unit deals with the skills and knowledge required to conduct a shut-down of a steam turbine to where it can be placed at rest.
UEPOPS342A	Interpret and Analyse Single Operation Protection Devices This unit deals with the skills and knowledge required to interpret and analyse of the operation of single operation protection devices.
UEPOPS343A	Operate Hydro-Electric Generating Plant and Auxiliary Equipment This unit deals with the skills and knowledge required to operate a hydro-electric generating station. This will include both the operational and maintenance activities associated with such plant.
UEPOPS344A	Conduct Water Conveyance and Control This unit deals with the skills and knowledge required for the operation of storage, conveyance and control systems of hydro generation water supplies.
UEPOPS345A	Implement Dam Safety Surveillance Procedures This unit deals with the skills and knowledge required for the scheduling, implementation and reporting of dam safety surveillance.
UEPOPS346A	Conduct Non-Routine Operational Testing This unit deals with the skills and knowledge required to conduct testing of generation plant and associated equipment which may be of a non-routine nature.
UEPOPS347A	Operate and Monitor Supervisory, Control and Data Acquisition Systems This unit deals with the skills and knowledge required to undertake monitoring and operation of screen based supervisory, control and data acquisition systems.
UEPOPS348A	Respond to Critical Incidents This unit deals with the skills and knowledge required to respond to incidents of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
UEPOPS349A	Operate H.V. Primary Switchgear This unit deals with the skills and knowledge required to undertake the local operation of high voltage primary circuit breaking devices.
UEPOPS350A	Develop Contingency Plans This unit deals with the skills and knowledge required to prepare contingency plans required to support the integrity of the enterprise.
UEPOPS351A	Operate H.V. Condition Changing Apparatus This unit deals with the skills and knowledge required to undertake the local operation of all high voltage condition modifying devices.
UEPOPS352A	Conduct Operational Checks on In-service Mechanical Plant This unit deals with the skills and knowledge required to conduct operational checks on in-service mechanical plant.
UEPOPS353A	Conduct Operational Checks on In-service Electrical Plant This unit deals with the skills and knowledge required to conduct operational checks on in-service electrical plant.
UEPOPS354A	Operate and Monitor Dual Fuel Firing Plant This unit deals with the skills and knowledge required for the operation, inspection and monitoring of dual fuel firing plant in which each fuel source is capable of providing 100% Maximum Continuous Rating.
UEPOPS355A	Monitor the Implementation of Under Frequency Load Shedding This unit deals with the skills and knowledge required to implement and monitor Under Frequency Load Shedding facilities for isolated and integrated generation/network systems.
UEPOPS356A	Apply Environmental and Sustainable Energy Procedures This competency standard addresses unit deals with the skills and knowledge required for the implementation of environmental procedures to demonstrate duty of care and to identify assess and control environmental risks and the impact of work related activities. It includes a commitment to the principles of sustainable energy.
UEPOPS357A	Operate H.V. Secondary Switchgear

Schedule 2 Operation Units UEPOPS301A – UEPOPS357A

Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to undertake the local operation of high voltage secondary circuit breaking devices.

Schedule 3 MAINTENANCE UNITS UEPMNT301A – UEPMNT360A

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT301A	Install and Maintain Hydraulic/Pneumatic Components This unit deals with the skills and knowledge required to undertake the installation, repair and/or maintenance of fluid power components on stationary/mobile equipment.
UEPMNT302A	Install and Maintain Industrial Pipework This unit deals with the skills and knowledge required to undertake all work associated with the installation, maintenance, and fabrication of industrial pipework which may also involve fault finding and repairs.
UEPMNT303A	Maintain Mechanical Valves This unit deals with the skills and knowledge required to undertake fault finding, diagnosis, repair and/or overhaul of mechanical valves, but excluding any associated servo or actuating unit.
UEPMNT304A	Maintain Mechanical Pumps This unit deals with the skills and knowledge required to undertake the installation and maintenance of mechanical pumps, compressors and blowers and the installation of which requires no more than basic alignment.
UEPMNT305A	Maintain Industrial Fans This unit deals with the skills and knowledge required to undertake all work required to maintain / overhaul industrial fans and may involve fault finding, diagnosis, repair and could require the removal and replacement of rotating elements with modulating controls.

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT306A	Maintain Industrial Transmissions This unit deals with the skills and knowledge required to undertake all work associated with the installation and maintenance of industrial transmissions and may involve fault finding, diagnosis and repairs.
UEPMNT307A	Maintain Industrial Screens, Strainers and Filters This unit deals with the skills and knowledge required to undertake the fault finding diagnosis, repair and/or overhaul of industrial screens, strainers and filters.
UEPMNT308A	Maintain Conveyors and Associated Equipment This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis and repair, adjustments, exchange of rollers and preparations for belt splicing /repairs.
UEPMNT309A	Maintain Material Feeders This unit deals with the skills and knowledge required to undertake the in-service fault finding, diagnosis and out of service inspection (internal/external), repairs and/or overhaul of material feeders.
UEPMNT310A	Maintain Material Crushers This unit deals with the skills and knowledge required to undertake the in-service fault finding, diagnosis and out of service inspection, repairs, and/or overhauls of material crushers and would involve roll/door assemblies.
UEPMNT311A	Maintain Fuel Transport Equipment This unit deals with the skills and knowledge required to conduct the installation and repair /overhaul of fuel carriage /delivery and associated systems.
UEPMNT312A	Maintain Industrial Pressure Vessels This unit deals with the skills and knowledge required to maintain the boiler pressure parts, pressure vessels and associated components
UEPMNT313A	Maintain Internal Combustion Engines This unit deals with the skills and knowledge required to conduct maintenance and major overhauls of fixed or pad mounted internal combustion engines.

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT314A	Maintain Hydro Turbines This unit deals with the skills and knowledge required for the removal from service and overhaul of hydro turbines.
UEPMNT315A	Maintain Wind Turbines This unit deals with the skills and knowledge required for the removal from service and overhaul of hydro turbines.
UEPMNT316A	Perform Advanced Machining Operations This unit deals with the skills and knowledge required to perform advanced machining operations that may require complex calculations, a high level of precision or quality and using a full range of materials including non-standard metals and alloys. It would also be expected that the full range of machine accessories could be employed.
UEPMNT317A	Diagnose and Repair Faults In Mechanical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in a range of mechanical equipment and may entail the work to be carried out whilst machinery/plant is on line.
UEPMNT318A	Conduct Generator Mechanical Maintenance This unit deals with the skills and knowledge required to conduct mechanical maintenance of an electrical generating unit.
UEPMNT319A	Maintain and Test Fixed Fire Protection Systems This unit deals with the skills and knowledge required to conduct maintenance, fault finding and in-service testing of fixed fire protection systems.
UEPMNT320A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components This unit deals with the skills and knowledge required to inspect and repair faults in a range of mechanical equipment/components which may require fabrication work to be carried out.
UEPMNT321A	Weld Using Manual Metal Arc Welding Process (MMAW) This unit deals with the skills and knowledge required to perform general purpose Manual Metal Arc Welding to AS1554.GP.
UEPMNT322A	Weld Using Gas Metal Arc Welding Process (GMAW)

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to perform General Purpose Gas Metal Arc Welding to AS1554.GP.
UEPMNT323A	Weld Using Gas Tungsten Arc Welding Process (GTAW) This unit deals with the skills and knowledge required to perform General Purpose Gas Tungsten Arc Welding to AS1554 GP.
UEPMNT324A	Weld Using Oxyacetylene Welding Process (OAW) This unit deals with the skills and knowledge required to perform Oxyacetylene (Fuel Gas) Welding to AS1554.GP.
UEPMNT325A	Weld Using Submerged Arc Welding Process (SAW) This unit deals with the skills and knowledge required to perform submerged arc welding to AS1554.GP.
UEPMNT326A	Perform Advanced Welding Using Manual Metal Arc Welding Process (MMAW) This unit deals with the skills and knowledge required to perform special purpose Manual Metal Arc Welding to AS1554 SP.
UEPMNT327A	Perform Advanced Welding Using Gas Metal Arc Welding (GMAW) This unit deals with the skills and knowledge required to perform special purpose Gas Metal Arc Welding to AS1544.S.P.
UEPMNT328A	Perform Advanced Welding Using Gas Tungsten Arc Welding (GTAW) This unit deals with the skills and knowledge required to perform special purpose Gas Tungsten Arc Welding to AS1554.SP.
UEPMNT329A	Perform Advanced Welding Using Oxyacetylene Welding Process (OAW) This unit deals with the skills and knowledge required to perform special purpose Oxy Acetylene Welding to AS1554.SP.
UEPMNT330A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 1/1E (low carbon steel sheet and plate) using Manual Metal Arc Welding process.

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT331A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 2 (lcs pipe) using Manual Metal Arc Welding process.
UEPMNT332A	Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 3/3E (alloy steel plate) using Manual Metal Arc Welding process.
UEPMNT333A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 4 (alloy steel pipe) using Manual Metal Arc Welding process.
UEPMNT334A	Perform Gas Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 5 (alloy steel pipe) using Gas Tungsten Arc Welding and manual Metal Arc Welding processes.
UEPMNT335A	Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E This unit deals with the skills and knowledge required to weld to AS1796 Certificate 6/6E using Oxy Acetylene (fuel gas) welding process.
UEPMNT336A	Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 7 (pipe) using Gas Tungsten Arc welding process.
UEPMNT337A	Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe) This unit deals with the skills and knowledge required to weld to AS1796 Certificate 8/8e (plate and pipe) using Gas Metal Arc

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	Welding process.
UEPMNT338A	Perform Submerged Arc Welding to Weld to AS1796 Certificate 9 This unit deals with the skills and knowledge required to weld to AS1796 Certificate 9 using Submerged Arc Welding process.
UEPMNT339A	Perform Sheet Metal Work This unit deals with the skills and knowledge required to undertake marking out and development, fabrication and installation of sheet metal work.
UEPMNT340A	Fabricate Metal Structures and Components This unit deals with the skills and knowledge required to fabricate metal structures and components required to facilitate the installation, modification and maintenance of equipment associated with the Generation industry sector.
UEPMNT341A	Repair/Replace/Modify Metal Structures and Components This unit deals with the skills and knowledge required to repair, replacement and /or modification of metal structures and components used in the Generation industry sector.
UEPMNT342A	Install Electrical Equipment This unit deals with the skills and knowledge required to undertake the installation of electrical equipment including, but not limited to, rotating and static machines, appliances, luminaries and associated control equipment, but excludes H.V. equipment.
UEPMNT343A	Install Electrical Wiring Systems This unit deals with the skills and knowledge required to undertake the installation of electrical wiring systems including, but not limited to, general low voltage lighting, power circuits, control/indication and alarm circuits.
UEPMNT344A	Install Complex Electrical Equipment This unit deals with the skills and knowledge required to undertake the installation of complex / H.V electrical equipment.
UEPMNT345A	Install Electronic Electrical Equipment This unit deals with the skills and knowledge required to undertake the installation of electronic electrical equipment containing solid

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	state components, complex control panels and complex control equipment.
UEPMNT346A	Maintain Electrical Equipment This unit deals with the skills and knowledge required to undertake the maintenance of electrical equipment including, but not limited to, rotating and static machines, appliances, luminaries and associated control equipment, but excludes H.V. equipment.
UEPMNT347A	Maintain Complex Electrical Equipment This unit refers to the maintenance of complex and H.V. electrical equipment.
UEPMNT348A	Maintain Electrical Electronic Equipment This unit deals with the skills and knowledge required to undertake the maintenance of electronic electrical equipment containing solid state components, complex control panels and complex control equipment.
UEPMNT349A	Diagnose and Repair Faults in Electrical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in electrical equipment, which may involve the work to be carried out with equipment online.
UEPMNT350A	Modify Electrical Equipment This unit deals with the skills and knowledge required to perform modifications of electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT351A	Test and Commission Electrical Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical wiring systems and equipment.
UEPMNT352A	Test and Commission Electronic Electrical Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical electronic equipment.
UEPMNT353A	Install Instrumentation Equipment This unit deals with the skills and knowledge required to undertake installation of instrumentation used in a "closed loop" system, including, but not limited to, sensor elements, signal characterising

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	equipment, input/output blocks, controllers, transducers and final elements.
UEPMNT354A	Install Instrumentation Wiring Systems This unit deals with the skills and knowledge required to undertake installation of instrumentation wiring systems include, but not limited to cords and cables such as flexible multicore, thermocouple, co-axial, ribbon and hook up cable, signal and data cable.
UEPMNT355A	Install Complex / Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to undertake installation of instrumentation used in a "multi-loop" configuration, including, but not limited to, signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultrasonic and nucleonics equipment.
UEPMNT356A	Maintain Instrumentation Equipment This unit deals with the skills and knowledge required to undertake maintenance of instrumentation equipment including, but not limited to, process measurement and control and analytical instrumentation.
UEPMNT357A	Diagnose and Repair Faults in Instrumentation Equipment This unit deals with the skills and knowledge required to undertake the diagnose and repair (to block level) of instrumentation used in "closed loop" system, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers and final elements.
UEPMNT358A	Modify Instrumentation Equipment This unit deals with the skills and knowledge required to conduct modification of instrumentation used in a closed loop system, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers, final elements.
UEPMNT359A	Test and Commission Instrumentation Systems This unit deals with the skills and knowledge required to conduct testing and commissioning of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.

Schedule 3 Maintenance Units UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT360A	Terminate Fibre Optic Cables This unit deals with the skills and knowledge required to undertake termination of fibre optic cables to equipment including, but not limited to, digital process controllers, distributive control systems, process computers, complex fire/security systems.

Schedule 4 OPERATION UNITS UEPOPS401A – UEPOPS443A

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
UEPOPS401A	Monitor Compliance with Occupational Health and Safety Policy and Procedures This unit deals with the skills and knowledge required to implement and monitor the organisation's Occupational Health and Safety policies, procedures and programs in the relevant work area to achieve and maintain Occupational Health and Safety standards. It requires the ability to implement and comply with workplace procedures in hazard identification and risk control, observation of others safe practices during work operations and conduct of participative arrangements for maintaining health and safety in the workplace.
UEPOPS402A	Conduct Multiple Energy Source Isolation Procedures for Permit to Work This unit deals with the skills and knowledge required for the application of permit to work procedures where multiple energy sources require isolation for safe access to high voltage, low voltage or mechanical apparatus.
UEPOPS403A	Coordinate Permit to Work System This unit deals with the skills and knowledge required to co ordinate the permit to work system, its implementation and application on a day to day basis and during major outages and projects.
UEPOPS404A	Coordinate First Response Team Operation This unit deals with the skills and knowledge required to

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
	co-ordinate and manage a first response team.
UEPOPS405A	Operate and Monitor AC Electrical Systems This unit deals with the skills and knowledge required to operate and monitor local and remote operation of AC electrical switchgear, ring mains, switchboards and distribution systems including transformers and the remote operation of high voltage switch yards.
UEPOPS406A	Operate and Monitor DC Electrical Systems This unit deals with the skills and knowledge required to operate and monitor the local and remote operation of DC electrical switchgear, ring mains, switchboards, rectification and distribution systems.
UEPOPS407A	Start and Run up a Gas Turbine This unit deals with the skills and knowledge required for the establishment of combustion in a gas turbine, and establishing the gas turbine at operational speed.
UEPOPS408A	Shut Down a Gas Turbine This unit deals with the skills and knowledge required to shut down a gas turbine unit to a standby state.
UEPOPS409A	Start Up a Boiler Unit This unit deals with the skills and knowledge required to establish combustion in a boiler through to a stage at which combustion support energy is no longer necessary.
UEPOPS410A	Shut Down a Boiler Unit This unit deals with the skills and knowledge required to conduct the shutdown of a boiler unit to a de-pressurised state.
UEPOPS411A	Run Up a Steam Turbine This unit deals with the skills and knowledge required to conduct a steam turbine run up to a stable operating condition.
UEPOPS412A	Undertake Operations Commissioning/Decommissioning This unit deals with the skills and knowledge required to undertake the decommissioning of plant and equipment and its subsequent recommissioning following maintenance and, or overhaul.

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
UEPOPS413A	Co-ordinate Operational Strategies for Power Production This unit deals with the skills and knowledge for the co-ordination of operational strategies to achieve the short and long term goals of the production plant.
UEPOPS414A	Perform Risk Analysis of Generation Plant This unit deals with the skills and knowledge required to identify and analyse the risk in loss of generation/production plant.
UEPOPS415A	Perform Cost Estimations This unit deals with the skills and knowledge required to perform cost estimations for planned and forced plant outages (plant may be a single item or whole unit).
UEPOPS416A	Monitor the Implementation of the Enterprise's Production/Maintenance Quality Control Procedures This unit deals with the skills and knowledge required to monitor the implementation of the production or maintenance quality control procedures at the enterprise level.
UEPOPS417A	Monitor and Implement Environmental Plans and Procedures This unit deals with the skills and knowledge required to address the monitoring and implementation of the application of environmental plans and procedures and the development of environmental procedures for the local work area.
UEPOPS418A	Deliver and Review Training This unit deals with the skills and knowledge required by individuals who play a key role in providing and reviewing training to raise the levels of competency in the workforce.
UEPOPS419A	Reserved
UEPOPS420A	Coordinate the Network/System This unit deals with the skills and knowledge required for the co-ordination of a network/system. Systems may be interconnected, remote or isolated.
UEPOPS421A	Manage Critical Incidents This unit refers to the management of incidents of a critical

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
	nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.
UEPOPS422A	Schedule Generation This unit deals with the skills and knowledge required to undertake the scheduling of a generation plant to economically meet forecast demand.
UEPOPS423A	Plan a Scheduled Outage This unit deals with the skills and knowledge required to plan for a Scheduled outage.
UEPOPS424A	Coordinate Local H.V. Networks This unit deals with the skills and knowledge required to coordinate the local control and management of HV substations and/or local networks.
UEPOPS425A	Produce Maintenance Plans for Generation Production Plant This unit deals with the skills and knowledge required to undertake the establishment and implementation of maintenance plans for generation production plant that may include boiler, turbine, hydro, electrical, control and monitoring, ash and dust; water treatment and fuel plant.
UEPOPS426A	Interpret and Analyse Multi-Operation Protection Devices This unit deals with the skills and knowledge required to interpret and analyse multi-operation high voltage protection schemes and related low voltage protection.
UEPOPS427A	Interpret and Analyse Low Voltage and Mechanical Protection Devices This unit deals with the skills and knowledge required to interpret and analyse the conditions that have initiated the operation of low voltage and or mechanical protection device and to subsequently take corrective action in response to the operation of the device.
UEPOPS428A	Develop H.V. Switching Programs This unit deals with the skills and knowledge required to develop switching programs where multiple sources of supply must be considered and managed.

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
UEPOPS429A	Co-ordinate and Direct Switching Program This unit deals with the skills and knowledge required to coordinate and direct resources when managing a switching program.
UEPOPS430A	Control Permit to Work Operations This unit deals with the skills and knowledge required to perform work in association with a permit system.
UEPOPS431A	Collect and Analyse Hydrological and Metereological Data This unit deals with the skills and knowledge required to predict and determine inflows in catchment areas.
UEPOPS432A	Start Up a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to prepare a Heat Recovery Steam Generator for service.
UEPOPS433A	Operate and Monitor a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to operate an in-service Heat Recover Steam Generator.
UEPOPS434A	Shut Down a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to a shut down of an in-service Heat Recovery Steam Generator unit.
UEPOPS435A	Operate and Monitor Flue Gas Nox Mitigation Systems This unit deals with the skills and knowledge required for the operation, inspection and monitoring of flue gas Nox mitigation systems.
UEPOPS436A	Operate and Monitor Dual Fuel Firing Plant This unit deals with the skills and knowledge required for the operation, inspection and monitoring of dual fuel firing plant in which each fuel source is capable of providing 100% Maximum Continuous Rating.
UEPOPS437A	Manage System Re-start This unit refers to the operation and control of multiple generators sharing load under the control of one operator in an isolated system.
UEPOPS438A	Co-ordinate Electrical Energy Production

Schedule 4 Operation Units UEPOPS401A – UEPOPS443A

Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to coordinate the safe and effective management of energy production to meet demand on an electricity generating unit.
UEPOPS439A	Plan and Organise Work This unit deals with the skills and knowledge required to undertake the planning and organising of tasks to be undertaken by the team.
UEPOPS440A	Co-ordinate Team Activities This unit deals with the skills and knowledge required to direct and coordinate team activities required to achieve agreed goals.
UEPOPS441A	Operate and Monitor System Equipment This unit deals with the skills and knowledge required to operate, monitor and control H.V. apparatus on the system, via SCADA control.
UEPOPS442A	Monitor and Coordinate the Operation of a Combined Cycle Gas Turbine Unit This unit deals with the skills and knowledge required to simultaneously operate and monitor a Combined Cycle Plant for the safe and effective management of energy production to meet demand on combined cycle gas turbine electricity generating unit

Schedule 5 MAINTENANCE UNITS UEPMNT401A – UEPMNT433A

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
UEPMNT401A	Install and Maintain Complex Mechanical Seals This unit deals with the skills and knowledge required to undertake all work associated with the installation and maintenance of complex mechanical seals and which may involve fault finding, diagnosis and repairs.
UEPMNT402A	Conduct Complex Levelling and Alignment This unit deals with the skills and knowledge required to conduct the advanced alignment of plant and machinery and may include

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
	high speed rotating plant.
UEPMNT403A	Maintain Complex Mechanical Valves This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis, repair and/or overhaul of complex mechanical valves, but excluding associated servo or actuating units.
UEPMNT404A	Maintain Complex Mechanical Pumps This unit deals with the skills and knowledge required to undertake the installation and maintenance of multi-stage centrifugal pumps, axial flow compressors, fans and blowers.
UEPMNT405A	Maintain Fluid Power Systems This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis, repair and/or maintenance of fluid power systems and components on stationary/mobile equipment.
UEPMNT406A	Install and Maintain a Steam Turbine This unit deals with the skills and knowledge required to install HP, IP, LP, SFPT, cylinders, rotors and steam units.
UEPMNT407A	Install and Maintain a Gas Turbine This unit deals with the skills and knowledge required to undertake the repair of compressors, turbines and associated equipment on gas turbine units.
UEPMNT408A	Install Hydro Turbines This unit deals with the skills and knowledge required to install Hydro Turbines.
UEPMNT409A	Conduct Welding Inspection/Supervision This unit deals with the skills and knowledge required to satisfy the code requirements relating to welding and supervision procedures including Australian and/or International Standards Codes of Practice enterprise procedures and Manufacturer's specifications.
UEPMNT410A	Diagnose and Repair Faults in Electronic Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in electronic equipment to board and component level and may involve the work to be carried out with equipment

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
	online.
UEPMNT411A	Diagnose and Repair Faults in Complex Electrical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in complex and H.V. electrical equipment, and may involve the work to be carried out with equipment online.
UEPMNT412A	Modify Complex Electrical Equipment This unit deals with the skills and knowledge required to undertake modifications of complex and H.V. electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT413A	Modify Electronic Electrical Equipment This unit deals with the skills and knowledge required to undertake modification of electronic electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT414A	Test and Commission Complex Electrical Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of complex and H.V. electrical wiring systems and equipment.
UEPMNT415A	Diagnose and Repair Faults in Complex Refrigeration/ Air Conditioning Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in complex refrigeration/air conditioning equipment, and associated accessories and wiring systems.
UEPMNT416A	Overhaul Electrical Generators This unit deals with the skills and knowledge required for the overhaul of an electrical generating set.
UEPMNT417A	Inspect Electrical Generators and Diagnose Faults This unit deals with the skills and knowledge required to conduct inspections and diagnose faults in electrical generating sets.
UEPMNT418A	Perform Mechanical and Fabrication Drafting This unit deals with the skills and knowledge required to perform the drafting and use of drawing equipment as applied to the production of schematic and plan drawings.

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
UEPMNT419A	Perform Civil Drafting This unit deals with the skills and knowledge required to perform the drafting and use of drawing equipment as applied to the production of sectional, arrangement, schematic and plan drawings.
UEPMNT420A	Perform Electrical/Electronic Drafting This unit deals with the skills and knowledge required to perform drafting of electrical circuits and use of drawing equipment as applied to the production of schematic and wiring diagrams.
UEPMNT421A	Conduct Technical Inspection of Process Plant and Equipment This unit deals with the skills and knowledge required to conduct the technical inspection of a generation plant, equipment, processes and associated infrastructure.
UEPMNT422	Conduct Performance Testing on Process Plant and Equipment This unit deals with the skills and knowledge required to conduct performance testing on generation plant equipment and processes to assess plant efficiency.
UEPMNT423A	Conduct/Implement Condition Monitoring This unit deals with the skills and knowledge required to conduct condition monitoring and testing to determine the efficiency of a range of rotational plant and associated equipment used in the generation industry.
UEPMNT424A	Monitor Efficiency of Thermal Steam Cycle Power Plant This unit deals with the skills and knowledge required for the collection of data and the calculation of the efficiency of plant associated with the thermal steam cycle.
UEPMNT425A	Maintain Complex Instrumentation Equipment This unit deals with the skills and knowledge required to conduct maintenance of complex instrumentation equipment including, but not limited to, multi-loop equipment such as signal characterising, analogue control equipment, microprocessor control such as programmable logic, laboratory and industrial analysers, ultra sonic and nucleonic equipment.
UEPMNT426A	Maintain Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to conduct

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
	maintenance of electronic instrumentation equipment.
UEPMNT427A	<p>Diagnose and Repair Faults in Complex Instrumentation Equipment</p> <p>This unit deals with the skills and knowledge required to undertake the diagnose and repair of complex instrumentation configuration including, but not limited to, signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultrasonic and nucleonic equipment.</p>
UEPMNT428A	<p>Modify Complex Instrumentation Equipment</p> <p>This unit deals with the skills and knowledge required to conduct modification of complex instrumentation used in a "multi-loop" configuration, including, characterising equipment, microprocessor control equipment, interface equipment, laboratory and field analysers, ultra-sonic and nucleonic equipment.</p>
UEPMNT429A	<p>Modify Electronic Instrumentation Equipment</p> <p>This unit deals with the skills and knowledge required to conduct modification of electronic equipment including, but not limited to, process control instrumentation, power grid energy control, supervisory instrumentation, security equipment (CCTV).</p>
UEPMNT430A	<p>Test and Commission Complex Instrumentation Equipment</p> <p>This unit deals with the skills and knowledge required to conduct testing and commissioning of complex instrumentation used in "multi-loop" configuration, including, but not limited to signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultra-sonic and nucleonics equipment.</p>
UEPMNT431A	<p>Test and Commission Electronic Instrumentation Equipment</p> <p>This unit deals with the skills and knowledge required to conduct testing and commissioning of electronic wiring systems and complex digital/analogue equipment including, but not limited to, process control instrumentation, power grid energy control, supervisory instrumentation, security equipment (CCTV).</p>
UEPMNT432A	<p>Write Programs for Control Systems</p> <p>This unit deals with the skills and knowledge required to undertake the writing of programs from flow charts for electronic control</p>

Schedule 5 Maintenance Units UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
	systems.
UEPMNT433A	Conduct Routine Generator Electrical Maintenance This unit deals with the skills and knowledge required to undertake those routine maintenance tasks of an electrical generating set.

Schedule 6 OPERATION UNITS UEPOPS501A – UEPOPS515A

Schedule 6 Operation Units UEPOPS501A – UEPOPS515A

Unit Number	Title Descriptor
UEPOPS501A	Manage Occupational Health and Safety Policy and Procedures This unit deals with the skills and knowledge required to establish and evaluate the organisation's Occupational Health and Safety system in order to ensure that the workplace is, so far as is practicable, safe and without risks to the health of employees.
UEPOPS502A	Manage Permit to Work System This unit deals with the skills and knowledge required to manage the development implementation, and review of the permit to work system.
UEPOPS503A	Manage First Response Team Operations This unit deals with the skills and knowledge required to manage the operation of a response team. It covers the development, implementation
UEPOPS504A	Develop Implement and Monitor Environmental Management Systems This unit deals with the skills and knowledge required to identify the environmental requirements for the implementation of a management strategy and the monitoring and reviewing of its effectiveness.
UEPOPS505A	Produce Maintenance Strategies for Generation Production Plant This unit deals with the skills and knowledge required to undertake the establishment and implementation of maintenance strategies for

Schedule 6 Operation Units UEPOPS501A – UEPOPS515A

Unit Number	Title Descriptor
	generation production plant that may include boiler, turbine, hydro plant, electrical, control and monitoring, ash and dust; water treatment and fuel plant.
UEPOPS506A	Establish and Implement Operational Strategies for Power Production This unit deals with the skills and knowledge required to establish, develop and implement operational strategies to achieve the short and long term goals of the production plant.
UEPOPS507A	Conduct Project Management This unit deals with the skills and knowledge required to plan, implement, monitor and complete project work.
UEPOPS508A	Manage Commissioning/Decommissioning This unit deals with the skills and knowledge required to undertake the management of commissioning of plant and equipment and its subsequent decommissioning. It may also involve the decommissioning and recommissioning of plant and equipment for refurbishment.
UEPOPS509A	Manage Quality Control Procedures This unit deals with the skills and knowledge required to manage quality control procedures.
UEPOPS510A	Monitor Power Generation Plant Reliability This unit deals with the skills and knowledge required to monitor the generating plant reliability.
UEPOPS511A	Tune Process Plant and Equipment This unit deals with the skills and knowledge required to complete the investigation, nomination and adjustments of tuning parameters associated with generation plant, equipment and processes.
UEPOPS512A	Manage the Network/System This unit deals with the skills and knowledge required to manage a network/system (eg these systems may be interconnected, remote or isolated).
UEPOPS513A	Manage Operational Crisis to Maintain/Restore Power System

Schedule 6 Operation Units UEPOPS501A – UEPOPS515A

Unit Number	Title Descriptor
	Integrity This unit deals with the skills and knowledge required to manage a crisis of a magnitude which affects the integrity and effectiveness of the system.
UEPOPS514A	Control Hydro Generation/Pumping This unit deals with the skills and knowledge required to undertake remote control of hydro plant.
UEPOPS515A	Co-ordinate Power Generation This unit deals with the skills and knowledge required to coordinate operation and control of multiple generators sharing load under the control of one operator in an isolated system.

Schedule 7 MAINTENANCE UNITS UEPMNT501A – UEPMNT504A**Schedule 7 Maintenance Units UEPMNT501A – UEPMNT504A**

Unit Number	Title Descriptor
UEPMNT501A	Diagnose and Repair Faults in Electrical and Electronic Systems This unit deals with the skills and knowledge required to diagnose and repair faults in electrical/electronic systems.
UEPMNT502A	Test and Commission Electronic Electrical Systems This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical/electronic systems. Systems can refer to a combination of electrical/electronic machinery/equipment.
UEPMNT503A	Diagnose and Repair Faults in Instrumentation Systems This unit deals with the skills and knowledge required to diagnose and repair of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.

Schedule 7 Maintenance Units UEPMNT501A – UEPMNT504A

Unit Number	Title Descriptor
UEPMNT504A	Test and Commission Instrumentation Systems This unit deals with the skills and knowledge required to conduct testing and commissioning of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.

SCHEDULE 8 IMPORTED COMPETENCY STANDARD UNITS**Schedule 8 Imported Units**

SOURCE TRAINING PACKAGE	UNIT CODE	UNIT TITLE
BSB01 Business Services	BSBADM304A	Design and develop text documents
	BSBADM305A	Create and Use Data Bases
	BSBCMN108A	Develop Keyboard Skills
	BSBCMN203A	Communicate in the Workplace
	BSBCMN209A	Provide information to clients
	BSBCMN213A	Produce Simple Word Processed Documents
	BSBCMN302A	Organise personal work priorities and development
	BSBCMN310A	Deliver and Monitor a Service to Customers
	BSBCMN311A	Maintain Workplace Safety
	BSBCMN312A	Support Innovation and Change
BSB Frontline Management (BSB01)	BSBFLM302A	Support leadership in the workplace
	BSBFLM303B	Contribute to effective workplace relationships
	BSBFLM304A	Participate in work teams
	BSBFLM305B	Support operational plan
	BSBFLM306B	Provide workplace information and

Schedule 8 Imported Units		
	BSBFLM309B	resourcing plans Support continuous improvement systems and processes
	BSBFLM311B	Support a workplace learning environment
BSB Frontline Management (BSB01)	BSBCMN402A	Develop Work Priorities
	BSBFLM402A	Show leadership in the workplace
	BSBFLM403B	Implement effective workplace relationships
	BSBFLM404A	Lead work teams
	BSBFLM405B	Implement operational plans
	BSBFLM406B	Implement workplace information system
	BSBFLM409A	Implement continuous improvement
	BSBCMN404A	Develop teams and individuals
	BSBCMN410A	Coordinate implementation of customer service strategies
	BSBCMN411A	Monitor a Safe Workplace
	BSBCMN412A	Promote Innovation and Change
BSB Frontline Management (BSB01)	BSBFLM501B	Manage personal work priorities and professional development
	BSBFLM502A	Provide leadership in the workplace
	BSBFLM503B	Manage effective workplace relationships
	BSBFLM504A	Facilitate work teams
	BSBFLM505B	Manage operational plan
	BSBFLM506B	Manage workplace information systems
	BSBFLM507B	Manage quality customer service
	BSBFLM509B	Facilitate continuous improvement
	BSBFLM510B	Facilitate and capitalise on change and innovation
	BSBFLM511B	Develop a workplace learning environment
	BSBFLM512A	Ensure team effectiveness
	BSBMGT505A	Ensure a Safe Workplace

Schedule 8 Imported Units		
Metal and Engineering Training Package (MEM05)	MEM07005C	Perform general machining
	MEM05012C	Perform routine manual metal arc welding
	MEM05007C	Perform manual heating and thermal cutting
	MEM05004C	Perform routine oxy acetylene welding
Transport and Logistics Training Package (TLI07)	TLILIC108A	Licence to operate a forklift truck

1.2.8 Mapping Qualifications to the former Training Package (UTP98)

1.2.8 Mapping Qualifications to the former Training Package (UTP98)

Detailed below is a summary of qualifications in this Training Package with a mapping to the qualifications in the former Electricity Supply Industry – Generation Sector Training Package (UTP98).

Table 2 – Mapping Qualifications in this Training Package to the former UTP98

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

UEP06 Qualifications	Nature of Relationship to UTP98	Equivalent -full, part, or no
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 Diploma of ESI Generation (Systems Operations)	New Qualification New structure and a range of new units of competency available.	None
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

UEP06 Qualifications	Nature of Relationship to UTP98	Equivalent -full, part, or no
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

Table 3 – Mapping Qualifications in UEP06 Version 1.1 to Training Package to the former UEP06 Version 1.0

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

1.2.9 Mapping Competency Standard Units to the former Training Package (UTP98)

1.2.9 Mapping Competency Standard Units to the former Training Package (UTP98)

The following is a summary of:

1. Competency Standard Units in the Electricity Supply Industry – Generation Training Package;
2. The relationship to former Competency Standard Units from UTP98
3. AQF alignment and weighting points of each Competency Standard Unit; and
4. The prerequisite requirements.

Note:

- a. The following is a guide to assist RTOs in granting equivalent units when implementing this Training Package.
- b. The alignment of more than one UEP unit to a UTP unit does not necessarily mean that the one UTP unit is equivalent to all aligned UEP units.

c. RTOs shall ensure appropriate analysis of all the skills and knowledge specified in the respective competency standard units in this Training Package is undertaken with that of the former Training Package (UTP98), in determining equivalence.

d. In granting an equivalence of UEP unit for a UTP unit;

- the prerequisite units specified for the UEP unit shall be included, and

- the critical aspects of evidence of the UEP unit and its specified prerequisite units shall be at least equal to that of the UTP unit.

e. Trade Certificate prerequisite requirement:

Where prerequisites in the following table refer "Trade Certificate needed" each Competency Standard Unit should be reviewed for relevant comment. However, the following typically applies:

Entry to the Maintenance Certificate IV qualifications requires the completion of a Trade Certificate III that includes the relevant pre-requisite units of competency from this Training Package or a Certificate III trade qualification from the National Electrotechnology or the Metals and Engineering Training Packages. Points achieved for units achieved cannot be double counted towards other qualifications.

f. Where reference is made to, "Trade may apply" this refers to said units that may be undertaken as part of an apprenticeship program under the auspices of a regulated contract prescribed by a relevant state/territory. Relevant information should be obtained from the relevant state/territory training authority and related regulator, where applicable, to confirm requirements.

Table 4 – Mapping Competency Standard Units to the former Training Package and prerequisite requirements

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 Communicati	2	30	None	UTPNEG268A	

	ons Systems					
UEPOPS20 4A	Maintain and Utilise Records	2	30	None	UTPNEG27 0A	
UEPOPS20 5A	Conduct Minor Mechanical Maintenance	2	30	None	UTPNEG07 9A	
UEPOPS20 6A	Conduct Minor Electrical Maintenance	2	30	None	UTPNEG13 6A	
UEPOPS20 7A	Perform Plant Lubrication	2	30	None	UTPNEG17 8A	
UEPOPS20 8A	Operate Local Systems	2	35	None	UTPNEG18 9A	
UEPOPS20 9A	Perform Process Plant Inspections	2	30	None	UTPNEG23 8A	
UEPOPS21 0A	Conduct First Response within a Workplace Team	2	40	None	UTPNEG00 7A	
UEPOPS21 1A	Clean Plant and Equipment	2	30	None	UTPNEG01 5A	
UEPOPS21 2A	Perform Basic Rigging Work	2	30	UEPOPS20 1A	UTPNEG01 6A	
UEPOPS21 3A	Perform Intermediate Rigging Work	2	30	UEPOPS21 2A	UTPNEG01 7A	
UEPOPS21 4A	Perform Dogging Work	2	30	UEPOPS20 1A	UTPNEG01 9A	
UEPOPS21 5A	Perform Basic Scaffolding	2	30	UEPOPS20 1A	UTPNEG02 0A	

UEPOPS216A	Perform Intermediate Scaffolding	2	30	UEPOPS215A	UTPNEG021A	
UEPOPS217A	Conduct Elevating Work Platform Operations	2	30	UEPOPS201A	UTPNEG027B	

** for relevant prerequisite or co-requisite refer respective unit*

Schedule 1 Units UEPOPS201A – UEPOPS250A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalence - Full, part or not
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	2	40	UEPOPS201A	UTPNEG028Bd	

	using a Skidsteer loader					
UEPOPS223 A	Shift and Transfer Materials using a Telescopic materials handler-loader	2	40	UEPOPS201 A	UTPNEG028 Be	
UEPOPS224 A	Shift and Transfer Materials using a Backhoe	2	40	UEPOPS201 A	UTPNEG028 Bf	
UEPOPS225 A	Shift and Transfer Materials using an Excavator	2	40	UEPOPS201 A	UTPNEG028 Bg	
UEPOPS226 A	Shift and Transfer Materials using Bobcats – wheeled and tracked	2	40	UEPOPS201 A	UTPNEG028 Bh	
UEPOPS227 A	Shift and Transfer Materials using Borers and related attachments	2	40	UEPOPS201 A	UTPNEG028 Bi	
UEPOPS228 A	Conduct Forklift Operations	2	30	UEPOPS201 A	UTPNEG029 A	
UEPOPS229 A	Operate Lifting and Load Shifting Equipment	2	30	UEPOPS201 A	UTPNEG030 A	

	for loads less than ten tonnes					
UEPOPS230 A	Operate Lifting and Load Shifting Equipment for loads greater than ten tonnes	2	35	UEPOPS229 A	UTPNEG031 A	
UEPOPS231 A	Operate Explosive Powered Tools	2	30	UEPOPS201 A	UTPNEG032 A	
UEPOPS232 A	Transport Plant and Equipment	2	30	UEPOPS201 A	UTPNEG038 A	
UEPOPS233 A	Perform Machining Operations	2	35	None	UTPNEG080 A	
UEPOPS234 A	Perform Routine Oxyacetylene (fuel Gas) Welding (OAW)	2	35	None	UTPNEG080 A	
UEPOPS235 A	Perform Routine Manual Arc Welding	2	30	None	UTPNEG112 A	
UEPOPS236 A	Perform Manual Heating, Thermal Cutting and Gouging	2	30	None	UTPNEG113 A	
UEPOPS237 A	Perform Tool Store Duties	2	30	None	UTPNEG114 A	

Schedule 1 Units UEPOPS201A – UEPOPS250A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS238 A	Maintain Battery Banks and Cells	2	30	None	UTPNEG133 A	Full
UEPOPS239 A	Conduct Minor/Basic Electrical Maintenance	2	30	None	UTPNEG136 A	Full
UEPOPS240 A	Operate and Monitor Fuel Supply (Coal)	2	40	None	UTPNEG152 A	Full
UEPOPS241 A	Operate and Monitor Ash and Dust Disposal Plant	2	40	None	UTPNEG153 A	Full
UEPOPS242 A	Operate and Monitor Dust Collection Plant	2	40	None	UTPNEG154 A	Full
UEPOPS243 A	Operate Air Conditioning Plant	2	30	None	UTPNEG163 A	Full
UEPOPS244 A	Operate and Monitor Site Services Water Systems	2	30	None	UTPNEG164 A	Full
UEPOPS245 A	Conduct Chemical Batching	2	30	None	UTPNEG176 A	Full

	Operations					
UEPOPS246 A	Operate Waste and Contaminated Water Plant	2	35	None	UTPNEG177 A	Full
UEPOPS247 A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine	2	40	None	UTPNEG191 A	Full
UEPOPS248 A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine	2	40	None	UTPNEG192 A	Full
UEPOPS249 A	Liaise with Stakeholders	2	30	None	UTPNEG269 A	Full
UEPOPS250 A	Perform Process Plant Inspections	2	35	None	UTPNEG238 A	Full

Schedule 2 Units UEPOPS301A – UEPOPS357A

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS301 A	Conduct Single Energy Source Isolation Procedures for Permit	3	90	UEPOPS201 A	UTPNEG004 A	Full

	to Work					
UEPOPS302 A	Perform Advanced Rigging Work	3	90	UEPOPS213 B	UTPNEG018 A	Full
UEPOPS303 A	Perform Advanced Scaffolding	3	90	UEPOPS216 A	UTPNEG022 A	Full
UEPOPS304 A	Make and Spread a Stockpile	3	100	UEPOPS201 A	UTPNEG045 A	Full
UEPOPS305 A	Operate & Monitor Briquette Coal Cooling Plant	3	80	UEPOPS201 A	UTPNEG048 A	Full
UEPOPS306 A	Operate & Monitor Briquette Coal Drying Plant	3	80	UEPOPS201 A	UTPNEG049 A	Full
UEPOPS307 A	Operate & Monitor Briquette Coal Press Plant	3	80	UEPOPS201 A	UTPNEG050 A	Full
UEPOPS308 A	Perform Briquette Laboratory Tests	3	80	UEPOPS201 A	UTPNEG051 A	Full
UEPOPS309 A	Operate and Monitor Air Conditionin g Equipment and Ventilation	3	100	None	UTPNEG134 A	Full

	Systems					
UEPOPS310 A	Operate Bulk Coal Handling Plant	3	100	None	UTPNEG150 A	Full
UEPOPS311 A	Operate Fabric Filter Dust Collection Plant	3	90	None	UTPNEG155 A	Full
UEPOPS312 A	Operate and Monitor Fuel Supply	3	80	None	UTPNEG156 A	Full
UEPOPS313 A	Operate and Monitor Boiler Draught System	3	90	None	UTPNEG157 A	Full
UEPOPS314 A	Operate and Monitor Fuel Firing Plant (Gas or Oil)	3	90	None	UTPNEG159 A	Full
UEPOPS315 A	Operate and Monitor Fuel Firing Plant (Coal)	3	90	None	UTPNEG161 A	Full
UEPOPS316 A	Operate and Monitor Boiler Steam/Water Cycle	3	90	None	UTPNEG162 A	Full
UEPOPS317	Operate and	3	80	None	UTPNEG165	Full

A	Monitor Fixed Fire Protection Systems				A	
UEPOPS318 A	Operate and Monitor Compressed Gas Systems	3	90	None	UTPNEG166 A	Full
UEPOPS319 A	Operate and Monitor Gas Production Plant	3	80	None	UTPNEG167 A	Full
UEPOPS320 A	Operate and Monitor Compressed Air Systems	3	90	None	UTPNEG168 A	Full

Schedule 2 Units UEPOPS301A – UEPOPS356A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS321A	Operate and Monitor Water Treatment Plant	3	90	None	UTPNEG171A	Full
UEPOPS322A	Operate and Monitor Alkalinity Reduction Plant	3	80	None	UTPNEG172A	Full
UEPOPS323A	Operate and Monitor Reverse Osmosis Plant	3	80	None	UTPNEG173A	Full
UEPOPS324A	Operate and Monitor Brine	3	80	None	UTPNEG174A	Full

	Concentrator Plant					
UEPOPS32 5A	Operate and Monitor Water Quality Control Systems	3	90	None	UTPNEG17 5A	Full
UEPOPS32 6A	Operate and Monitor Oil Systems	3	90	None	UTPNEG17 9A	Full
UEPOPS32 7A	Monitor and Maintain Civil Assets	3	90	None	UTPNEG18 0A	Full
UEPOPS32 8A	Undertake Dam Safety Surveillance	3	90	None	UTPNEG18 1A	Full
UEPOPS32 9A	Operate and Monitor Auxiliary Steam Systems	3	90	None	UTPNEG18 2A	Full
UEPOPS33 0A	Operate and Monitor Heat Exchangers	3	90	None	UTPNEG18 3A	Full
UEPOPS33 1A	Operate and Monitor Water Systems (Condensate & Feedwater)	3	90	None	UTPNEG18 4A	Full
UEPOPS33 2A	Operate and Monitor Condensing and Cooling Water System	3	90	None	UTPNEG18 5A	Full
UEPOPS33 3A	Operate and Monitor H.R.S.G. Hot Gas Control System	3	90	None	UTPNEG18 6A	Full
UEPOPS33 4A	Operate and Monitor a Wind Generator	3	80	None	UTPNEG19 0A	Full
UEPOPS33 5A	Operate A Hydro Generator/Synchro	3	90	None	UTPNEG19 3A	Full

	nous Condenser / Pump Unit					
UEPOPS33 6A	Manage Operate and Monitor a Gas Turbine Unit	3	90	None	UTPNEG19 6A	Full
UEPOPS33 7A	Maintain Quality Systems within the Team	3	80	UEPOPS20 2A	UTPNEG20 1A	Full
UEPOPS33 8A	Facilitate Effective Workplace Communication	3	80	None	UTPNEG20 3A	Full
UEPOPS33 9A	Operate and Monitor a Boiler Unit	3	90	None	UTPNEG20 7A	Full
UEPOPS34 0A	Operate and Monitor a Steam Turbine	3	90	None	UTPNEG21 0A	Full
UEPOPS34 1A	Shut Down a Steam Turbine	3	90	None	UTPNEG21 1A	Full

Schedule 2 Units UEPOPS301A – UEPOPS356A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPOPS342 A	Interpret and Analyse Single Operation Protection Devices	3	90	None	UTPNEG276 A	Full
UEPOPS343 A	Operate Hydro-Electric Generating Plant and Auxiliary Equipment	3	90	None	UTPNEG227 A	Full

UEPOPS344 A	Conduct Water Conveyance and Control	3	90	None	UTPNEG228 A	Full
UEPOPS345 A	Implement Dam Safety Surveillance Procedures	3	90	None	UTPNEG229 A	Full
UEPOPS346 A	Conduct Non-Routine Operational Testing	3	80	None	UTPNEG239 A	Full
UEPOPS347 A	Operate and Monitor Supervisory, Control and Data Acquisition Systems	3	90	None	UTPNEG266 A	Full
UEPOPS348 A	Respond to Critical Incidents	3	80	None	UTPNEG272 A	Full
UEPOPS349 A	Operate H.V. Primary Switchgear	3	80	None	UTPNEG277 A	Full
UEPOPS350 A	Develop Contingency Plans	3	80	None	UTPNEG278 A	Full
UEPOPS351 A	Operate H.V. Condition Changing Apparatus	3	80	None	UTPNEG283 A	Full
UEPOPS352 A	Conduct Operational Checks on In-Service Mechanical Plant	3	80	UEPOPS201 A	NEW UNIT	
UEPOPS353	Conduct	3	80	UEPOPS201	NEW UNIT	

A	Operational Checks on In-Service Electrical Plant			A		
UEPOPS354 A	Operate and Monitor Dual Fuel-Firing Plant	3	90	None	NEW UNIT	
UEPOPS355 A	Monitor the Implementation of Under Frequency Load Shedding	3	80	None	NEW UNIT	
UEPOPS356 A	Apply Environmental and Sustainable Energy Procedures	3	80	None	NEW UNIT	
UEPOPS357	Operate H.V. Secondary Switchgear	3	80	None	UTPNeg282 A	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

UEPMNT3 03A	Maintain Mechanical Valves	3	90	Trade may apply	UTPNEG06 2A	Full
UEPMNT3 04A	Maintain Mechanical Pumps	3	90	Trade may apply	UTPNEG06 4A	Full
UEPMNT3 05A	Maintain Industrial Fans	3	90	Trade may apply	UTPNEG06 6A	Full
UEPMNT3 06A	Maintain Industrial Transmissions	3	90	Trade may apply	UTPNEG06 7A	Full
UEPMNT3 07A	Maintain Industrial Screens, Strainers and Filters	3	90	Trade may apply	UTPNEG06 9A	Full
UEPMNT3 08A	Maintain Conveyors and Associated Equipment	3	90	Trade may apply	UTPNEG07 0A	Full
UEPMNT3 09A	Maintain Material Feeders	3	100	Trade may apply	UTPNEG07 1A	Full
UEPMNT3 10A	Maintain Material Crushers	3	100	Trade may apply	UTPNEG07 2A	Full
UEPMNT3 11A	Maintain Fuel Transport Equipment	3	100	Trade may apply	UTPNEG07 3A	Full
UEPMNT3 12A	Maintain Industrial Pressure Vessels	3	100	Trade may apply	UTPNEG07 4A	Full
UEPMNT3 13A	Maintain Internal Combustion Engines	3	100	Trade may apply	UTPNEG07 6A	Full
UEPMNT3 14A	Maintain Hydro Turbines	3	100	UEPMNT4 02A	UTPNEG07 7A	Full
UEPMNT3 15A	Maintain Wind Turbines	3	100	UEPMNT4 02A	UTPNEG07 8A	Full
UEPMNT3 16A	Perform Advanced Machining Operations	3	100	Trade may apply	UTPNEG08 1A	Full
UEPMNT3	Diagnose and	3	90	Trade may	UTPNEG08	Full

17A	Repair Faults in Mechanical Equipment			apply	2A	
UEPMNT3 18A	Conduct Generator Mechanical Maintenance	3	100	Trade may apply	UTPNEG08 3A	Full
UEPMNT3 19A	Maintain and Test Fixed Fire Protection Systems	3	90	Trade may apply	UTPNEG08 4A	Full
UEPMNT3 20A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components	3	90	Trade may apply	UTPNEG08 5A	Full
UEPMNT3 21A	Weld using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG09 0A	Full

Schedule 3 Units UEPMNT301A – UEPMNT360A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPMNT322 A	Weld using Gas Metal Arc Welding Process (GMAW)	3	80	Trade may apply	UTPNEG091 A	Full
UEPMNT323 A	Weld using Gas Tungsten Arc Welding Process (GTAW)	3	80	Trade may apply	UTPNEG092 A	Full
UEPMNT324	Weld using	3	80	Trade may	UTPNEG093	Full

A	Oxyacetylene Welding Process (OAW)			apply	A	
UEPMNT325 A	Weld using Submerged Arc Welding Process (SAW)	3	80	Trade may apply	UTPNEG094 A	Full
UEPMNT326 A	Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW)	3	80	Trade may apply	UTPNEG095 A	Full
UEPMNT327 A	Perform Advanced Welding using Gas Metal Arc Welding (GMAW)	3	80	Trade may apply	UTPNEG096 A	Full
UEPMNT328 A	Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)	3	80	Trade may apply	UTPNEG097 A	Full
UEPMNT329 A	Perform Advanced Welding using Oxyacetylene Welding Process (OAW)	3	80	Trade may apply	UTPNEG098 A	Full

UEPMNT330 A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate)	3	80	Trade may apply	UTPNEG099 A	Full
UEPMNT331 A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)	3	80	Trade may apply	UTPNEG100 A	Full
UEPMNT332 A	Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)	3	80	Trade may apply	UTPNEG101 A	Full
UEPMNT333 A	Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe)	3	80	Trade may apply	UTPNEG102 A	Full
UEPMNT334 A	Perform Gas	3	80	Trade may apply	UTPNEG103 A	Full

	Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe)					
UEPMNT335 A	Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E	3	80	Trade may apply	UTPNEG104 A	Full
UEPMNT336 A	Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)	3	80	Trade may apply	UTPNEG105 A	Full
UEPMNT337 A	Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)	3	80	Trade may apply	UTPNEG106 A	Full
UEPMNT338 A	Perform Submerged Arc Welding to Weld to AS1796	3	80	Trade may apply	UTPNEG107 A	Full

	Certificate 9					
--	---------------	--	--	--	--	--

Schedule 3 Units UEPMNT301A – UEPMNT360A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
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 apply	UTPNEG116A	Full
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
UEPMNT34	Diagnose and repair faults in	3	90	Trade may	UTPNEG12	Full

9A	electrical equipment			apply	2A	
UEPMNT35 0A	Modify electrical equipment	3	90	Trade may apply	UTPNEG12 6A	Full
UEPMNT35 1A	Test and commission electrical equipment	3	90	Trade may apply	UTPNEG12 9A	Full
UEPMNT35 2A	Test and commission electronic electrical equipment	3	90	Trade may apply	UTPNEG13 1A	Full
UEPMNT35 3A	Install instrumentation equipment	3	90	Trade may apply	UTPNEG24 3A	Full
UEPMNT35 4A	Install instrumentation wiring systems	3	90	Trade may apply	UTPNEG24 4A	Full
UEPMNT35 5A	Install complex/electronic instrumentation equipment	3	90	Trade may apply	UTPNEG24 5A	Full
UEPMNT35 6A	Maintain instrumentation equipment	3	90	Trade may apply	UTPNEG24 6A	Full
UEPMNT35 7A	Diagnose and repair faults in instrumentation equipment	3	90	Trade may apply	UTPNEG24 9A	Full
UEPMNT35 8A	Modify instrumentation equipment	3	90	Trade may apply	UTPNEG25 2A	Full
UEPMNT35 9A	Test and Commission Instrumentation Systems	3	90	Trade may apply	UTPNEG25 5A	Full
UEPMNT36	Terminate fibre	3	80	Trade may	UTPNEG25	Full

0A	optic cables			apply	9A	
----	--------------	--	--	-------	----	--

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

Schedule 4 Units UEPOPS401A – UEPOPS442A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
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	
UEPOPS427	Interpret and	4	120	None	NEW UNIT	

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
A	Analyse Low Voltage and Mechanical Protection Devices					
UEPOPS428 A	Develop H.V. Switching Programs	4	120	None	UTPNEG281 A	Full
UEPOPS429 A	Coordinate and Direct Switching Program	4	110	None	UTPNEG284 A	Full
UEPOPS430 A	Control Permit to Work Operations	4	130	None	NEW UNIT	
UEPOPS431 A	Collect and Analyse Hydrological and Meteorological Data	4	120	UEPOPS209 A	NEW UNIT	
UEPOPS432 A	Start up a Heat Recovery Steam Generator Unit	4	130	UEPOPS333 A	NEW UNIT	
UEPOPS433 A	Operate and Monitor a Heat Recovery Steam Generator Unit	4	120	UEPOPS33 A	NEW UNIT	
UEPOPS434	Shutdown an Heat	4	130	None	NEW UNIT	

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
A	Recovery Steam Generator Unit					
UEPOPS435 A	Operate and Monitor Flue Gas Nox Mitigation Systems	4	110	None	NEW UNIT	
UEPOPS436 A	Operate and Monitor Dual Fuel Firing Plant	4	120	None	NEW UNIT	
UEPOPS437 A	Manage System Re-Start	4	110	None	NEW UNIT	
UEPOPS438 A	Coordinate Electrical Energy Production	4	130	None	UTPNEG212 A	Full
UEPOPS439 A	Plan and Organise Work	4	110	None	UTPNEG200 A	Full
UEPOPS440 A	Co-ordinate Team Activities	4	110	None	UTPNEG202 A	Full
UEPOPS441 A	Operate and Monitor System Equipment	4	110	None	UTPNEG267 A	Full
NEPOPS442 A	Monitor and Co-ordinate the Operation of a Combined Cycle Gas	4	110	NEPOPS314 A	NEW UNIT	

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
	Turbine 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

Schedule 5 Units UEPMNT401A – UEPMNT433A (cont)

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
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
UEPMNT42	Diagnose and	4	120	Trade Cert.	UTPNEG25	Full

7A	Repair Faults in Complex Instrumentation Equipment			needed	0A	
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

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	5	160	UEPOPS401A	UTPNEG003A	Full

	and Procedures					
UEPOPS50 2A	Manage Permit to Work System	5	160	UEPOPS40 3A	NEW UNIT	
UEPOPS50 3A	Manage first response team operations	5	160	UEPOPS40 4A	NEW UNIT	
UEPOPS50 4A	Develop Implement and Monitor Environmental Management Systems	5	160	None	UTPNEG00 9A	Full
UEPOPS50 5A	Produce maintenance strategies for generation production plant	5	150	UEPOPS42 5A	UTPNEG21 8A	Full
UEPOPS50 6A	Establish and Implement Operational Strategies for Power Production	5	150	None	UTPNEG22 0A	Full
UEPOPS50 7A	Conduct project management	5	150	None	UTPNEG22 3A	Full
UEPOPS50 8A	Manage commissioning/ decommissionin g	5	150	None	UTPNEG22 4A	Full
UEPOPS50 9A	Manage quality control procedures	5	150	None	UTPNEG22 5A	Full
UEPOPS51 0A	Monitor power generation plant reliability	5	140	None	UTPNEG23 6A	Full
UEPOPS51 1A	Tune Process Plant and Equipment	5	150	None	UTPNEG23 7A	Full

UEPOPS51 2A	Manage the Network/System	5	160	UEPOPS42 0A	UTPNEG27 1A	Full
UEPOPS51 3A	Manage Operational Crisis to Maintain/Restore Power System Integrity	5	140	None	UTPNEG27 9A	Full
UEPOPS51 4A	Control hydro generation/pumping	5	140	None	UTPNEG28 0A	Full
UEPOPS51 5A	Coordinate power generation	5	150	None	UTPNEG28 5A	Full

Schedule 7 Units UEPMNT501 – UEPMNT504

CODE	UNIT TITLE	Notional AQF Level	WEIGHTING POINTS	Prerequisites Unit	UTP98 UNIT CODE	Equivalent - Full, part or not
UEPMNT501 A	Diagnose and Repair Faults in Electrical and Electronic Systems	5	160	Trade Cert. needed	UTPNEG125 A	Full
UEPMNT502 A	Test and Commission Electronic Electrical Systems	5	160	Trade Cert. needed	UTPNEG132 A	Full
UEPMNT503 A	Diagnose and Repair Faults in Instrumentation Systems	5	160	Trade Cert. needed	UTPNEG251 A	Full
UEPMNT504 A	Test and Commission Instrumentation	5	160	Trade Cert. needed	UTPNEG258 A	Full

	on Systems					
--	------------	--	--	--	--	--

Schedule 8 Imported Units of Competence from other Training Packages

The following Schedule forms an Integral Part of a relevant qualification structure, it must be read and used in conjunction with such. The following Imported Units of Competency form part of this Schedule.

Users are advised that imported units are listed by notional AQF level and can be used as electives in qualifications from this package at the same AQF level or lower.

The list of imported units is included below and in Volume 1 Table 1 – Index of competency standard units and Scopes/Descriptors and again in Volume 2 Schedule 8 – Imported Units from other Training Packages. Users wishing to import units will need to contact the respective original Training Package developer or the NTIS to obtain copies of the most recent version of the competency standard unit to determine their relevance and, utilise them, where appropriate in accordance with the requirements of this Training Package.

Users intending to import units of competency from other Training Packages must have them approved and valued in accordance with the requirements of this Training Package, by the National Generation Training Group in order for them to contribute to an ESI qualification.

Contact EE-Oz Training Standards for information about having units of competency valued by the National Generation Training Group.

Table 6 – List of Imported Competency Standard Units

SOURCE TRAINING PACKAGE	UNIT CODE	UNIT TITLE	AQF	WGHT' POINTS
BSB01 Business Services	BSBADM304 A	Design and develop text documents	3	80
	BSBADM305 A	Create and Use Data Bases	2	30
	BSBCMN108 A	Develop Keyboard Skills	2	30
	BSBCMN108 A	Communicate in the Workplace	2	30
	BSBCMN203 A	Provide information to clients	2	30
	BSBCMN203 A	Produce Simple Word Processed Documents	3	80
	BSBCMN209 A	Organise personal work priorities and development	3	80
	BSBCMN213 A	Deliver and Monitor a Service to Customers	3	80
	BSBCMN302		3	80

	A BSBCMN310 A BSBCMN311 A BSBCMN312 A	Maintain Workplace Safety Support Innovation and Change		
BSB Frontline Management (BSB01)	BSBFLM302A	Support leadership in the workplace	3	80
	BSBFLM303B		3	80
	BSBFLM304A	Contribute to effective workplace relationships	3	80
	BSBFLM305B	Participate in work teams	3	80
	BSBFLM306B	Support operational plan	3	80
	BSBFLM309B	Provide workplace information and resourcing plans	3	80
	BSBFLM311B	Support continuous improvement systems and processes Support a workplace learning environment	3	80
BSB Frontline Management (BSB01)	BSBCMN402 A	Develop Work Priorities	4	110
		Show leadership in the workplace	4	110
	BSBFLM402A	Implement effective workplace relationships	4	110
	BSBFLM403B		4	110
	BSBFLM404A	Lead work teams	4	110
	BSBFLM405B	Implement operational plans	4	110
	BSBFLM406B	Implement workplace information system	4	110
	BSBFLM409A		4	110
	BSBCMN404 A	Implement continuous improvement	4	110
	BSBCMN410 A	Develop teams and individuals	4	110
		Coordinate implementation of customer service strategies	4	110
	BSBCMN411 A	Monitor a Safe Workplace		
	BSBCMN412	Promote Innovation and Change		

	A			
BSB Frontline Management (BSB01)	BSBFLM501B	Manage personal work priorities and professional development	5	140
	BSBFLM502A	Provide leadership in the workplace	5	140
	BSBFLM503B	Manage effective workplace relationships	5	140
	BSBFLM504A	Facilitate work teams	5	140
	BSBFLM505B	Manage operational plan	5	140
	BSBFLM506B	Manage workplace information systems	5	140
	BSBFLM507B	Manage quality customer service	5	140
	BSBFLM509B	Facilitate continuous improvement	5	140
	BSBFLM510B	Facilitate and capitalise on change and innovation	5	140
	BSBFLM511B	Develop a workplace learning environment	5	140
	BSBFLM512A	Ensure team effectiveness	5	140
	BSBMGT505	Ensure a Safe Workplace	5	140
	A			
Metal and Engineering Training Package (MEM05)	MEM07005B	Perform general machining	2	40
	MEM05012C	Perform routine manual metal arc welding	2	20
	MEM05007C	Perform manual heating and thermal cutting	2	20
	MEM05004C	Perform routine oxy acetylene welding	2	20
Transport and Logistics Training Package (TLI07)	TLILIC108A	Licence to operate a forklift truck	2	40

1.3.01 Assessment Guidelines - Introduction

Volume 1 Part 3

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) 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 requirements; licensing/registration requirements; and assessment pathways. 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

Assessment within the National Skills Framework is defined as the process of collecting evidence and making judgements about whether competency has been achieved. Competency is something that is inferred rather than proven. 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, Edition 1, 2005 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 Competency Advisory Council (ESI-GSCAC) for inclusion in Qualifications in this Training Package.

An index of the developed Competency Standard Units is contained in Volume 1 Part 2.

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 requirement of the AQTF as expressed in the *Standards for Registered Training Organisations*.

The *Standards for Registered Training Organisations* can be downloaded from the Department of Education, Science and Training website at www.dest.gov.au or can be obtained in hard copy from DEST. The following points summarise the assessment requirements under the AQTF.

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. See Section 1 of the *Standards for Registered Training Organisations*.

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 have systems in place to plan for and provide quality training and assessment. See AQTF Standard 1: Standards for Registered Training Organisations.

Assessor Competency Requirements

Each person involved in training, assessment or client service must be competent for the functions they perform. See AQTF Standard 7 of the *Standards for Registered Training Organisations* for assessor competency requirements. AQTF Standard 7 also specifies the competencies that must be held by trainers.

Assessment Requirements

RTO assessments must meet all the requirements of the endorsed components of the Training Package within its scope of registration. See AQTF Standard 8 of the *Standards for Registered Training Organisations*.

Assessment Strategies

Each RTO must identify, negotiate, plan and implement appropriate learning and assessment strategies that are consistent with the industry's or regulator's preference, and meet the needs of each of its clients. See AQTF Standard 9 of the *Standards for Registered Training Organisations*. ANTA¹ has developed a resource guide to support RTOs in the development of learning and assessment strategies.

¹The functions of the Australian National Training Authority (ANTA) were transferred to the Department of Education Science and Training (DEST) on 1st July 2005. Please note this when seeking information and contact details.

Mutual Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See AQTF Standard 5 of the *Standards for Registered Training Organisations*.

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

Access and Equity and Client Services

Each RTO must apply access and equity principles, provide timely and appropriate information, advice and support services that assist clients to identify and achieve desired outcomes. This may include reasonable adjustments in assessment. See AQTF Standard 6 of the *Standards for Registered Training Organisations*.

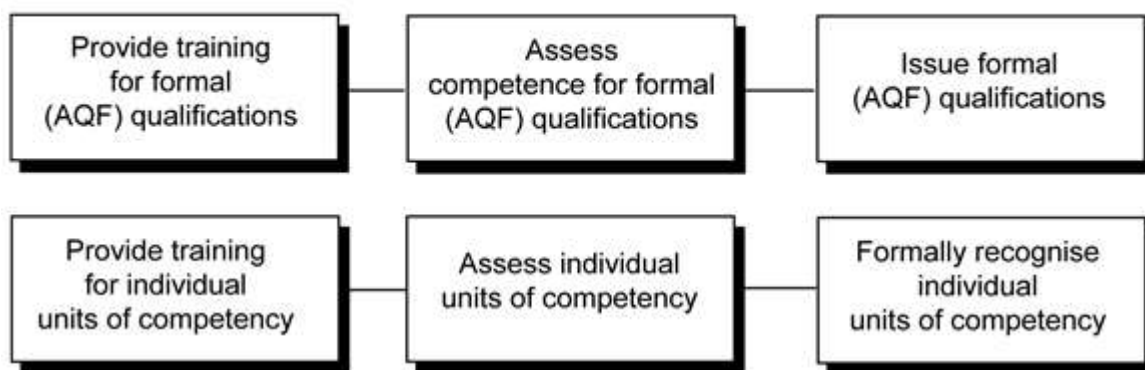
Partnership Arrangements

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, 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.

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.

Issuing transcripts — AQF Qualifications and Statements of Attainment

Each RTO issues AQF qualifications and Statements of Attainment that meet the requirements of the *AQF Implementation Handbook* and the requirements of this Training Package 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 as well as a statement of results achieved of the specified Essential Knowledge and Associated Skills underpinning each competency standard unit. A Statement of Attainment is issued where the individual is assessed as competent against fewer competency standard unit(s) (along with the statement of essential knowledge and skills results) than required for an AQF qualification. See AQTF Standard 10 and Section 2 of the *Standards for Registered Training Organisations*.

For this Training Package the RTO is responsible for the issuance of formal recognition in the form of national qualifications or statements of attainment. Where regulatory requirements apply and if required by the relevant regulatory authority the RTO should enter relevant information into the individual's industry Skills Passport or approved instrument. Where the industry prefers the use of an industry Skills Passport or industry approved instrument this may be negotiated directly with RTOs.

Where regulated requirements advise the use of training support material(s) and it is used to provide the Essential Knowledge and Skills specified in the competency standard unit, then, details of the support material(s) and their achievement should form part of the statement of results attached to the qualification or statement of attainment.

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.

The latest information on licensing/registration requirements may be obtained by visiting the Industry Skills Council/Training Package Developer's website. In the case of this Training Package it is EE-Oz Training Standards. Refer to the following website for more information: www.ee-oz.com.au

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 typically included in these Guidelines.

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 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

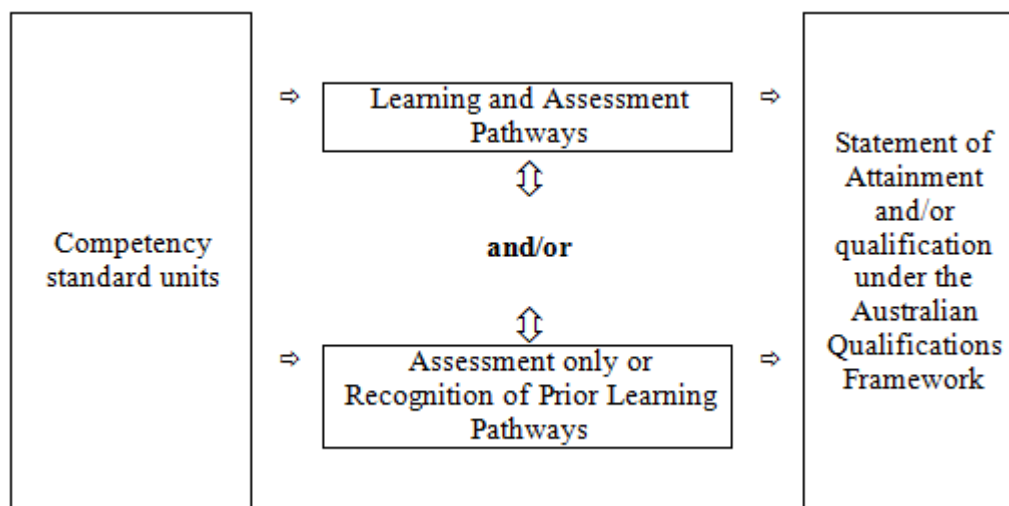
Competencies in Training Packages may be attained in a number of ways including:

- 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/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, con tangency 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'.

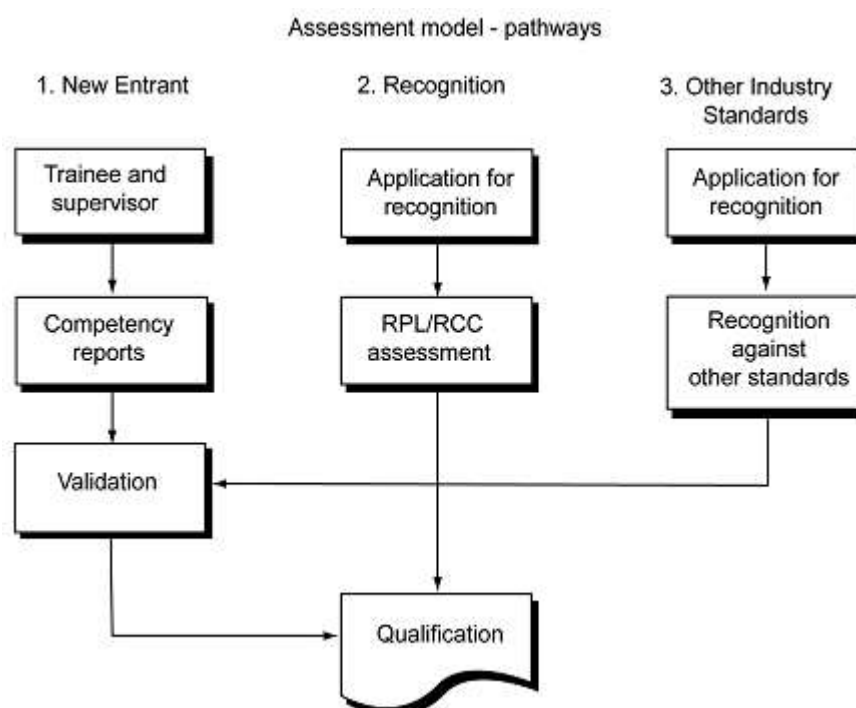
Learning and Assessment Pathways in the Electricity Supply Industry – Generation Sector

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.

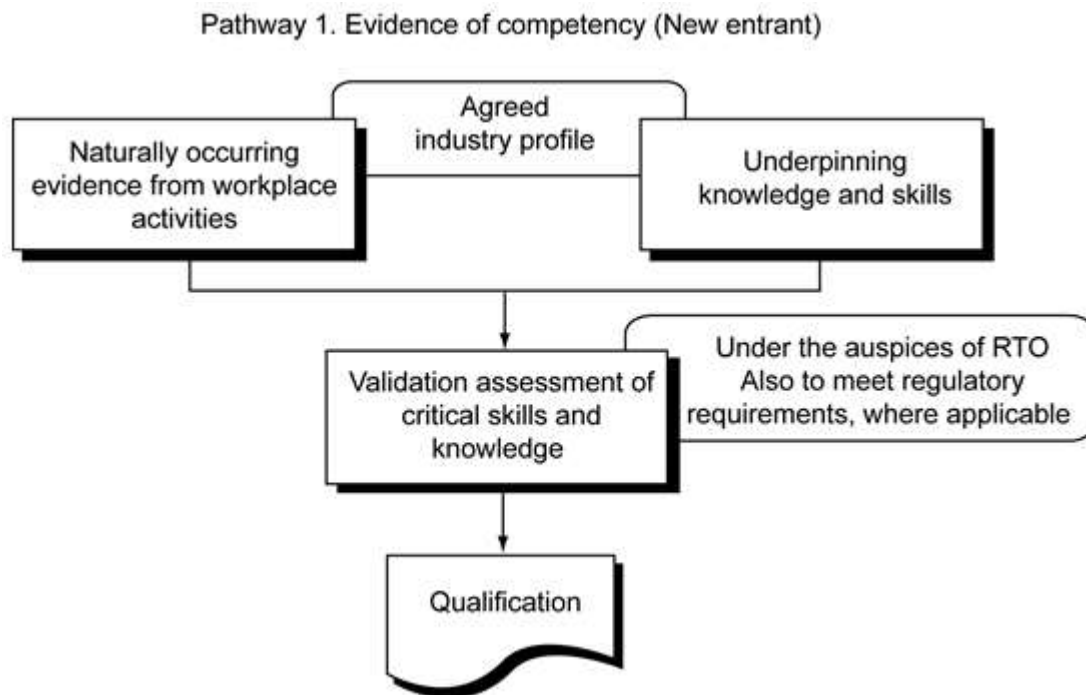
Pathway 1: New Entrant Competency Development

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 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 *Tradesmens' 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>

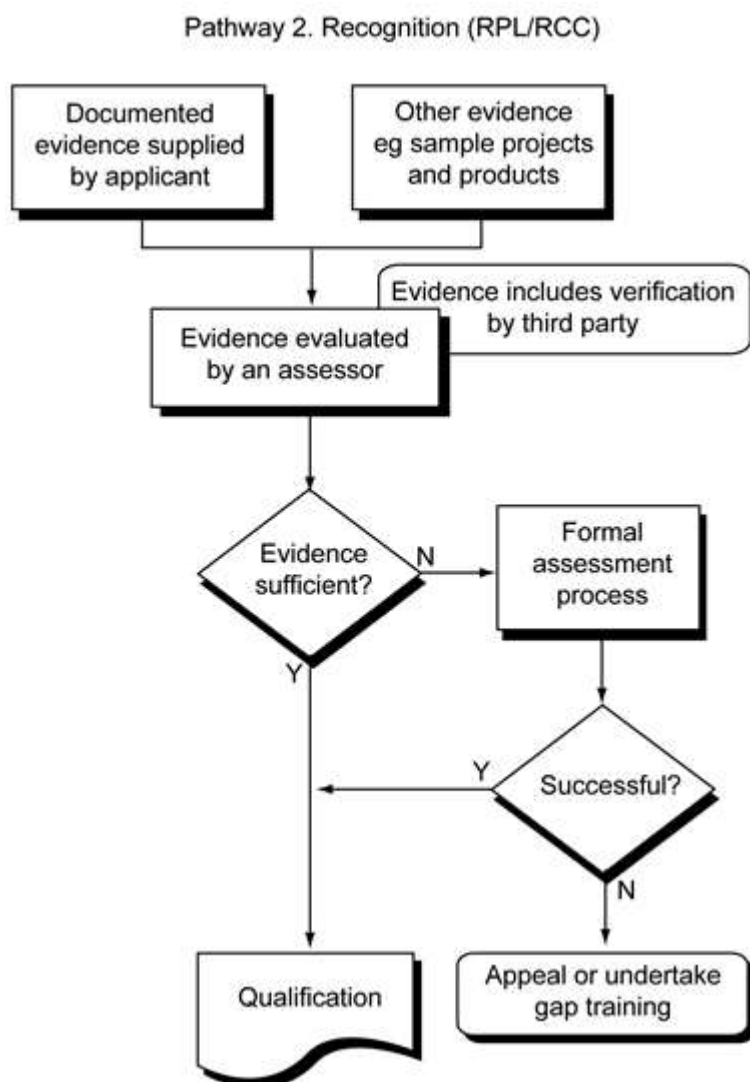
Evidence of Competency

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, 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.



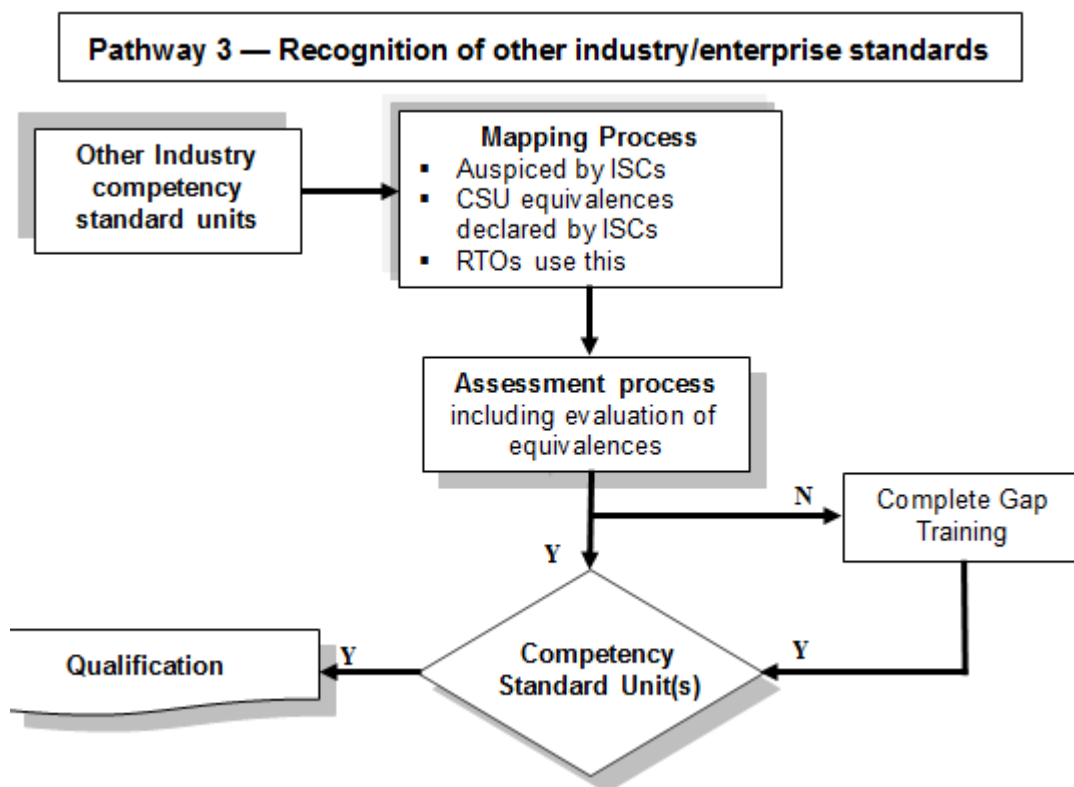
Pathway 3: Recognition of Other Industry/Enterprise Standards

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 Standard 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 are 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 - Electricity Supply Industry - Generation Sector

1.3.4 Assessment Principles – Electricity Supply Industry – Generation Sector

Assessment practices must satisfy the following principles of assessment:

Validity

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

Assessment practices should be in accord with *AQTF Standard 9.2* and undergo constant monitoring and review to ensure consistency in the application of process and interpretation of evidence.

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

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

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.

Currency

The principle to be applied in the Electricity Supply Industry – Transmission, Distribution and Rail 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

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 Judgments

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.

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 National 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 National 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.

1.3.05 Assessment Processes - Electricity Supply Industry - 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, eg 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 *Standards for Registered Training Organisations* specify mandatory competency requirements for assessors. For information, Standard 7.3 from the *Standards for Registered Training Organisations* follows:

7.3 a The RTO must ensure that assessment are conducted by a person who has:

(i) the following competencies from the Training and Assessment Training Package or is able to demonstrate demonstrated equivalent competencies in:

a TAAASS401A Plan and organise assessment

b TAAASS402A Assess competence

c TAAASS404A Participate in assessment validation

(ii) relevant vocational competencies, at least to the level being assessed.

b However, if a person does not have all of the competencies in Standards 7.3 a (i) and 7.3a (ii) one person with the competencies listed in Standard 7.3a (i) and one or more persons who have the competencies listed in Standard 7.3 a (ii) may work together to conduct assessments.

Note: A person who holds the competencies BSZ401A Plan assessment,

BSZ402A Conduct assessment, and BSZ403A Review assessment from the Training Package for Assessment and Workplace Training will be accepted for the purposes of this standard. A person who has demonstrated equivalent competencies to BSZ401A and BSZ402A and BSZ403A in the period up to 12 months following publication of the Training and Assessment Training Package will also be accepted for the purposes of this standard.

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 National Training Information Service (<http://www.ntis.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 *Standards for Registered Training Organisations*, particularly AQTF Standards 8 and 9.

A key reference for assessors engaged in developing assessment materials is the Training Package for Training and Assessment [TAA04] and TAAASS403A Develop assessment tools.

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, at minimum, the criteria set out in Standard 8 from the *Standards for Registered Training Organisations* which is reproduced below.

8 RTO Assessments

The RTOs assessments meet the requirements of the endorsed components of Training Package and the outcomes specified in accredited courses within the scope of its registration.

8.1 The RTO must ensure that assessments, regardless of whether through a training and assessment pathway or an assessment-only pathway:

- i comply with the Assessment Guidelines included in the applicable nationally endorsed Training Package or the assessment requirements specified in accredited courses;
- ii lead to the issuing of a Statement of Attainment or qualification under the AQF when a person is assessed as competent against nationally endorsed competency standard units in the applicable Training Package or any additional information related to knowledge and skills specifications (e.g. modules) prescribed in the applicable accredited course;
- iii comply with the principles of validity, reliability, fairness and flexibility;
- iv provide for applicants to be informed of the context and purpose of the

assessment and the assessment process;

- v where relevant, focus on the application of knowledge and skill to the standard of performance required in the workplace and cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills, and include transferable knowledge and skills to new situations and environments;
- vi involve the evaluation of sufficient evidence to enable judgements to be made about whether competency has been attained;
- vii identify issues related to techniques, OHS, language and literacy, cultural diversity, under-represented groups, key competencies and skills enabling employment.
- viii provide for feedback to the applicant about the outcomes of the assessment process and guidance on future options;
- ix are equitable for all persons, taking account of cultural and linguistic needs; and
- x provide for reassessment on appeal.

8.2 a The RTO must ensure that RPL is offered to all applicants on enrolment.

b The RTO must have a RPL process that:

- i is structured to minimise the time and cost to applicants; and
- ii provides adequate information and support to enable applicants to gather reliable evidence to support their claim for recognition of competencies currently held, regardless of how, when or where the learning occurred.

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.

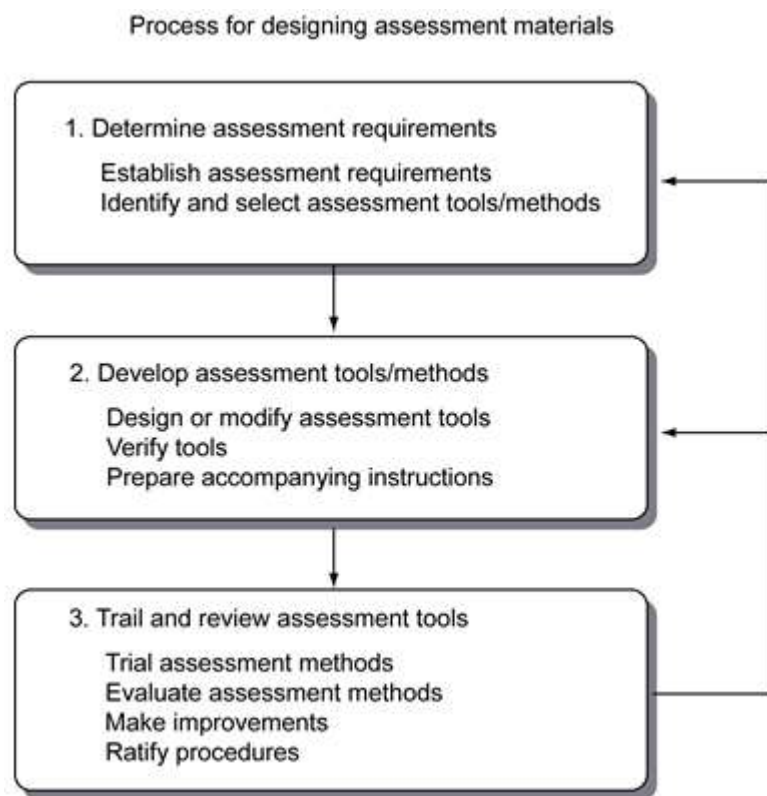
1.3.08 Guidelines for Designing Assessment Materials

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



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:

1. Is the data **gathering** process sufficient, timely, valid and reliable to ensure the decision about competence relates to the overall requirements of the unit?
2. Do you always need to assess real work?
3. How is the **critical** evidence specified?
4. How many **assessment** tasks are required to collect the critical evidence of competency?
5. Which **assessment** tasks will provide broad coverage of the Range Statement?
6. 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 (eg. 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

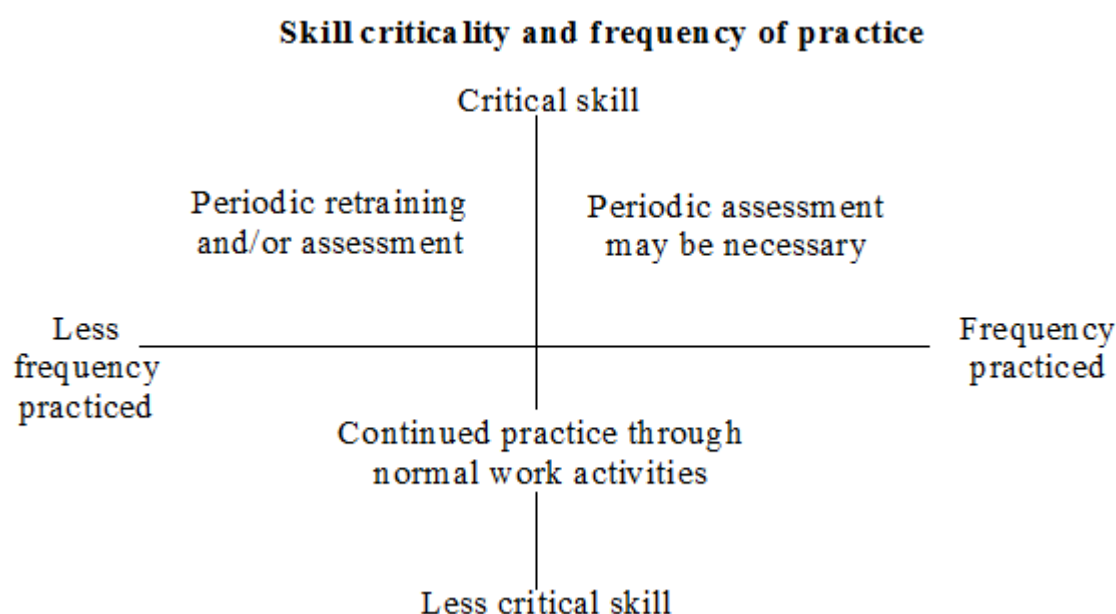
1.3.9 Guide to Assessment Methods and Items

(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	True/false	Confirming essential factual	Controlled	Moderate	Many

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
tests	Multiple choice Matching Completion	knowledge, principles Assessing deduction, transfer of knowledge Complementing other methods	classroom High level supervision Large numbers		
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

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
Practical/ Exercises	Stimulated work exercises Structured practical exercises Fault finding exercises	Checking mastery or competence of a practical task, technical skill, or subset of performance in a simulated work setting	Controlled laboratory or field setting High level supervision 10 to 15	Low	Several
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	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

Assessment method	Appropriate instruments	Valid purposes or use	Conditions and numbers	Time constraints	Repeat assessments
	manuals or procedures				
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 assessment	Oral exposition or lecture Seminar, presentation and group discussion Oral/aural tests Interviews	Confirming understanding of principles underpinning performance Supplement other assessment methods Verification of learner's submitted work.	Moderate level of control High level of supervision One to one	Low	Several
Profiling¹	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.	² Real work conditions under workplace supervision. Off-job assessment events Any number	Low / Medium	On going

¹A valid profile is based on periodic collection of relevant data over the duration of a competency development training program.

²A complete profile is constructed from all required evidence of competency, however where a profile of only workplace performance is used it must be supplemented with other methods such as those outlined in this table.

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:

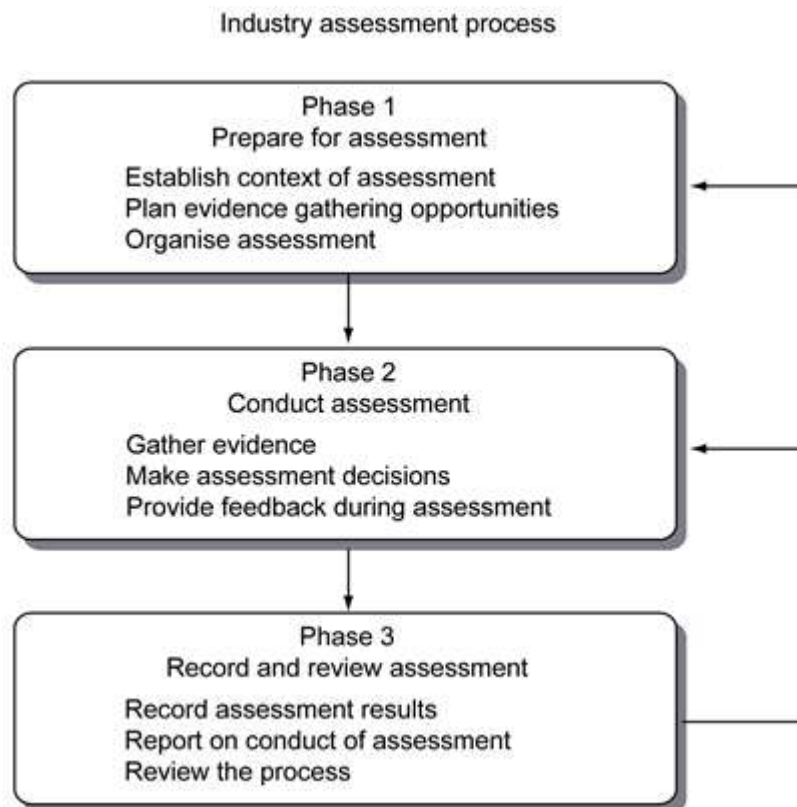
- they consider they were treated fairly, consistently and with dignity
- they were given the full opportunity to demonstrate their capabilities
- the reasons for the assessment decisions were appropriate, logical and constructively explained
- the assessment judgements are conveyed in a sensitive and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



- 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 (ie 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, ie 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/a_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 Ground floor, 68 Campbell Street SYDNEY NSW 2010 Telephone: 02 9280 2566 Fax: 02 9280 1600 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

Contact	Details
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: teuitb@bigpond.com
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
Ground floor,
68 Campbell Street, SYDNEY NSW 2010
Telephone: 02 9280 2566
Fax: 02 9280 1600
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 Apprenticeships 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)¹ to be responsible for providing the vocational education, training and assessment support services and the eventual issuing of a national qualification

¹For more information on RTOs see DEST's 2005 Australian Quality Training Framework Standards for Registered Training Organisations, effective from 1 July 2005 publication.

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.²

² TAFE Institutions, Universities with TAFE sectors, Skills Centres and similar enterprises that can deliver vocational training are eligible to become RTOs.

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

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.

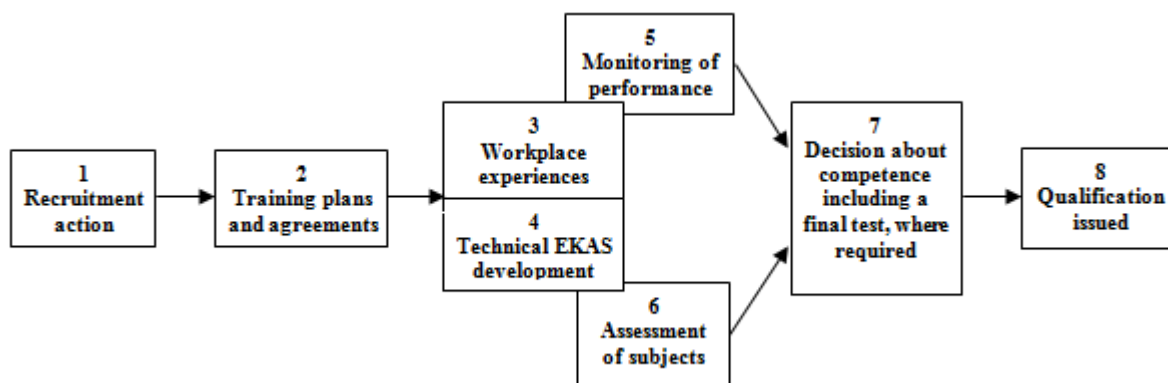
Combined on and off-the-job competency development model

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.



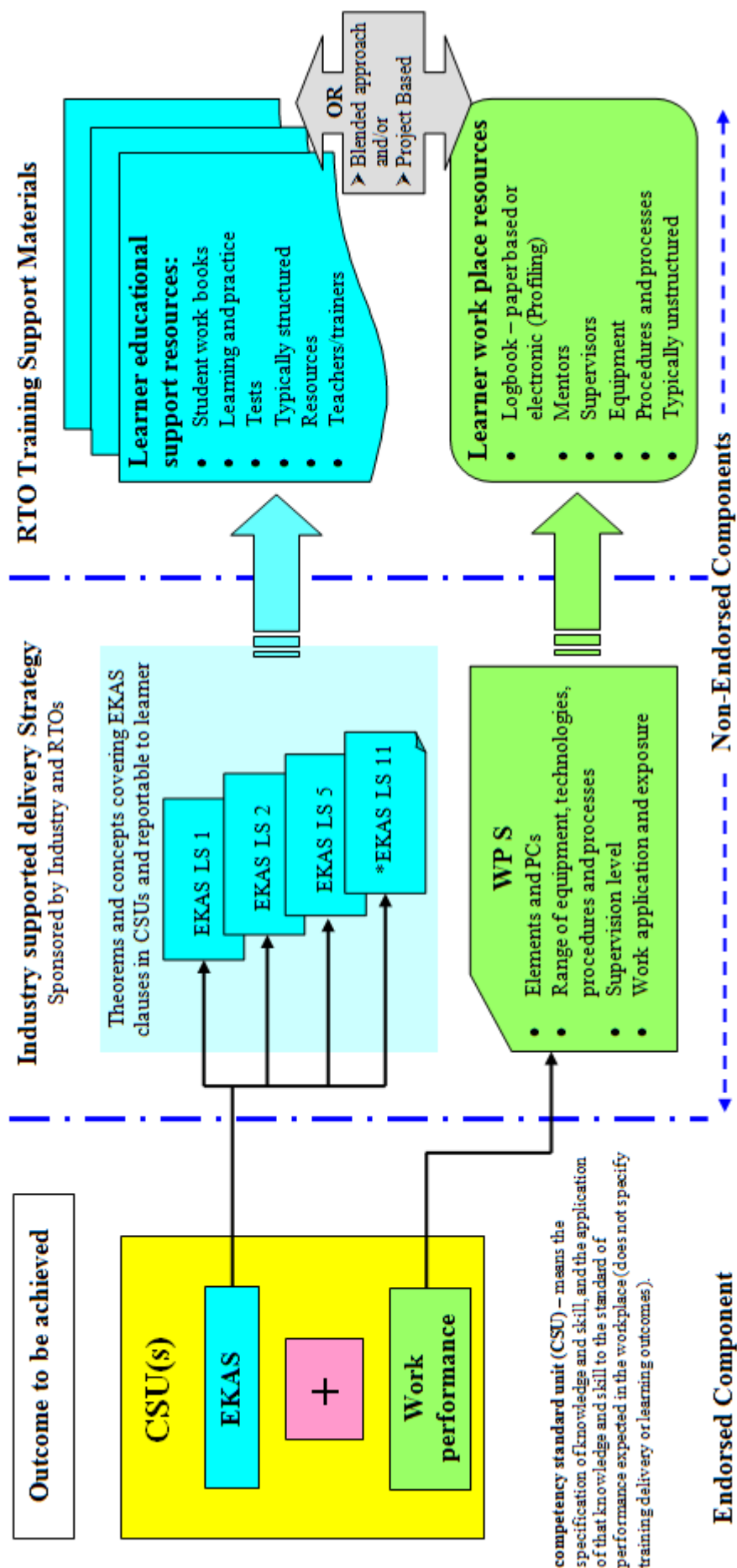
Competency Development Model

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

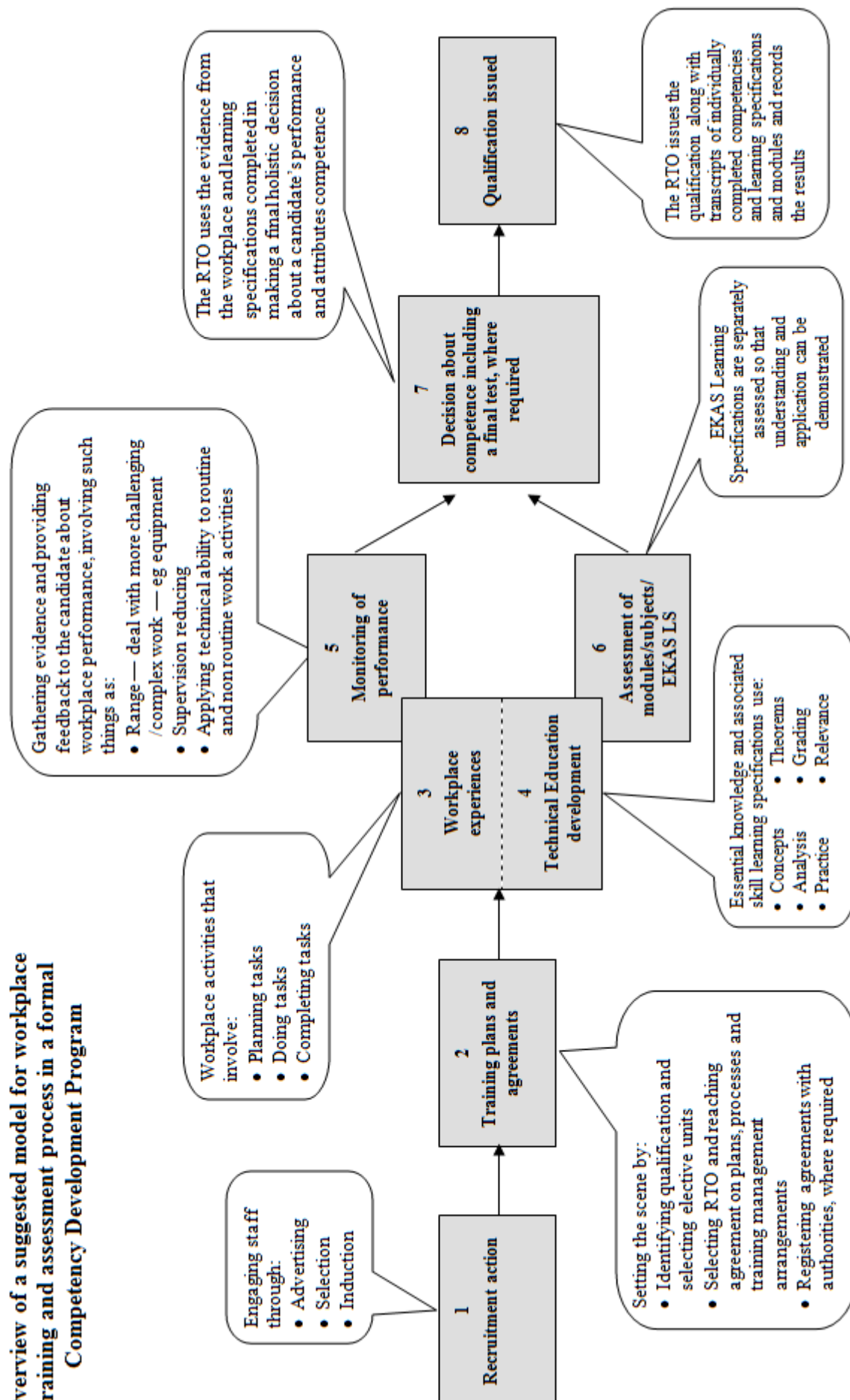
In designing training and assessment materials and resources to support new entrant competency development consideration should be given to the preferred Industry approach to learner development. The concept model detailed on the next page explores how training and assessment materials and resources 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.

Possible RTO competency development training design model for new entrants using one CSU as an example



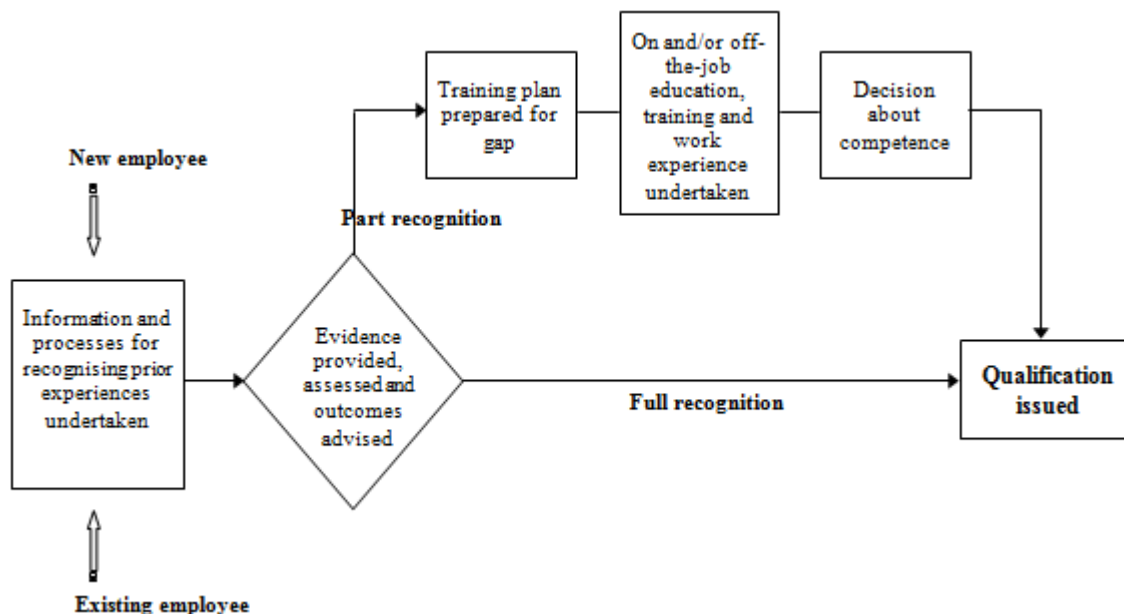
*EKAS LS – Essential Knowledge and Associated Skills Learning Specifications = where
EKAS LS 1 — may cover many units, EKAS LS 2 — may cover a number of units, EKAS LS 5
— may cover several units, and/or EKAS LS 11 – may be unique to the unit (refer to Volume 1
Part 2 and Volume 2 Part 2 for more detail)*

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

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

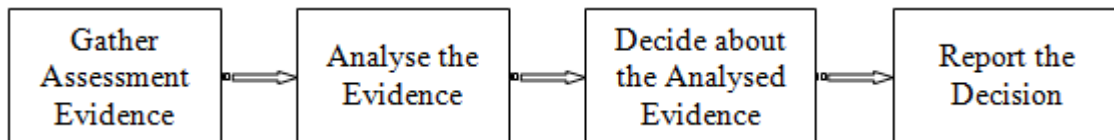
Good planning of workplace assessment is most important. The plan is to be based on a suitable process that is in line with the Competency Unit — TAAASS401A Plan and organise assessment from the Training and Assessment Training Package. Assessors need to address the following components of competence 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.

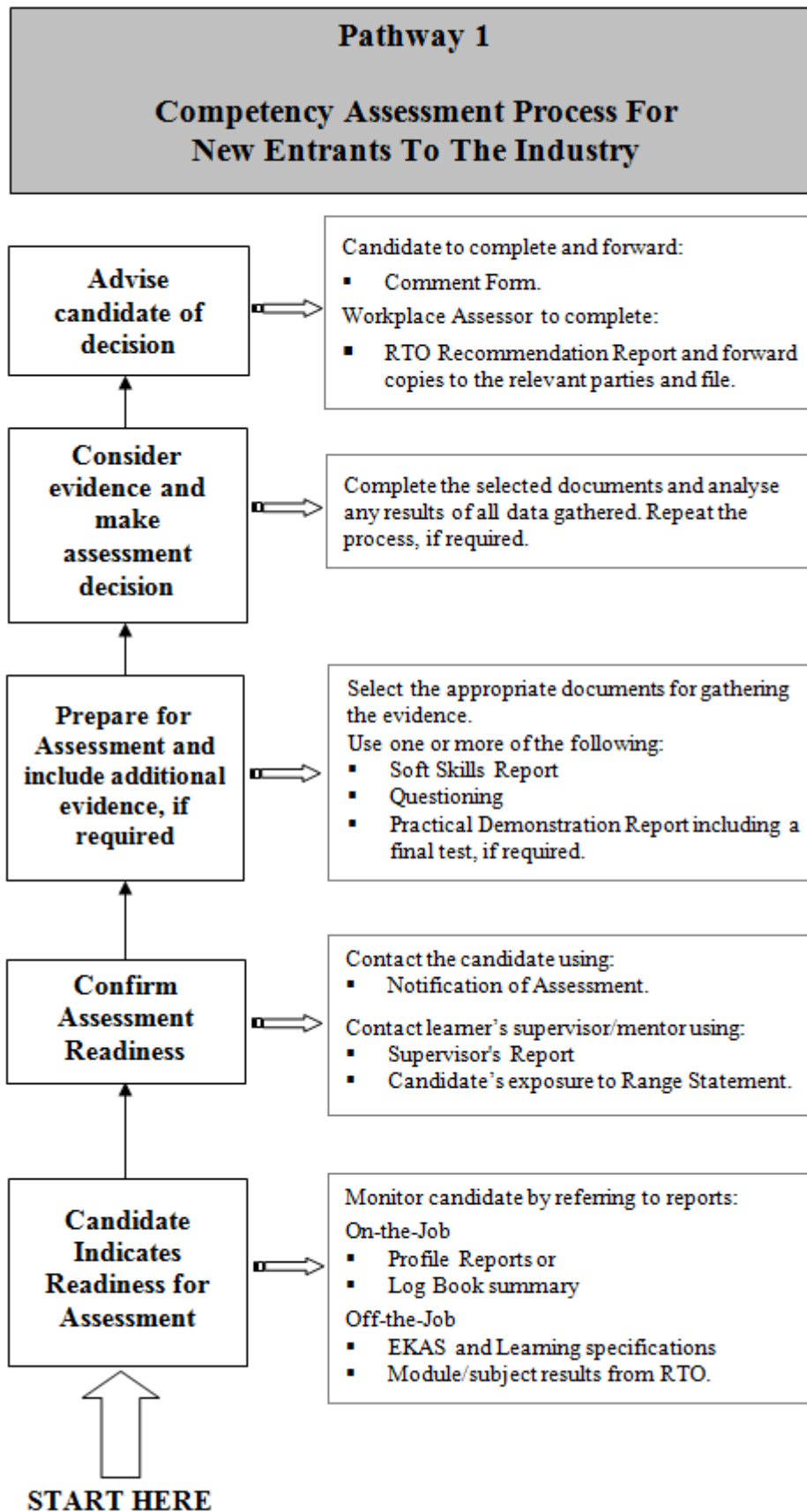
The Assessment Guidelines of this Training Package identify three assessment pathways for the Industry, as follows:

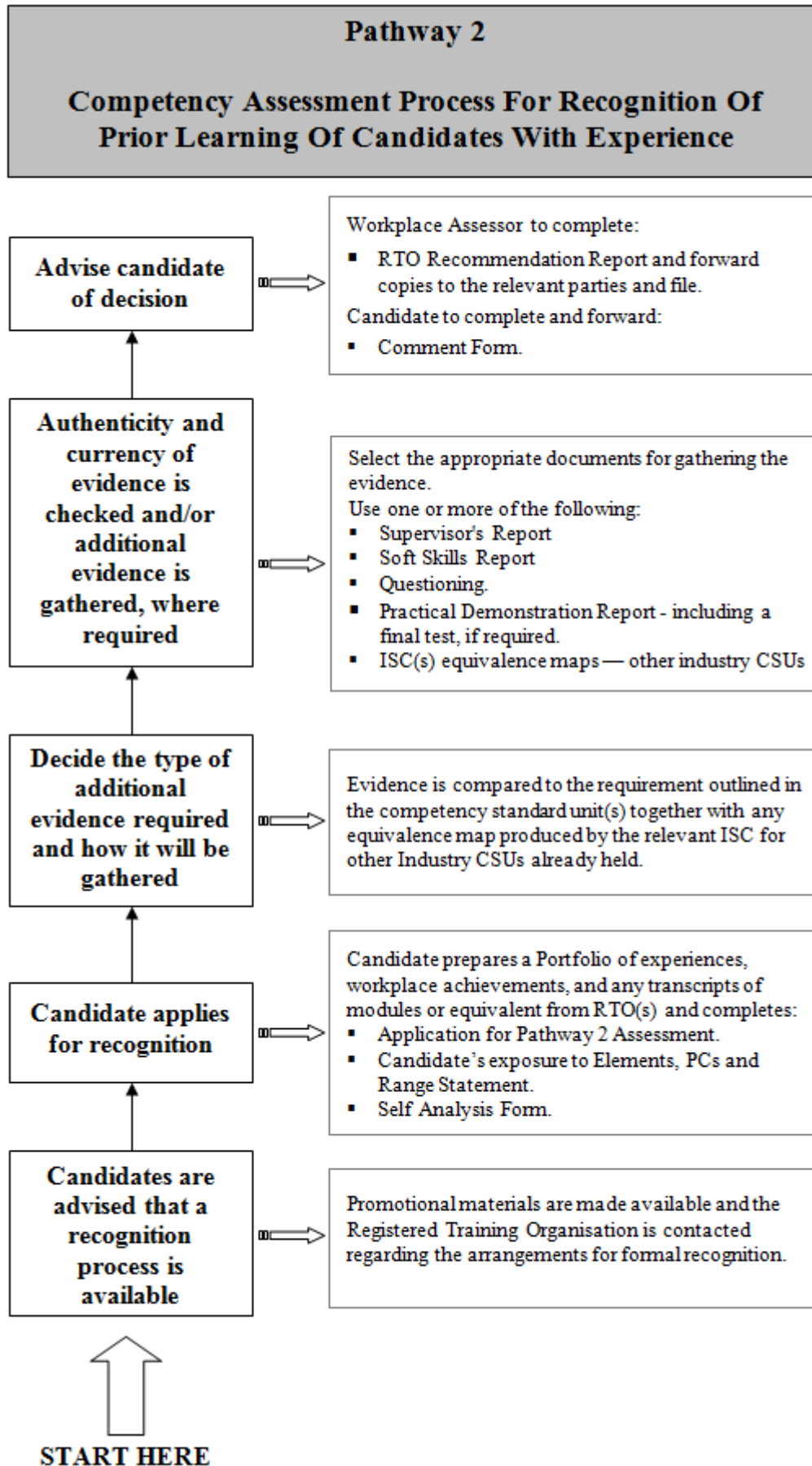
Pathway 1: For new entrants to the industry

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 required to demonstrate competency in this unit

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 – UEP06’. 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; and*
- *Apply sustainable energy principles and practices as specified in the performance criteria and range; and*
- *Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner’s performance outcome is reported in accordance with the preferred approach; namely a percentile graded result; and*
- *Demonstrate an appropriate level of skills enabling employment; and*
- *Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and*

Demonstrated performance across a representative range of contexts from the prescribed items below:

- *Verify compliance and functionality of general electrical installations as described as described in 7) 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 is deemed shall be considered holistically.

‘Items’ of evidence that the industry deems critical and that also relate directly to the Performance Criteria and Range Statements will typically include such items as:

- 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>		Candidate to complete
*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	Candidate to complete 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 National Electricity Supply Industry – Generation Sector 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.

Computer 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 off 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	Rating	
1. Applies correctly without constantly making reference to them.	①	
2. Refers to them regularly and applies information correctly.	2	
3. Awareness of their existence but not referred to or used.	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.

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	Rating (circle #)
1. Applies correctly without constantly making reference to them.	1
	2

2. Refers to them regularly and applies information correctly.	3	
3. Awareness of their existence but not referred to or used.		
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	Rating	
1. Customers are included in discussion effecting operational issues	1	
2. Knowledge of but limited application of customer relations.	2	
3. Requires more understanding of customer needs.	3	
Public		Identify a minimum of two.
Workers providing other services		
Clients and land owners		
Authorities		
Self development	Rating	
1. Desire to expand beyond the present job role.	1	
2. Keeps abreast of new products and services.	2	
3. Requires more understanding of the job role.	3	
Systematic problem solving		Identify a minimum of two.
Personal well being		
Time management		
Professional development		

Team Work	Rating	
1. Shares ideas, assists and accepts assistance from others	1	
2. Accepts ideas and assistance from others.	2	
3. Prefers not to assist or accept assistance from others	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:

- As competency standard units are typically structured around PLAN ⇐ CARRY OUT ⇐ COMPLETE jobs in the workplace, the form for recording responses is generic.
- 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:

Element 1 – Planning for job/task functions (L1)**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

- 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

- 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
- 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:

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

Element 3 – Completing job/task functions (L2)

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:					
Assessor's 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)	

Unit Title:					
No.					
Candidate's name:					
Assessor's name:					
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 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:					
Assessor's name:					
Main Question for the 'Completing Work' 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:

1. off-the-job training (technical subjects/topics), and
2. on-the-job training (workplace activities), and
3. 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:

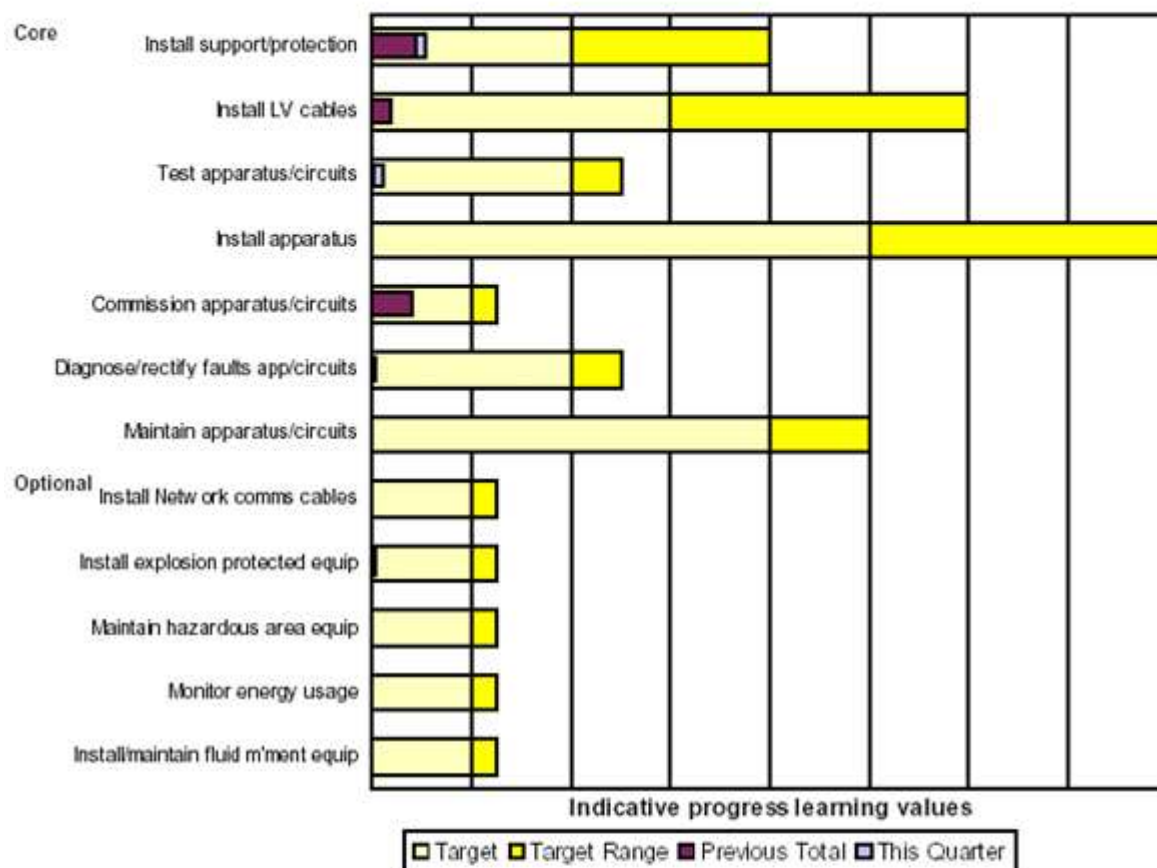
- activity against each element of competency and indirect information against the Performance Criteria
- quality, breadth and range of equipment, processes, techniques and applications experienced and worked with/on in the workplace
- level of supervision of a learner's workplace experiences
- hours 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.

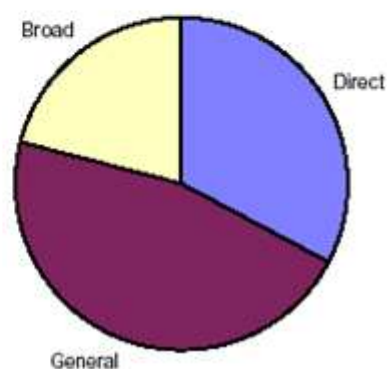
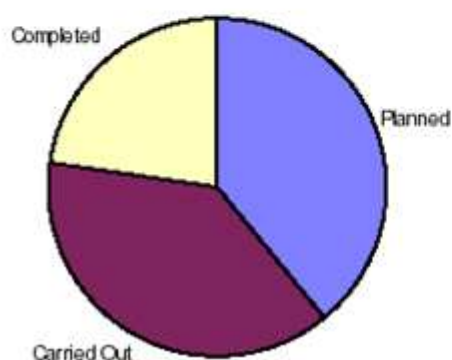
Sample Profiling Report**First Zzsample (999999)****Apprentice On Job Experience Profile - Progressive and Benchmarks Points
Systems Electrician - Quarterly Report, May 2002**

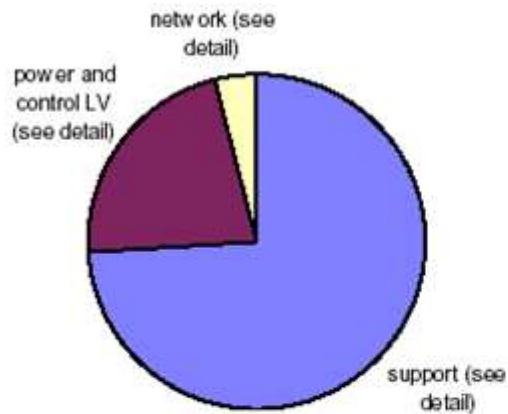
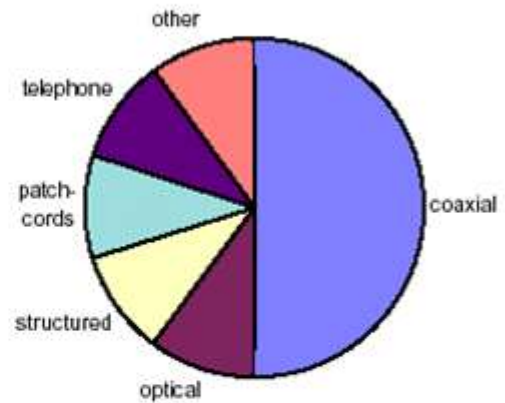
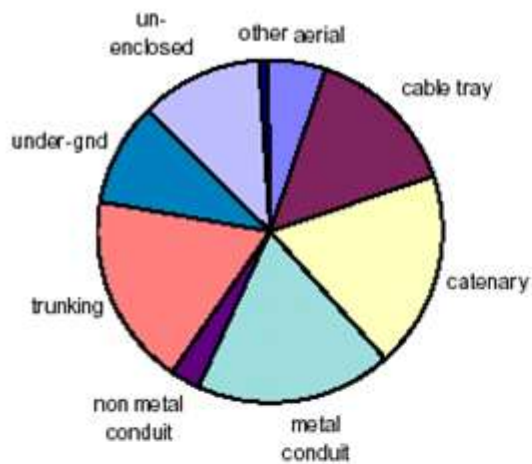
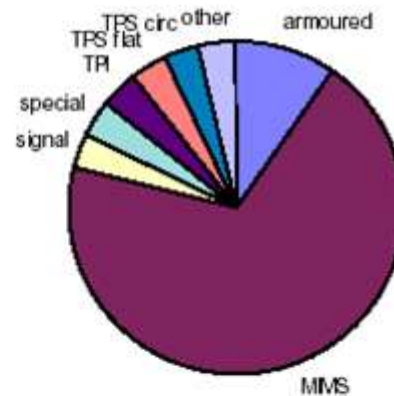
* indicates Optional competency selected by the learner in Schedule C

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 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 following competency standard units

For the following reason (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 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

Term	Definition/Explanation
	<ul style="list-style-type: none"> any combination of the above.
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 1.3.5 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 breadth. 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 1.3.4 Assessment Principles
Flexibility	See section 1.3.4 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/Industr y 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 1.3.5 Assessment Processes in the Electrotechnology Industry.
Profiling	See section 1.3.5 Assessment Processes in the Electrotechnology

Term	Definition/Explanation
	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 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

Term	Definition/Explanation
	is authentic, valid, reliable, current and sufficient.
Records of assessment	The information of assessment outcomes that is retained by the Organisation that is responsible for issuing the nationally recognised Statement of Attainment or qualification.
Registered Training Organisation (RTO)	Registered Training Organisation (RTO) means a training organisation registered in accordance with the Australian Recognition Framework, within a defined scope of registration (see Scope of Registration).
Reliability	See section 1.3.4 Assessment Principles
Sampling	See section 1.3.5 Assessment Processes in the Electrotechnology Industry
Statement of Attainment	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.
Sufficiency of evidence	See section 1.3.4 Assessment Judgments
Training Package	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.
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.

Term	Definition/Explanation
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 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 1.3.4 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	The process through which employers meet requirements set out in the relevant anti-discrimination and equal employment opportunity legislation.

Term	Explanation
	<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.
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

Term	Explanation
	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.
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

Term	Explanation
	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.
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.

Term	Explanation
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	<p>The area surrounding the work site which can be directly or 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</p>

Term	Explanation
	energy usage through general awareness and the use of appropriate technologies.
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 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.

Term	Explanation
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.
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).

Term	Explanation
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.
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)	Planning, preparing, organisation and actual operation of

Term	Explanation
operations)	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.
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

Term	Explanation
	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).
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

Term	Explanation
	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.
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).

Term	Explanation
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, 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

Term	Explanation
	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.
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.

Term	Explanation
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.



OHS SUPPORT MATERIALS FOR DEVELOPERS OF COMPETENCIES AND LEARNING RESOURCES

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 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

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • 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 confined space</i> • Handbook – HB 213:2003 <i>Guidelines for safe working in a confined space</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 – • 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. 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:

NOHSC Term	Explanation
	<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>
Consultative arrangements	<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, geographic, hierarchical • 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</p>

NOHSC Term	Explanation
	<p>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 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

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • 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, 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 • 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</p>

NOHSC Term	Explanation
	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.
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>	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.
Emergency	<p>Events such as:</p> <ul style="list-style-type: none"> • serious injury events • emergencies requiring evacuation • fires and explosions • 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,

NOHSC Term	Explanation
	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	Includes: <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	Are fitted to plant and equipment that have a risk of entrapment or other hazard and must be: <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	Processes and instruments available to the OHS regulator under legislation may include: <ul style="list-style-type: none"> • prosecution • prohibition notices • improvement notices • on-the-spot fines • provisional improvement notices.
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

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • 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	<p>May include:</p> <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	<p>Other than OHS but that impact on the management of OHS may include:</p> <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.
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	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,

NOHSC Term	Explanation
	or a combination of these.
Hazards of long latency	Conditions, illnesses and other health risks that result from longer term exposure to specific triggers such as chemicals, noise, radiation and psychosocial factors.
Hazards of low frequency/high consequence	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.
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 • 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.

NOHSC Term	Explanation
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 representative	An employee, elected by the workgroup, who represents the OHS 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> .

NOHSC Term	Explanation
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	<p>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:</p> <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	<p>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.</p> <p>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.</p>
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:	<p>May be internal, including:</p> <ul style="list-style-type: none"> • hazard, incident and investigation reports • 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

NOHSC Term	Explanation
	<ul style="list-style-type: none"> 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 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)	<p>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.</p>
Legislation relevant to	<p>Includes Commonwealth and relevant State/Territory OHS specific</p>

NOHSC Term	Explanation
OHS	<p>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	<p>The likelihood of the occurrence of the consequence, not the likelihood of the hazard or the particular scenario.</p>
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>

NOHSC Term	Explanation
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	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. Refer also to <i>workplace inspection</i> .
OHS specialists	Include: <ul style="list-style-type: none"> • safety professionals • ergonomists • occupational hygienists • safety engineers • injury management advisors • 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)	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

NOHSC Term	Explanation
	<p>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.
<p>Participative arrangements</p> <p>May also be referred to as <i>consultative arrangements</i>, however <i>participation</i> implies a higher level of involvement.</p>	<p>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.</p>
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 • 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

NOHSC Term	Explanation
	pressure piping <ul style="list-style-type: none"> • electrical installation and plant such as wiring, accessories, fittings, consuming devices, control and protective gear, converters and generators.
Plant Registration	The administrative process by which a certifying authority or state OHS regulator requires an organisation or industry to register plant, machinery and equipment.
Personal protective equipment (PPE)	Equipment designed to be worn by a person to provide protection from hazards, and may include: <ul style="list-style-type: none"> • head protection • face and eye protection • respiratory protection • hearing protection • hand protection • clothing and footwear Personal protective equipment is considered the least satisfactory control measure.
Policies and procedures	Relevant to OHS include: <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.
Positive performance indicators	Focus on assessing how successfully a workplace is performing through measuring OHS processes.
(OHS) Records	Requirements for OHS record keeping may be defined in: <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

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • OHS records may include: • hazard and incident reports, first aid records • risk assessments • hazardous substances and dangerous good 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 <i>Likelihood</i> .	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.
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

NOHSC Term	Explanation
	<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.
<p>Risk assessment</p> <p>Refer also to <i>Risk Analysis</i> and <i>Risk evaluation</i>.</p>	<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>
<p>Risk evaluation</p>	<p>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.</p>
<p>Risk management</p>	<p>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).</p>
<p>Risk ranking</p>	<p>A process of rating risks according to their severity and likelihood. Common systems are based on matrices or nomograms but are usually highly subjective.</p>
<p>Risk register</p> <p>May also be referred to as <i>Hazard Register</i>.</p>	<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; • possible control measures and dates for implementation.
<p>Safe Design</p>	<p>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.</p>
<p>Stakeholders</p>	<p>In workplace OHS include:</p> <ul style="list-style-type: none"> • managers

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • 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	<p>Law created by legislation passed by government (acts and regulations) as distinct from common law.</p>
(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 • 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.

NOHSC Term	Explanation
	<ul style="list-style-type: none"> • Factors that may impact on the implementation of a systematic approach to managing OHS may include: • 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 Index of Competency Standards Units

Volume 2 Part 2

Index of Competency Standard Units

Volume 2 of this Training Package contains approximately 350 units of competency. The units have been arranged into discipline categories of Operations (OPS) and Maintenance (MNT) for ease of presentation and to facilitate quick access and referencing.

There are eight (8) Schedules of elective units that are integral to this Training Package described in the following table. Users are able to draw electives from the Schedules as detailed in the qualification packaging rules.

The Schedules are available in Volume 2 Part 2 of this Training Package.

SCHEDULE	DISCIPLINE	SERIES
SCHEDULE 1	Operations Units AQF 2	UEPOPS201A – UEPOPS250A
SCHEDULE 2	Operations Units AQF 3	UEPOPS301A – UEPOPS357A
SCHEDULE 3	Maintenance Units AQF 3	UEPMNT301A – UEPMNT360A
SCHEDULE 4	Operations Units AQF 4	UEPOPS401A – UEPOPS442A
SCHEDULE 5	Maintenance Units AQF 4	UEPMNT401A – UEPMNT433A
SCHEDULE 6	Operations Units AQF 5	UEPOPS501A – UEPOPS515A
SCHEDULE 7	Maintenance Units AQF 5	UEPMNT501A – UEPMNT504A
SCHEDULE 8	Imported Units	

Sections of the Competency Standard Units

All competency standard units (CSUs) found in this Training Package (UEP06) have been developed in accordance with DEST requirements, with minor enhancements. Each unit has 8 sections.

Section 1 contains the unit title and scope.

Section 2 outlines all prerequisite and co-requisite CSUs required for each unit, as well as literacy and numeracy entry requirements.

Section 3 contains information in relation to the application of the units and any 'licence to practise' advice for those assessing the competency standard units, including the potential licensing requirements that underpin the carrying out of work performed in that competency standard unit.

Section 4 covers the competency field or discipline applying and section 5 the Elements in the Performance Criteria.

Section 6 contains detailed information on the required Essential Knowledge and Associated Skills (EKAS) to be delivered as a part of the standard. This includes the need to use and reference Volume 2 Part 2.2 of this Training Package for the required detail and specification of the essential knowledge and associated skills applying to the unit.

Section 7 is provides the range of contexts and conditions to which the Performance Criteria apply. This Range Statement allows for different work environments and situations that will affect performance. The Range Statement relates to the unit of competency as a whole

Section 8 covers the Evidence Guide that includes the overview of assessment; critical aspects of evidence required to demonstrate competency in the unit; context of assessment including resource implications; methods to be used in assessment of the learner; relationship to other competency standard units found in the Training Package; the Meyer Key Competencies; and the Skills Enabling Employment.

For further information in relation to the competency standard units, users of this Training Package should refer to *Volume 1, Part 1 Qualifications Framework* and *Volume 1, Part 2 Competency Standards*.

Coding Structure

Each competency standard unit has a unique code. A typical code is made up of a maximum of 12 characters; normally a mixture of uppercase letters and numbers. For example in this Training Package the following approach has been adopted:

Unit Number									
U	E	P	O	P	S	4	2	8	A
Training Package identifier			Stream i.e. Operations			Notional AQF Level	Numbers 01 to 99		Version
← 12 Characters Maximum →									

Example: UEPOPS428A Develop HV Switching Programs

UEP National Energy Power Training Package

OPS Operations Stream

4 AQF 4 (notional)

28 Number of Unit

A First version of the unit

Imported Competency Standard Units

Imported units are listed by notional AQF level and can be used as electives in qualifications in accordance with the qualifications completion requirements from this package and at the same AQF level or lower.

Users are also able to import units of competency from other Training Packages in accordance with the Training Package requirements. That is, imported units must be approved and valued by the National Generation Training Group in order for them to contribute to an ESI qualification. Contact EE-Oz Training Standards for information about having additional units of competency valued by the National Generation Training Group.

Imported competency standard units in the Electricity Supply Industry - Generation Training Package included in Schedule 8 of this Volume.

The list of imported units is also included in Volume 1 Table 4 – Imported Units of Competency from other Training Packages. Users wishing to use imported units will need to use them as detailed therein and where appropriate, contact the relevant original Training Package developer or the NTIS to obtain the most recent version of the unit of competency.

Schedules of Competency Standard Units

There are eight (8) Schedules of elective units that are integral to this Training Package described in the following table. Users are able to draw electives from the Schedules as detailed in the qualification packaging rules included in Volume 1 Part 1 –Qualifications Framework.

The Schedules are as follows:

SCHEDULE	DISCIPLINE	SERIES
SCHEDULE 1	Operations Units AQF 2	UEPOPS201A – UEPOPS250A
SCHEDULE 2	Operations Units AQF 3	UEPOPS301A – UEPOPS357A
SCHEDULE 3	Maintenance Units AQF 3	UEPMNT301A – UEPMNT360A
SCHEDULE 4	Operations Units AQF 4	UEPOPS401A – UEPOPS442A
SCHEDULE 5	Maintenance Units AQF 4	UEPMNT401A – UEPMNT433A
SCHEDULE 6	Operations Units AQF 5	UEPOPS501A – UEPOPS515A
SCHEDULE 7	Maintenance Units AQF 5	UEPMNT501A – UEPMNT504A
SCHEDULE 8	Imported Units	

Schedule 1: Operation Units AQF 2

The following units have been grouped into AQF 2 Operations Units. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
UEPOPS201A	Comply with Occupational Health and Safety Policy and Procedures This unit deals with the skills and knowledge required to follow defined Occupational Health and Safety policies and procedures related to the work being undertaken in order to ensure the individual's own safety and that of others in the workplace.
UEPOPS202A	Apply Quality Systems to Work This unit deals with the skills and knowledge required to apply the desired standards to work as specified within the quality system.
UEPOPS203A	Operate and Monitor Communications System This unit deals with the skills and knowledge required to operate and monitor the application of communications systems.
UEPOPS204A	Maintain and Utilise Records This unit deals with the skills and knowledge required to maintain and use of recorded data.
UEPOPS205A	Conduct Minor Mechanical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with, but not limited to, mechanical equipment.
UEPOPS206A	Conduct Minor/Basic Electrical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with electrical equipment
UEPOPS207A	Perform Plant Lubrication This unit deals with the skills and knowledge required to maintain grease, oil levels and quality in all areas of plant.
UEPOPS208A	Operate Local Systems

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to operate plant at the local position in conjunction with coordinated systems under the control of appropriate authorised personnel.
UEPOPS209A	Perform Process Plant Inspections This unit deals with the skills and knowledge required to conduct the inspection of generation production plant and associated equipment.
UEPOPS210A	Conduct First Response within a Workplace Team This unit deals with the skills and knowledge required to conduct first response within emergency team operations.
UEPOPS211A	Clean Plant and Equipment This unit deals with the skills and knowledge required to clean industrial plant, machinery and surrounds associated with Electricity Generation stations and related surroundings which may include the appropriate removal of excess or oil based soil.
UEPOPS212A	Perform Basic Rigging Work This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, in particular hoists, safety nets and static lines, safety screens and shutters.
UEPOPS213A	Perform Intermediate Rigging Work This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, all hoists, rigging of cranes, dual lifts, demolition.
UEPOPS214A	Perform Dogging Work This unit deals with the skills and knowledge required to apply slinging techniques, including the selection and inspection of lifting gear, and provision of direction to the crane/hoist operator in the movement of the load including when the load is out of view of the operator.
UEPOPS215A	Perform Basic Scaffolding This unit deals with the skills and knowledge required to perform the application of scaffolding work in an environment where electricity is being generated. This would include, but not limited to, free standing prefabricated scaffolds, cantilevered hoist with maximum working load limit not exceeding 500kg (materials only), bracket scaffolds (tank and

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	formwork).
UEPOPS216A	Perform Intermediate Scaffolding This unit deals with the skills and knowledge required to erect and dismantle scaffolding work in an environment where electricity is being generated including, but not limited to, tube and coupler scaffolds, cantilevered and spurred scaffolds, barrow ramps and sloping platforms, mast climbers.
UEPOPS217A	Conduct Elevating Work Platform Operations This unit deals with the skills and knowledge required to conduct the inspection and pre-operational tests, positioning, setting up and operation of elevating work platforms in an environment where electricity is being generated.
UEPOPS218A	Shift and Transfer Materials using a Bulldozer This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a bulldozer in an environment where electricity is being generated.
UEPOPS219A	Shift and Transfer Materials using a Grader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a Grader in an environment where electricity is being generated.
UEPOPS220A	Shift and Transfer Materials using a Scraper This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a scraper in an environment where electricity is being generated.
UEPOPS221A	Shift and Transfer Materials using a Front End Loader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a front end loader in an environment where electricity is being generated.
UEPOPS222A	Shift and Transfer Materials using a Skidsteer Loader This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a Skidsteer Loader in an environment where electricity is being generated.
UEPOPS223A	Shift and Transfer Materials using a Telescopic Materials Handler-Loader

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a telescopic materials handler-loader in an environment where electricity is being generated.
UEPOPS224A	Shift and Transfer Materials using a Backhoe This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using a backhoe in an environment where electricity is being generated.
UEPOPS225A	Shift and Transfer Materials using an Excavator This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using an excavator in an environment where electricity is being generated.
UEPOPS226A	Shift and Transfer Materials using Bobcats – Wheeled and Tracked This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using Bobcats – wheeled and tracked in an environment where electricity is being generated.
UEPOPS227A	Shift and Transfer Materials using Borers and related attachments This unit deals with the skills and knowledge required to undertake the shifting, loading and carrying of materials using borers and related attachments in an environment where electricity is being generated.
UEPOPS228A	Conduct Fork-lift Operations This unit deals with the skills and knowledge required to undertake the inspection and pre-operational tests, driving, manoeuvring and the lifting and relocating of loads using a fork-lift in an environment where electricity is being generated.
UEPOPS229A	Operate Lifting and Load Shifting Equipment for Loads less than 10 tonnes This unit deals with the skills and knowledge required to undertake the operation of specified cranes and lifting equipment in an environment where electricity is being generated and used to facilitate the installation, modification or maintenance of equipment associated with the Power Generation industry sector.
UEPOPS230A	Operate Lifting and Load Shifting Equipment for Loads greater than ten tonnes This unit deals with the skills and knowledge required to undertake the operation of particular cranes and hoists for loads greater than ten tonnes in

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	an environment where electricity is being generated and used to facilitate the installation, modification or maintenance of equipment associated with the Power Generation industry sector.
UEPOPS231A	Operate Explosive Powered Tool This unit deals with the skills and knowledge required to operate an explosive powered tool commonly known as a ramset gun.
UEPOPS232A	Transport Plant and Equipment This unit deals with the skills and knowledge required to transport plant and equipment.
UEPOPS233A	Perform Machining Operations This unit deals with the skills and knowledge required to perform basic machining operations that would not require the use of precision measuring instruments, or scaling from drawings and prints.
UEPOPS234A	Perform Routine Oxyacetylene (Fuel Gas) Welding (OAW) This unit deals with the skills and knowledge required to be applied in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent Codes and/or licensing requirements.
UEPOPS235A	Perform Routine Manual Arc Welding This unit deals with the skills and knowledge required to be applied in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent Codes and/or licensing requirements.
UEPOPS236A	Perform Manual Heating, Thermal Cutting and Gouging This unit deals with the skills and knowledge required to be applied in a maintenance environment and would be used to facilitate a wide range of maintenance activities.
UEPOPS237A	Perform Tool Store Duties This unit deals with the skills and knowledge required to cover the management and storage of tools and consumable items used in a workshop or similar environment associated within the Generation industry sector.
UEPOPS238A	Maintain Battery Banks and Cells This unit deals with the skills and knowledge required to undertake the

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	maintenance of all battery cells/banks including hydrogen generation cells/banks.
UEPOPS239A	Conduct Minor/Basic Electrical Maintenance This unit deals with the skills and knowledge required to conduct a range of minor/basic maintenance functions associated with electrical equipment.
UEPOPS240A	Operate and Monitor Fuel Supply (Coal) This unit deals with the skills and knowledge required to operate, inspect and monitor coal delivery systems to the generating unit storage bunker.
UEPOPS241A	Operate and Monitor Ash and Dust Disposal Plant This unit deals with the skills and knowledge required to operate, inspect and monitor ash and dust disposal plants associated with a coal fired power station.
UEPOPS242A	Operate and Monitor Dust Collection Plant This unit deals with the skills and knowledge required to operate, inspect and monitor dust collection plant associated with a power station.
UEPOPS243A	Operate Air Conditioning Plant This unit deals with the skills and knowledge required to operate and inspect all air conditioning plant.
UEPOPS244A	Operate and Monitor Site Services Water Systems This unit deals with the skills and knowledge required to operate, inspect and monitor of site services water systems, excluding fixed fire water services.
UEPOPS245A	Conduct Chemical Batching Operations This unit deals with the skills and knowledge required to conduct mixing of chemicals for the treatment of a primary substance.
UEPOPS246A	Operate Waste and Contaminated Water Plant This unit deals with the skills and knowledge required to operate, inspect and monitor waste contaminated water plant associated with a power generating complex.
UEPOPS247A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine This unit deals with the skills and knowledge required to operate, inspect

Schedule 1: Operation Units AQF 2 UEPOPS201 – UEPOPS250A	
Unit Number	Title Descriptor
	and monitor single fuel internal combustion engines.
UEPOPS248A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine This unit deals with the skills and knowledge required to operate, inspect and monitor dual fuel reciprocating engines.
UEPOPS249A	Liaise with Stakeholders This unit deals with the skills and knowledge required to communicate with staff and external/internal stakeholders.
UEPOPS250A	Perform Process Plant Inspections This unit deals with the skills and knowledge required to conduct the inspection of generation production plant and associated equipment.

For full details refer Volume 2 Part 2.1:

Schedule 1: Operation Units AQF 2 UEPOPS201 – EPOPS250A

Schedule 2: Operation Units AQF 3

The following units have been grouped into AQF 3 Operations Units. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
UEPOPS301A	Conduct Single Energy Source Isolation Procedures for Permit to Work This unit deals with the skills and knowledge required to apply single energy source isolation procedures of the permit to work procedures at the isolating level. Job requirements including permits are coordinated with other personnel involved in, or affected by, the isolation in accordance with enterprise/site requirements.

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
UEPOPS302A	<p>Perform Advanced Rigging Work</p> <p>This unit deals with the skills and knowledge required to undertake rigging work associated with, but not limited to, movement of plant and equipment, all hoists, rigging of cranes, dual lifts, suspended scaffolds and fabricated hung scaffolds.</p>
UEPOPS303A	<p>Perform Advanced Scaffolding</p> <p>This unit deals with the skills and knowledge required to perform the application of scaffolding work in an environment where electricity is being generated including, but not limited to, hung scaffolds, including scaffolds hanging from tubes, wire ropes and chains, and suspended scaffolds.</p>
UEPOPS304A	<p>Make and Spread a Stockpile</p> <p>This unit deals with the skills and knowledge required to make and spread stockpiles.</p>
UEPOPS305A	<p>Operate and Monitor Briquette Coal Cooling Plant</p> <p>This unit deals with the skills and knowledge required for operations associated with the cooling of coal in the briquette manufacturing process.</p>
UEPOPS306A	<p>Operate and Monitor Briquette Coal Drying Plant</p> <p>This unit deals with the skills and knowledge required for operations associated with the drying of coal in the briquette manufacturing process.</p>
UEPOPS307A	<p>Operate and Monitor Briquette Coal Press Plant</p> <p>This unit deals with the skills and knowledge required for operations associated with the pressing of dried raw fine coal into briquettes.</p>
UEPOPS308A	<p>Perform Briquette Laboratory Tests</p> <p>This unit deals with the skills and knowledge required for activities associated with the testing of coal briquette products.</p>
UEPOPS309A	<p>Operate and Monitor Air Conditioning Equipment and Ventilation Systems</p> <p>This unit deals with the skills and knowledge required to diagnose and repair faults in air conditioning equipment/ventilation systems, and associated accessories and wiring systems.</p>

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
UEPOPS310A	Operate Bulk Coal Handling Plant This unit deals with the skills and knowledge required to address the storage, reclaiming and dispatching of bulk coal.
UEPOPS311A	Operate Fabric Filter Dust Collection Plant This unit deals with the skills and knowledge required to operate, inspect and monitor fabric filter dust collection plant associated with coal fired power stations.
UEPOPS312A	Operate and Monitor Fuel Supply This unit deals with the skills and knowledge required to operate, inspect and monitor fuel supply from source to recipient unit storage.
UEPOPS313A	Operate and Monitor Boiler Draught System This unit deals with the skills and knowledge required to operate, inspect and monitor boiler draught equipment
UEPOPS314A	Operate and Monitor Fuel Firing Plant (Gas or Oil) This unit deals with the skills and knowledge required to operate, inspect and monitor gas or oil firing plant.
UEPOPS315A	Operate and Monitor Fuel Firing Plant (Coal) This unit deals with the skills and knowledge required to operate, inspect and monitor coal firing plant.
UEPOPS316A	Operate and Monitor Boiler Steam/Water Cycle This unit deals with the skills and knowledge required to operate, inspect and monitor boiler steam/water cycle.
UEPOPS317A	Operate and Monitor Fixed Fire Protection Systems This unit deals with the skills and knowledge required to operate, inspect and monitor fixed fire protection systems.
UEPOPS318A	Operate and Monitor Compressed Gas Systems This unit deals with the skills and knowledge required to operate compressed gas systems excluding air/steam.
UEPOPS319A	Operate and Monitor Gas Production Plant This unit deals with the skills and knowledge required to operate, inspect

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
	and monitor gas producing plant.
UEPOPS320A	Operate and Monitor Compressed Air Systems This unit deals with the skills and knowledge required to operate compressed air systems.
UEPOPS321A	Operate and Monitor Water Treatment Plant This unit deals with the skills and knowledge required to operate, inspect and monitor water treatment and purification plant.
UEPOPS322A	Operate and Monitor Alkalinity Reduction Plant This unit deals with the skills and knowledge required to operate, inspect and monitor alkalinity reduction plant which includes cooling tower water dosing plant.
UEPOPS323A	Operate and Monitor Reverse Osmosis Plant This unit deals with the skills and knowledge required to operate, inspect and monitor reverse osmosis plant.
UEPOPS324A	Operate and Monitor Brine Concentrator Plant This unit deals with the skills and knowledge required to operate, inspect and monitor of brine concentrator plant.
UEPOPS325A	Operate and Monitor Water Quality Control Systems This unit deals with the skills and knowledge required to operate and monitor water quality control systems in a power station.
UEPOPS326A	Operate and Monitor Oil Systems This unit deals with the skills and knowledge required to operate, monitor and inspect oil systems.
UEPOPS327A	Monitor and Maintain Civil Assets This unit deals with the skills and knowledge required to monitor and conduct remedial maintenance required to ensure the integrity of civil assets encountered with in the hydro-electric generating system.
UEPOPS328A	Undertake Dam Safety Surveillance This unit deals with the skills and knowledge required to conduct ongoing surveillance of water storage facilities to ensure structural

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
	integrity and water quality is maintained.
UEPOPS329A	Operate and Monitor Auxiliary Steam Systems This unit deals with the skills and knowledge required to operate, inspect and monitor auxiliary steam systems in a power station.
UEPOPS330A	Operate and Monitor Heat Exchangers This unit deals with the skills and knowledge required to operate and monitor heat exchangers/cooling systems within power stations.
UEPOPS331A	Operate and Monitor Water Systems (Condensate and Feedwater) This unit deals with the skills and knowledge required to operate, inspect and monitor the condensation and feedwater system.
UEPOPS332A	Operate and Monitor Condensing and Cooling Water Systems This unit deals with the skills and knowledge required to operate, inspect and monitor condenser cooling water and auxiliary cooling water systems.
UEPOPS333A	Operate and Monitor H.R.S.G. Hot Gas Control System This unit deals with the skills and knowledge required to operate, inspect and monitor waste heat recovery systems.
UEPOPS334A	Operate and Monitor a Wind Generator This unit deals with the skills and knowledge required to operate, inspect and monitor wind generator plant of any capacity.
UEPOPS335A	Operate a Hydro Generator/Synchronous Condenser/Pump Unit This unit deals with the skills and knowledge required to start-up, maintain steady state running and shutdown a hydro unit operating in generator or synchronous condenser or pump mode.
UEPOPS336A	Manage, Operate and Monitor a Gas Turbine Unit This unit deals with the skills and knowledge required to undertake the management of an in-service gas turbine unit.
UEPOPS337A	Maintain Quality Systems Within the Team This unit deals with the skills and knowledge required to oversee compliance with performance indicators through the maintenance of

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
	quality systems within a team environment.
UEPOPS338A	Facilitate Effective Workplace Communication This unit deals with the skills and knowledge required to facilitate effective workplace communication.
UEPOPS339A	Operate and Monitor a Boiler Unit This unit deals with the skills and knowledge required to operate and monitor the in-service boiler unit capable of supplying steam.
UEPOPS340A	Operate and Monitor a Steam Turbine This unit deals with the skills and knowledge required to operate and monitor of an in-service steam turbine.
UEPOPS341A	Shut down a Steam Turbine This unit deals with the skills and knowledge required to conduct a shut-down of a steam turbine to where it can be placed at rest.
UEPOPS342A	Interpret and Analyse Single Operation Protection Devices This unit deals with the skills and knowledge required to interpret and analyse of the operation of single operation protection devices.
UEPOPS343A	Operate Hydro-Electric Generating Plant and Auxiliary Equipment This unit deals with the skills and knowledge required to operate a hydro-electric generating station. This will include both the operational and maintenance activities associated with such plant.
UEPOPS344A	Conduct Water Conveyance and Control This unit deals with the skills and knowledge required for the operation of storage, conveyance and control systems of hydro generation water supplies.
UEPOPS345A	Implement Dam Safety Surveillance Procedures This unit deals with the skills and knowledge required for the scheduling, implementation and reporting of dam safety surveillance.
UEPOPS346A	Conduct Non-Routine Operational Testing This unit deals with the skills and knowledge required to conduct testing of generation plant and associated equipment which may be of a

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
	non-routine nature.
UEPOPS347A	Operate and Monitor Supervisory, Control and Data Acquisition Systems This unit deals with the skills and knowledge required to undertake monitoring and operation of screen based supervisory, control and data acquisition systems.
UEPOPS348A	Respond to Critical Incidents This unit deals with the skills and knowledge required to respond to incidents of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.
UEPOPS349A	UEPOPS352A Operate H.V. Primary Switchgear This unit deals with the skills and knowledge required to undertake the local operation of high voltage primary circuit breaking devices.
UEPOPS350A	UEPOPS353A Develop Contingency Plans This unit deals with the skills and knowledge required to prepare contingency plans required to support the integrity of the enterprise.
UEPOPS351A	Operate H.V. Condition Changing Apparatus This unit deals with the skills and knowledge required to undertake the local operation of all high voltage condition modifying devices.
UEPOPS352A	Conduct Operational Checks on In-service Mechanical Plant This unit deals with the skills and knowledge required to conduct operational checks on in-service mechanical plant.
UEPOPS353A	Conduct Operational Checks on In-service Electrical Plant This unit deals with the skills and knowledge required to conduct operational checks on in-service electrical plant.
UEPOPS354A	Operate and Monitor Dual Fuel Firing Plant This unit deals with the skills and knowledge required for the operation, inspection and monitoring of dual fuel firing plant in which each fuel source is capable of providing 100% Maximum Continuous Rating.
UEPOPS355A	Monitor the Implementation of Under Frequency Load Shedding

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A	
Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to implement and monitor Under Frequency Load Shedding facilities for isolated and integrated generation/network systems.
UEPOPS356A	Apply Environmental and Sustainable Energy Procedures This competency standard addresses unit deals with the skills and knowledge required for the implementation of environmental procedures to demonstrate duty of care and to identify assess and control environmental risks and the impact of work related activities. It includes a commitment to the principles of sustainable energy.
UEPOPS357A	Operate H.V. Secondary Switchgear This unit deals with the skills and knowledge required to undertake the local operation of high voltage secondary circuit breaking devices.

For full details refer Volume 2 Part 2.1:

Schedule 2: Operations Units AQF 3 UEPOPS301A – UEPOPS357A

Schedule 3: Maintenance Units AQF 3

The following units have been grouped into the Maintenance Units for AQF 3. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A	
Unit Number	Title Descriptor
UEPMNT301A	Install and Maintain Hydraulic/Pneumatic Components This unit deals with the skills and knowledge required to undertake the installation, repair and/or maintenance of fluid power components on stationary/mobile equipment.
UEPMNT302A	Install and Maintain Industrial Pipework This unit deals with the skills and knowledge required to undertake all

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	work associated with the installation, maintenance, and fabrication of industrial pipework which may also involve fault finding and repairs.
UEPMNT303A	Maintain Mechanical Valves This unit deals with the skills and knowledge required to undertake fault finding, diagnosis, repair and/or overhaul of mechanical valves, but excluding any associated servo or actuating unit.
UEPMNT304A	Maintain Mechanical Pumps This unit deals with the skills and knowledge required to undertake the installation and maintenance of mechanical pumps, compressors and blowers and the installation of which requires no more than basic alignment.
UEPMNT305A	Maintain Industrial Fans This unit deals with the skills and knowledge required to undertake all work required to maintain/overhaul industrial fans and may involve fault finding, diagnosis, repair and could require the removal and replacement of rotating elements with modulating controls.
UEPMNT306A	Maintain Industrial Transmissions This unit deals with the skills and knowledge required to undertake all work associated with the installation and maintenance of industrial transmissions and may involve fault finding, diagnosis and repairs.
UEPMNT307A	Maintain Industrial Screens, Strainers and Filters This unit deals with the skills and knowledge required to undertake the fault finding diagnosis, repair and/or overhaul of industrial screens, strainers and filters.
UEPMNT308A	Maintain Conveyors and Associated Equipment This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis and repair, adjustments, exchange of rollers and preparations for belt splicing/repairs.
UEPMNT309A	Maintain Material Feeders This unit deals with the skills and knowledge required to undertake the in-service fault finding, diagnosis and out of service inspection (internal/external), repairs and/or overhaul of material feeders.
UEPMNT310A	Maintain Material Crushers This unit deals with the skills and knowledge required to undertake the

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	in-service fault finding, diagnosis and out of service inspection, repairs, and/or overhauls of material crushers and would involve roll/door assemblies.
UEPMNT311A	Maintain Fuel Transport Equipment This unit deals with the skills and knowledge required to conduct the installation and repair/overhaul of fuel carriage/delivery and associated systems.
UEPMNT312A	Maintain Industrial Pressure Vessels This unit deals with the skills and knowledge required to maintain the boiler pressure parts, pressure vessels and associated components
UEPMNT313A	Maintain Internal Combustion Engines This unit deals with the skills and knowledge required to conduct maintenance and major overhauls of fixed or pad mounted internal combustion engines.
UEPMNT314A	Maintain Hydro Turbines This unit deals with the skills and knowledge required for the removal from service and overhaul of hydro turbines.
UEPMNT315A	Maintain Wind Turbines This unit deals with the skills and knowledge required for the removal from service and overhaul of hydro turbines.
UEPMNT316A	Perform Advanced Machining Operations This unit deals with the skills and knowledge required to perform advanced machining operations that may require complex calculations, a high level of precision or quality and using a full range of materials including non-standard metals and alloys. It would also be expected that the full range of machine accessories could be employed.
UEPMNT317A	Diagnose and Repair Faults in Mechanical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in a range of mechanical equipment and may entail the work to be carried out whilst machinery/plant is on line.
UEPMNT318A	Conduct Generator Mechanical Maintenance This unit deals with the skills and knowledge required to conduct mechanical maintenance of an electrical generating unit.

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
UEPMNT319A	Maintain and Test Fixed Fire Protection Systems This unit deals with the skills and knowledge required to conduct maintenance, fault finding and in-service testing of fixed fire protection systems.
UEPMNT320A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components This unit deals with the skills and knowledge required to inspect and repair faults in a range of mechanical equipment/components which may require fabrication work to be carried out.
UEPMNT321A	Weld Using Manual Metal Arc Welding Process (MMAW) This unit deals with the skills and knowledge required to perform general purpose Manual Metal Arc Welding to AS1554.GP.
UEPMNT322A	Weld using Gas Metal Arc Welding Process (GMAW) This unit deals with the skills and knowledge required to perform General Purpose Gas Metal Arc Welding to AS1554.GP.
UEPMNT323A	Weld using Gas Tungsten Arc Welding Process (GTAW) This unit deals with the skills and knowledge required to perform General Purpose Gas Tungsten Arc Welding to AS1554 GP.
UEPMNT324A	Weld using Oxyacetylene Welding Process (OAW) This unit deals with the skills and knowledge required to perform Oxyacetylene (Fuel Gas) Welding to AS1554.GP.
UEPMNT325A	Weld Using Submerged Arc Welding Process (SAW) This unit deals with the skills and knowledge required to perform submerged arc welding to AS1554.GP.
UEPMNT326A	Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW) This unit deals with the skills and knowledge required to perform special purpose Manual Metal Arc Welding to AS1554 SP.
UEPMNT327A	Perform Advanced Welding using Gas Metal Arc Welding (GMAW) This unit deals with the skills and knowledge required to perform special purpose Gas Metal Arc Welding to AS1544.S.P.

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A	
Unit Number	Title Descriptor
UEPMNT328A	<p>Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)</p> <p>This unit deals with the skills and knowledge required to perform special purpose Gas Tungsten Arc Welding to AS1554.SP.</p>
UEPMNT329A	<p>Perform Advanced Welding using Oxyacetylene Welding Process (OAW)</p> <p>This unit deals with the skills and knowledge required to perform special purpose Oxy Acetylene Welding to AS1554.SP.</p>
UEPMNT330A	<p>Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 1/1E (low carbon steel sheet and plate) using Manual Metal Arc Welding process.</p>
UEPMNT331A	<p>Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 2 (lcs pipe) using Manual Metal Arc Welding process.</p>
UEPMNT332A	<p>Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 3/3E (alloy steel plate) using Manual Metal Arc Welding process.</p>
UEPMNT333A	<p>Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 4 (alloy steel pipe) using Manual Metal Arc Welding process.</p>
UEPMNT334A	<p>Perform Gas Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 5 (alloy steel pipe) using Gas Tungsten Arc Welding and manual Metal Arc Welding processes.</p>
UEPMNT335A	<p>Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E</p> <p>This unit deals with the skills and knowledge required to weld to AS1796</p>

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	Certificate 6/6E using Oxy Acetylene (fuel gas) welding process.
UEPMNT336A	<p>Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 7 (pipe) using Gas Tungsten Arc welding process.</p>
UEPMNT337A	<p>Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 8/8e (plate and pipe) using Gas Metal Arc Welding process.</p>
UEPMNT338A	<p>Perform Submerged Arc Welding to Weld to AS1796 Certificate 9</p> <p>This unit deals with the skills and knowledge required to weld to AS1796 Certificate 9 using Submerged Arc Welding process.</p>
UEPMNT339A	<p>Perform Sheet Metal Work</p> <p>This unit deals with the skills and knowledge required to undertake marking out and development, fabrication and installation of sheet metal work.</p>
UEPMNT340A	<p>Fabricate Metal Structures and Components</p> <p>This unit deals with the skills and knowledge required to fabricate metal structures and components required to facilitate the installation, modification and maintenance of equipment associated with the Generation industry sector.</p>
UEPMNT341A	<p>Repair/Replace/Modify Metal Structures and Components</p> <p>This unit deals with the skills and knowledge required to repair, replacement and/or modification of metal structures and components used in the Generation industry sector.</p>
UEPMNT342A	<p>Install Electrical Equipment</p> <p>This unit deals with the skills and knowledge required to undertake the installation of electrical equipment including, but not limited to, rotating and static machines, appliances, luminaries and associated control equipment, but excludes H.V. equipment.</p>
UEPMNT343A	<p>Install Electrical Wiring Systems</p> <p>This unit deals with the skills and knowledge required to undertake the installation of electrical wiring systems including, but not limited to, general low voltage lighting, power circuits, control/indication and alarm</p>

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	circuits.
UEPMNT344A	Install Complex Electrical Equipment This unit deals with the skills and knowledge required to undertake the installation of complex/H.V electrical equipment.
UEPMNT345A	Install Electronic Electrical Equipment This unit deals with the skills and knowledge required to undertake the installation of electronic electrical equipment containing solid state components, complex control panels and complex control equipment.
UEPMNT346A	Maintain Electrical Equipment This unit deals with the skills and knowledge required to undertake the maintenance of electrical equipment including, but not limited to, rotating and static machines, appliances, luminaries and associated control equipment, but excludes H.V. equipment.
UEPMNT347A	Maintain Complex Electrical Equipment This unit refers to the maintenance of complex and H.V. electrical equipment.
UEPMNT348A	Maintain Electrical Electronic Equipment This unit deals with the skills and knowledge required to undertake the maintenance of electronic electrical equipment containing solid state components, complex control panels and complex control equipment.
UEPMNT349A	Diagnose and Repair Faults in Electrical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in electrical equipment, which may involve the work to be carried out with equipment online.
UEPMNT350A	Modify Electrical Equipment This unit deals with the skills and knowledge required to perform modifications of electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT351A	Test and Commission Electrical Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical wiring systems and equipment.
UEPMNT352A	Test and Commission Electronic Electrical Equipment

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical electronic equipment.
UEPMNT353A	Install Instrumentation Equipment This unit deals with the skills and knowledge required to undertake installation of instrumentation used in a "closed loop" system, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers and final elements.
UEPMNT354A	Install Instrumentation Wiring Systems This unit deals with the skills and knowledge required to undertake installation of instrumentation wiring systems include, but not limited to cords and cables such as flexible multicore, thermocouple, co-axial, ribbon and hook up cable, signal and data cable.
UEPMNT355A	Install Complex/Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to undertake installation of instrumentation used in a "multi-loop" configuration, including, but not limited to, signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultrasonic and nucleonics equipment.
UEPMNT356A	Maintain Instrumentation Equipment This unit deals with the skills and knowledge required to undertake maintenance of instrumentation equipment including, but not limited to, process measurement and control and analytical instrumentation.
UEPMNT357A	Diagnose and Repair Faults in Instrumentation Equipment This unit deals with the skills and knowledge required to undertake the diagnose and repair (to block level) of instrumentation used in "closed loop" system, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers and final elements.
UEPMNT358A	Modify Instrumentation Equipment This unit deals with the skills and knowledge required to conduct modification of instrumentation used in a "closed loop" system, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers, final elements.
UEPMNT359A	Test and Commission Instrumentation Systems This unit deals with the skills and knowledge required to conduct testing

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A

Unit Number	Title Descriptor
	and commissioning of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.
UEPMNT360A	Terminate Fibre Optic Cables This unit deals with the skills and knowledge required to undertake termination of fibre optic cables to equipment including, but not limited to, digital process controllers, distributive control systems, process computers, complex fire/security systems.

For full details refer Volume 2 Part 2.1:

Schedule 3: Maintenance Units AQF 3 UEPMNT301A – UEPMNT360A**Schedule 4: Operations Units AQF 4**

The following units have been grouped into the Operations Units for AQF 4. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
UEPOPS401A	Monitor Compliance with Occupational Health and Safety Policy and Procedures This unit deals with the skills and knowledge required to implement and monitor the organisation's Occupational Health and Safety policies, procedures and programs in the relevant work area to achieve and maintain Occupational Health and Safety standards. It requires the ability to implement and comply with workplace procedures in hazard identification and risk control, observation of others safe practices during work operations and conduct of participative arrangements for maintaining health and safety in the workplace.
UEPOPS402A	Conduct Multiple Energy Source Isolation Procedures for Permit to Work This unit deals with the skills and knowledge required for the application

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
	of permit to work procedures where multiple energy sources require isolation for safe access to high voltage, low voltage or mechanical apparatus.
UEPOPS403A	Coordinate Permit to Work System This unit deals with the skills and knowledge required to coordinate the permit to work system, its implementation and application on a day to day basis and during major outages and projects.
UEPOPS404A	Coordinate First Response Team Operation This unit deals with the skills and knowledge required to coordinate and manage a first response team.
UEPOPS405A	Operate and Monitor AC Electrical Systems This unit deals with the skills and knowledge required to operate and monitor local and remote operation of AC electrical switchgear, ring mains, switchboards and distribution systems including transformers and the remote operation of high voltage switch yards.
UEPOPS406A	Operate and Monitor DC Electrical Systems This unit deals with the skills and knowledge required to operate and monitor the local and remote operation of DC electrical switchgear, ring mains, switchboards, rectification and distribution systems.
UEPOPS407A	Start and Run up a Gas Turbine This unit deals with the skills and knowledge required for the establishment of combustion in a gas turbine, and establishing the gas turbine at operational speed.
UEPOPS408A	Shut Down a Gas Turbine This unit deals with the skills and knowledge required to shut down a gas turbine unit to a standby state.
UEPOPS409A	Start Up a Boiler Unit This unit deals with the skills and knowledge required to establish combustion in a boiler through to a stage at which combustion support energy is no longer necessary.
UEPOPS410A	Shut Down a Boiler Unit This unit deals with the skills and knowledge required to conduct the shutdown of a boiler unit to a de-pressurised state.

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
UEPOPS411A	Run Up a Steam Turbine This unit deals with the skills and knowledge required to conduct a steam turbine run up to a stable operating condition.
UEPOPS412A	Undertake Commissioning/Decommissioning This unit deals with the skills and knowledge required to undertake the decommissioning of plant and equipment and its subsequent recommissioning following maintenance and, or overhaul.
UEPOPS413A	Coordinate Operational Strategies for Power Production This unit deals with the skills and knowledge for the co-ordination of operational strategies to achieve the short and long term goals of the production plant.
UEPOPS414A	Perform Risk Analysis of Generation Plant This unit deals with the skills and knowledge required to identify and analyse the risk in loss of generation/production plant.
UEPOPS415A	Perform Cost Estimations This unit deals with the skills and knowledge required to perform cost estimations for planned and forced plant outages (plant may be a single item or whole unit).
UEPOPS416A	Monitor the Implementation of the Enterprise's Production/Maintenance Quality Control Procedures This unit deals with the skills and knowledge required to monitor the implementation of the production or maintenance quality control procedures at the enterprise level.
UEPOPS417A	Monitor and Implement Environmental Plans and Procedures This unit deals with the skills and knowledge required to address the monitoring and implementation of the application of environmental plans and procedures and the development of environmental procedures for the local work area.
UEPOPS418A	Deliver and Review Training This unit deals with the skills and knowledge required by individuals who play a key role in providing and reviewing training to raise the levels of competency in the workforce.
UEPOPS419A	Reserved

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
UEPOPS420A	Coordinate the Network/System This unit deals with the skills and knowledge required for the co-ordination of a network/system. Systems may be interconnected, remote or isolated.
UEPOPS421A	Manage Critical Incidents This unit refers to the management of incidents of a critical nature that may impact on the operational effectiveness of the plant or system, endanger human life or property, or have an adverse impact on the environment.
UEPOPS422A	Schedule Generation This unit deals with the skills and knowledge required to undertake the scheduling of a generation plant to economically meet forecast demand.
UEPOPS423A	Plan a Scheduled Outage This unit deals with the skills and knowledge required to plan for a Scheduled outage.
UEPOPS424A	Coordinate Local H.V. Networks This unit deals with the skills and knowledge required to coordinate the local control and management of HV substations and/or local networks.
UEPOPS425A	Produce Maintenance Plans for Generation Production Plant This unit deals with the skills and knowledge required to undertake the establishment and implementation of maintenance plans for generation production plant that may include boiler, turbine, hydo, electrical, control and monitoring, ash and dust; water treatment and fuel plant.
UEPOPS426A	Interpret and Analyse Multi-Operation Protection Devices This unit deals with the skills and knowledge required to interpret and analyse multi-operation high voltage protection schemes and related low voltage protection.
UEPOPS427A	Interpret and Analyse Low Voltage and Mechanical Protection Devices This unit deals with the skills and knowledge required to interpret and analyse the conditions that have initiated the operation of low voltage and or mechanical protection device and to subsequently take corrective

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
	action in response to the operation of the device.
UEPOPS428A	Develop H.V. Switching Programs This unit deals with the skills and knowledge required to develop switching programs where multiple sources of supply must be considered and managed.
UEPOPS429A	Coordinate and Direct Switching Program This unit deals with the skills and knowledge required to coordinate and direct resources when managing a switching program.
UEPOPS430A	Control Permit to Work Operations This unit deals with the skills and knowledge required to perform work in association with a permit system.
UEPOPS431A	Collect and Analyse Hydrological and Meteorological Data This unit deals with the skills and knowledge required to predict and determine inflows in catchment areas.
UEPOPS432A	Start Up a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to prepare a Heat Recovery Steam Generator for service.
UEPOPS433A	Operate and Monitor a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to operate an in-service Heat Recover Steam Generator.
UEPOPS434A	Shut Down a Heat Recovery Steam Generator Unit This unit deals with the skills and knowledge required to a shut down of an in-service Heat Recovery Steam Generator unit.
UEPOPS435A	Operate and Monitor Flue Gas Nox Mitigation Systems This unit deals with the skills and knowledge required for the operation, inspection and monitoring of flue gas Nox mitigation systems.
UEPOPS436A	Operate and Monitor Dual Fuel Firing Plant This unit deals with the skills and knowledge required for the operation, inspection and monitoring of dual fuel firing plant in which each fuel source is capable of providing 100% Maximum Continuous Rating.
UEPOPS437A	Manage System Re-start

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A

Unit Number	Title Descriptor
	This unit refers to the operation and control of multiple generators sharing load under the control of one operator in an isolated system.
UEPOPS438A	Coordinate Electrical Energy Production This unit deals with the skills and knowledge required to coordinate the safe and effective management of energy production to meet demand on an electricity generating unit.
UEPOPS439A	Plan and Organise Work This unit deals with the skills and knowledge required to undertake the planning and organising of tasks to be undertaken by the team.
UEPOPS440A	Coordinate Team Activities This unit deals with the skills and knowledge required to direct and coordinate team activities required to achieve agreed goals.
UEPOPS441A	Operate and Monitor System Equipment This unit deals with the skills and knowledge required to operate, monitor and control H.V. apparatus on the system, via SCADA control.
UEPOPS442A	Monitor and Coordinate the Operation of a Combined Cycle Gas Turbine Unit This unit deals with the skills and knowledge required to simultaneously operate and monitor a Combined Cycle Plant for the safe and effective management of energy production to meet demand on combined cycle gas turbine electricity generating unit

For full details refer Volume 2 Part 2.1:

Schedule 4: Operations Units AQF 4 UEPOPS401A – UEPOPS442A**Schedule 5: Maintenance Units AQF 4**

The following units have been grouped into the Maintenance Units for AQF 4. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
UEPMNT401A	Install and Maintain Complex Mechanical Seals This unit deals with the skills and knowledge required to undertake all work associated with the installation and maintenance of complex mechanical seals and which may involve fault finding, diagnosis and repairs.
UEPMNT402A	Conduct Complex Levelling and Alignment This unit deals with the skills and knowledge required to conduct the advanced alignment of plant and machinery and may include high speed rotating plant.
UEPMNT403A	Maintain Complex Mechanical Valves This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis, repair and/or overhaul of complex mechanical valves, but excluding associated servo or actuating units.
UEPMNT404A	Maintain Complex Mechanical Pumps This unit deals with the skills and knowledge required to undertake the installation and maintenance of multi-stage centrifugal pumps, axial flow compressors, fans and blowers.
UEPMNT405A	Maintain Fluid Power Systems This unit deals with the skills and knowledge required to undertake the fault finding, diagnosis, repair and/or maintenance of fluid power systems and components on stationary/mobile equipment.
UEPMNT406A	Install and Maintain a Steam Turbine This unit deals with the skills and knowledge required to install HP, IP, LP, SFPT, cylinders, rotors and steam units.
UEPMNT407A	Install and Maintain a Gas Turbine This unit deals with the skills and knowledge required to undertake the repair of compressors, turbines and associated equipment on gas turbine units.
UEPMNT408A	Install Hydro Turbines This unit deals with the skills and knowledge required to install Hydro Turbines.
UEPMNT409A	Conduct Welding Inspection/Supervision This unit deals with the skills and knowledge required to satisfy the

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A	
Unit Number	Title Descriptor
	code requirements relating to welding and supervision procedures including Australian and/or International Standards Codes of Practice enterprise procedures and Manufacturer's specifications.
UEPMNT410A	Diagnose and Repair Faults in Electronic Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in electronic equipment to board and component level and may involve the work to be carried out with equipment online.
UEPMNT411A	Diagnose and Repair Faults in Complex Electrical Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in complex and H.V. electrical equipment, and may involve the work to be carried out with equipment online.
UEPMNT412A	Modify Complex Electrical Equipment This unit deals with the skills and knowledge required to undertake modifications of complex and H.V electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT413A	Modify Electronic Electrical Equipment This unit deals with the skills and knowledge required to undertake modification of electronic electrical equipment and may include, but not be limited to, alterations, additions or adjustments.
UEPMNT414A	Test and Commission Complex Electrical Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of complex and H.V. electrical wiring systems and equipment.
UEPMNT415A	Diagnose and Repair Faults in Complex Refrigeration/Air Conditioning Equipment This unit deals with the skills and knowledge required to diagnose and repair faults in complex refrigeration/air conditioning equipment, and associated accessories and wiring systems.
UEPMNT416A	Overhaul Electrical Generator This unit deals with the skills and knowledge required for the overhaul of an electrical generating set.
UEPMNT417A	Inspect Electrical Generators and Diagnose Faults This unit deals with the skills and knowledge required to conduct

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A	
Unit Number	Title Descriptor
	inspections and diagnose faults in electrical generating sets.
UEPMNT418A	Perform Mechanical and Fabrication Drafting This unit deals with the skills and knowledge required to perform the drafting and use of drawing equipment as applied to the production of schematic and plan drawings.
UEPMNT419A	Perform Civil Drafting This unit deals with the skills and knowledge required to perform the drafting and use of drawing equipment as applied to the production of sectional, arrangement, schematic and plan drawings.
UEPMNT420A	Perform Electrical/Electronic Drafting This unit deals with the skills and knowledge required to perform drafting of electrical circuits and use of drawing equipment as applied to the production of schematic and wiring diagrams.
UEPMNT421A	Conduct Technical Inspection of Process Plant and Equipment This unit deals with the skills and knowledge required to conduct the technical inspection of a generation plant, equipment, processes and associated infrastructure.
UEPMNT422	Conduct Performance Testing on Process Plant and Equipment This unit deals with the skills and knowledge required to conduct performance testing on generation plant equipment and processes to assess plant efficiency.
UEPMNT423A	Conduct Condition Monitoring This unit deals with the skills and knowledge required to conduct condition monitoring and testing to determine the efficiency of a range of rotational plant and associated equipment used in the generation industry.
UEPMNT424A	Monitor Efficiency of Thermal Steam Cycle Power Plant This unit deals with the skills and knowledge required for the collection of data and the calculation of the efficiency of plant associated with the thermal steam cycle.
UEPMNT425A	Maintain Complex Instrumentation Equipment This unit deals with the skills and knowledge required to conduct maintenance of complex instrumentation equipment including, but not limited to, multi-loop equipment such as signal characterising,

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A

Unit Number	Title Descriptor
	analogue control equipment, microprocessor control such as programmable logic, laboratory and industrial analysers, ultra sonic and nucleonic equipment.
UEPMNT426A	Maintain Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to conduct maintenance of electronic instrumentation equipment.
UEPMNT427A	Diagnose and Repair Faults in Complex Instrumentation Equipment This unit deals with the skills and knowledge required to undertake the diagnose and repair of complex instrumentation configuration including, but not limited to, signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultrasonic and nucleonic equipment.
UEPMNT428A	Modify Complex Instrumentation Equipment This unit deals with the skills and knowledge required to conduct modification of complex instrumentation used in a "multi-loop" configuration, including, characterising equipment, microprocessor control equipment, interface equipment, laboratory and field analysers, ultra-sonic and nucleonic equipment.
UEPMNT429A	Modify Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to conduct modification of electronic equipment including, but not limited to, process control instrumentation, power grid energy control, supervisory instrumentation, security equipment (CCTV).
UEPMNT430A	Test and Commission Complex Instrumentation Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of complex instrumentation used in "multi-loop" configuration, including, but not limited to signal characterising equipment, totaliser units, microprocessor control equipment, interface equipment, laboratory and field analysers, ultra-sonic and nucleonics equipment.
UEPMNT431A	Test and Commission Electronic Instrumentation Equipment This unit deals with the skills and knowledge required to conduct testing and commissioning of electronic wiring systems and complex digital/analogue equipment including, but not limited to, process control instrumentation, power grid energy control, supervisory

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A	
Unit Number	Title Descriptor
	instrumentation, security equipment (CCTV).
UEPMNT432A	Write Programs for Control Systems This unit deals with the skills and knowledge required to undertake the writing of programs from flow charts for electronic control systems.
UEPMNT433A	Conduct Routine Generator Electrical Maintenance This unit deals with the skills and knowledge required to undertake those routine maintenance tasks of an electrical generating set.

For full details refer Volume 2 Part 2.1:

Schedule 5: Maintenance Units AQF 4 UEPMNT401A – UEPMNT433A

Schedule 6: Operation Units AQF 5

The following units have been grouped into the Operations Units for AQF 5. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 6: Operations Units AQF 5 UEPOPS501A – UEPOPS515A	
Unit Number	Title Descriptor
UEPOPS501A	Manage Occupational Health and Safety Policy and Procedures This unit deals with the skills and knowledge required to establish and evaluate the organisation's Occupational Health and Safety system in order to ensure that the workplace is, so far as is practicable, safe and without risks to the health of employees.
UEPOPS502A	Manage Permit to Work System This unit deals with the skills and knowledge required to manage the development implementation, and review of the permit to work system.
UEPOPS503A	Manage First Response Team Operation This unit deals with the skills and knowledge required to manage the

Schedule 6: Operations Units AQF 5 UEPOPS501A – UEPOPS515A	
Unit Number	Title Descriptor
	operation of a response team. It covers the development, implementation
UEPOPS504A	<p>Develop Implement and Monitor Environmental Management Systems</p> <p>This unit deals with the skills and knowledge required to identify the environmental requirements for the implementation of a management strategy and the monitoring and reviewing of its effectiveness.</p>
UEPOPS505A	<p>Produce Maintenance Strategies for Generation Production Plant</p> <p>This unit deals with the skills and knowledge required to undertake the establishment and implementation of maintenance strategies for generation production plant that may include boiler, turbine, hydro plant, electrical, control and monitoring, ash and dust; water treatment and fuel plant.</p>
UEPOPS506A	<p>Establish and Implement Operational Strategies for Power Production</p> <p>This unit deals with the skills and knowledge required to establish, develop and implement operational strategies to achieve the short and long term goals of the production plant.</p>
UEPOPS507A	<p>Conduct Project Management</p> <p>This unit deals with the skills and knowledge required to plan, implement, monitor and complete project work.</p>
UEPOPS508A	<p>Manage Commissioning/Decommissioning</p> <p>This unit deals with the skills and knowledge required to undertake the management of commissioning of plant and equipment and its subsequent decommissioning. It may also involve the decommissioning and recommissioning of plant and equipment for refurbishment.</p>
UEPOPS509A	<p>Manage Quality Control Procedures</p> <p>This unit deals with the skills and knowledge required to manage quality control procedures.</p>
UEPOPS510A	<p>Monitor Power Generation Plant Reliability</p> <p>This unit deals with the skills and knowledge required to monitor the generating plant reliability.</p>

Schedule 6: Operations Units AQF 5 UEPOPS501A – UEPOPS515A	
Unit Number	Title Descriptor
UEPOPS511A	Tune Process Plant and Equipment This unit deals with the skills and knowledge required to complete the investigation, nomination and adjustments of tuning parameters associated with generation plant, equipment and processes.
UEPOPS512A	Manage the Network/System This unit deals with the skills and knowledge required to manage a network/system (eg these systems may be interconnected, remote or isolated).
UEPOPS513A	Manage Operational Crisis to Maintain/Restore Power System Integrity This unit deals with the skills and knowledge required to manage a crisis of a magnitude which affects the integrity and effectiveness of the system.
UEPOPS514A	Control Hydro Generation/Pumping This unit deals with the skills and knowledge required to undertake remote control of hydro plant.
UEPOPS515A	Coordinate Power Generation This unit deals with the skills and knowledge required to coordinate operation and control of multiple generators sharing load under the control of one operator in an isolated system.

For full details refer Volume 2 Part 2.1:

Schedule 6: Operations Units AQF 5 UEPOPS501A – UEPOPS515A

Schedule 7: Maintenance Units AQF 5

The following units have been grouped into the Maintenance Units for AQF 4. They can be found in Qualifications within this Training Package across a number of AQF levels. Reference should be made to Qualifications Structure section of Volume 1 Part 1 Qualifications Framework to determine the relevant unit(s) pertaining to the qualification(s) required.

Schedule 7: Maintenance Units AQF 5 UEPMT501A – UEPMT504A

Unit Number	Title Descriptor
UEPMNT501A	Diagnose and Repair Faults in Electrical and Electronic Systems This unit deals with the skills and knowledge required to diagnose and repair faults in electrical/electronic systems.
UEPMNT502A	Test and Commission Electronic Electrical Systems This unit deals with the skills and knowledge required to conduct testing and commissioning of electrical/electronic systems. Systems can refer to a combination of electrical/electronic machinery/equipment.
UEPMNT503A	Diagnose and Repair Faults in Instrumentation Systems This unit deals with the skills and knowledge required to diagnose and repair of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.
UEPMNT504A	Test and Commission Instrumentation Systems This unit deals with the skills and knowledge required to conduct testing and commissioning of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems, process control systems.

For full details refer Volume 2 Part 2.1:

Schedule 7: Maintenance Units AQF 5 UEPMNT501A – UEPMNT504A

Schedule 8: Imported Competency Standard Units

Below are the Unit Codes, Unit Descriptors and the Unit Scopes for all of the imported Competency Standard Units. To access the most up-to-date versions of the imported units used in the ESI – Generation Sector Training Package, users are encouraged to contact the DEST for latest versions, National Training Information Service (NTIS) or the relevant National Industry Skills Council.

SOURCE TRAINING PACKAGE	UNIT CODE	UNIT TITLE
BSB01 Business Services	BSBADM304A	Design and develop text documents
	BSBADM305A	Create and Use Data Bases

SOURCE TRAINING PACKAGE	UNIT CODE	UNIT TITLE
	BSBCMN108A	Develop Keyboard Skills
	BSBCMN203A	Communicate in the Workplace
	BSBCMN209A	Provide information to clients
	BSBCMN213A	Produce Simple Word Processed Documents
	BSBCMN302A	Organise personal work priorities and development
	BSBCMN310A	Deliver and Monitor a Service to Customers
	BSBCMN311A	Maintain Workplace Safety
	BSBCMN312A	Support Innovation and Change
BSB Frontline Management (BSB01)	BSBFLM302A	Support leadership in the workplace
	BSBFLM303B	Contribute to effective workplace relationships
	BSBFLM304A	Participate in work teams
	BSBFLM305B	Support operational plan
	BSBFLM306B	Provide workplace information and resourcing plans
	BSBFLM309B	Support continuous improvement systems and processes
	BSBFLM311B	Support a workplace learning environment
BSB Frontline Management (BSB01)	BSBCMN402A	Develop Work Priorities
	BSBFLM402A	Show leadership in the workplace
	BSBFLM403B	Implement effective workplace relationships
	BSBFLM404A	Lead work teams
	BSBFLM405B	Implement operational plans
	BSBFLM406B	Implement workplace information system
	BSBFLM409A	Implement continuous improvement
	BSBCMN404A	Develop teams and individuals
	BSBCMN410A	Coordinate implementation of customer service strategies
	BSBCMN411A	Monitor a Safe Workplace
	BSBCMN412A	Promote Innovation and Change
BSB Frontline Management	BSBFLM501B	Manage personal work priorities and professional development
	BSBFLM502A	

SOURCE TRAINING PACKAGE	UNIT CODE	UNIT TITLE
(BSB01)	BSBFLM503B	Provide leadership in the workplace
	BSBFLM504A	Manage effective workplace relationships
	BSBFLM505B	Facilitate work teams
	BSBFLM506B	Manage operational plan
	BSBFLM507B	Manage workplace information systems
	BSBFLM509B	Manage quality customer service
	BSBFLM510B	Facilitate continuous improvement
	BSBFLM511B	Facilitate and capitalise on change and innovation
	BSBFLM512A	Develop a workplace learning environment
	BSBMGT505A	Ensure team effectiveness
		Ensure a Safe Workplace

For full details refer Volume 2 Part 2.1:

Schedule 8: Imported Competency Standard Units

2.3.1 Key Competencies

Volume 2 Part 2.3

2.3.1 Key Competencies

All Training Packages require the integration of Key Competencies either in each unit of competency, or across a qualification, depending on industry needs and preferences.

The Key Competencies were first defined in 1992 in the project report, Putting General Education to Work: The Key Competencies Report (Mayer Committee 1992). The skills and knowledge they describe are essential for effective workplace participation and involve the sorts of capabilities commonly used by employers as selection criteria. They underpin the ability of employees to adapt to technological, organisational, societal and functional change.

The Key Competencies are generic, in that they apply to work in general, rather than to particular occupations or industries. They focus on the application of knowledge and skills in an integrated way in workplace situations.

A working example of how to use the key competencies in the ElectroComms and EnergyUtilities Industry has been developed by TAFE South Australia and has been included in this section for interested practitioners.

The seven Key Competencies are:

1 Collecting, analysing and organising information

The capacity to locate information, sift and sort information in order to select what is required and present it in a useful way and evaluate both the information itself and the source and methods used to obtain it.

2 Communicating ideas and information

The capacity to communicate effectively with others using the range of spoken, written, graphic and other non-verbal means of expression.

3 Planning and organising activities

The capacity to plan and organise one's own work activities, including making good use of time and resources, sorting out priorities and monitoring one's own performance.

4 Working with others and in teams

The capacity to interact effectively with other people both on a one-to-one basis and in groups including understanding and responding to the needs of a client and working effectively as a member of a team to achieve a shared goal.

5 Using mathematical ideas and techniques

The capacity to use mathematical ideas such as number and space, and techniques such as estimation and approximation for practical purposes.

6 Solving problems

The capacity to apply problem-solving strategies in purposeful ways, both in situations where the problem and the desired solution are clearly evident and in situations requiring critical thinking and a creative approach to achieve an outcome.

7 Using technology

The capacity to apply technology combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.

2.3.2 Performance Levels

2.3.2 Performance Levels

Performance Level 1

Competence needed to undertake activities efficiently and with sufficient self-management to meet the explicit requirements of the activity and to make judgments about quality of outcome against established criteria.

Performance Level 2

Competence needed to manage activities requiring the selection, application and integration of a number of elements and to select from established criteria to judge quality of process and outcome.

Performance Level 3

Competence needed to evaluate and reshape processes, to establish and use principles in order to determine appropriate ways of approaching activities, and to establish criteria for judging quality of process and outcome.

2.3.3 Working Example of Key Competencies**2.3.3 Working Example of Key Competencies**

A working model of key competencies has been developed by TAFE South Australia. It provides, free of charge, on-line resource materials and tools. The online website called "LINKup Key Competencies" is designed for students, trainers, teachers, employers and anyone with a serious interest in practically assessing and nurturing the development of their own, or others', Key Competencies. Part of the site is built to entertain and made suitable for general interest and simple exploration of Key Competencies or Generic Skills. The remainder of the site is very comprehensive and suited to people with a serious interest in practical implementation of Key Competencies assessment and development.

The innovative website offers a comprehensive, proven practical way to assess and improve Key Competencies. It is based on 13 years of action research and development, has achieved national and international acclaim, is used by students, trainers, teachers and employers.

It covers four key areas:

1. Discover

This section provides an opportunity to just explore what Key Competencies are about.

2. Investigate

This section provides numerous resources to inform about the LINKup assessment process called '*Validated Self Assessment*'. This process is designed to give formal recognition for Key Competencies AND to help people improve these important personal skills.

3. Try

After 'Investigating' LINKup, individuals have a chance to try 'first-hand' a LINKup Key Competencies Assessment (via an online simulation) and to check their understanding of the 'Validated Self Assessment' process (via a short multiple-choice quiz). This also allows them to Register for free access to the complete package of LINKup resources.

4. Reflect

This section provides individuals with an opportunity to reflect on how LINKup could help them. Also, for educators or trainers it offers some suggestions on different ways to implement LINKup in training programs and for employers there are some suggestions for incorporating this strategy into Performance Management for all staff.

Resources

ALL LINKup resources are available FREE of charge upon successful registration. These can be accessed directly from the homepage via the 'resources' link.

Resources are listed in the following categories:

- **Online Resources**
 - Validated Self Assessment Sheets (including NEW interactive versions!)
 - Key Competencies Assessment (for Everyone)
 - Implementing Key Competencies Assessment (for Trainers)
- **Research Documents**
 - Key Competencies Assessment at Torrens Valley TAFE
 - Stories from the field
- **Complete Resource Pack**
 - Download ALL the LINKup resources in one convenient Pack

The website address is: <http://www.tvtafe.sa.edu.au/linkup/>

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,	Uses technological principles to reduce constraints presented by environmental or physical capacity, eg writes a report, which compares the effectiveness and

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.	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.
	3.2	Displays awareness of purpose of text, including unstated meaning.	Uses the author, title, key word and other search indexes of a library computer.
	3.3	Interprets and extrapolates from texts containing data which is unambiguously presented in graphic, diagrammatic, formatted or visual form.	Comprehends short summary information on computer-managed learning packages to choose a relevant package to suit own needs. Uses the word processing program on a computer to produce texts. Writes simple instructions for using familiar technology, eg how to use an automatic teller machine. Completes a formatted workplace test, eg damage or breakdown report. Writes a brief report on uses of technology, eg for classroom, workplace, domestic or community purposes.
2	2.1	Reads and interprets short simple texts on a personally relevant topic.	Reads short, relevant, explicit, clearly formatted texts related to technology, eg the author and title index of a library computer.
	2.2	Locates specific information relating to familiar contexts in a text which may contain data in simple graphic, diagrammatic, formatted or visual form.	Chooses a computer assisted learning package, having read short descriptions of one or two programs, to acquire a defined skill or area of knowledge. Writes a short description, eg describes a

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>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	1.1 1.2	<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 details, location or calendar information in simple graphic, diagrammatic, formatted or visual form.</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>

Writing

Scale	IoC*	Indicators of Competence	Technical Communication
5	5.4 5.5	<p>Demonstrates well-developed writing skills by selecting stylistic devices to express complex relationships between ideas and purposes.</p> <p>Generates complex written texts with control over generic structure.</p>	<p>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.</p> <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>

Scale	IoC*	Indicators of Competence	Technical Communication
			<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	<p>4.4</p> <p>4.5</p>	<p>Communicates complex relationships between ideas by matching style of writing to purpose and audience.</p> <p>Generates written texts reflecting a range of genres and using appropriate structure and layout.</p>	<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 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</p>

Scale	IoC*	Indicators of Competence	Technical Communication
			technical fault or breakdown.

Note: IoC* - Indicators of Competency sub-level

Writing – continued

Scale	IoC*	Indicators of Competence	Technical Communication
3	3.4	Communicates relationships between ideas through selecting and using grammatical structures and notations, which are appropriate to the purpose.	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.
	3.5	Produces and sequences paragraphs according to purpose of text.	<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 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	2.3	Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate.	<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</p>
	2.4	Completes forms or writes notes using factual or personal information relating to familiar contexts.	

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>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	1.3 1.4 1.5	<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 title the roof applying a 4% allowance for wastage. Plans and gathers information on a negotiated topic form 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
	5.11		
	5.12	Selects and applies a wide range of mathematical strategies flexibly to generate solutions to problems across a broad range of contexts.	
		Uses a wide range of oral and written informal and formal language and representation including symbols, diagrams and charts to communicate mathematically.	

Scale	IoC*	Indicators of Competence	Technical Communication
			<p>substantiated by discussion of supporting statistical evidence.</p> <p>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 $6 \times 10^3 \text{mm}$.</p> <p>Uses financial formulae, eg simple and compound interest to calculate and contrast the interest incurred in borrowing money from financial institutions.</p>
4	<p>4.10</p> <p>4.11</p> <p>4.12</p> <p>4.13</p>	<p>Selects and investigates appropriate mathematical information and relationships embedded in an activity, item or text.</p> <p>Selects and applies an expanding range of mathematical strategies flexibly to solve problems in a variety of contexts.</p> <p>Examines and questions the appropriateness, possible 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>Uses ratio and scale to interpret dimensions on a basic plan.</p> <p>Applies similarity and ratio to estimate and calculate lengths, eg finds height of a building, a tree.</p> <p>Compares quality and costs of using imported vs Australian tiles, discount vs brand name paints.</p> <p>Presents information in appropriate graphical format to show different interpretations and influences, eg analysis of government spending on education.</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 the same nature.</p>
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>	<p>Compares measurements taken with estimated lengths of familiar objects, eg estimates and measures storeroom dimensions.</p>
1	1.10	Locates simple key mathematical information in a familiar real life	Estimates lengths of familiar objects using metric units, eg a person's height,

Scale	IoC*	Indicators of Competence	Technical Communication
	1.11	activity text.	height of doorway.
	1.12	Recognises and uses straightforward mathematical actions which relate to immediate contexts.	
	1.13	Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity.	
		Uses everyday informal spoken language and representation including familiar symbols and diagrams to communicate mathematically.	

2.4.1 Skills Enabling Employment

Volume 2 Part 2.4

2.4.1 Skills Enabling Employment

The competency standard units incorporate a range of employment-based skills that are expected of individuals in a workplace.

The skills for employment should be achieved and confirmed consistent with the application of each competency standard unit relative to the qualification to which it contributes. Assessment shall be applied holistically and confirm that the critical aspects of evidence have been demonstrated to an extent that indicates understanding of the following:

Skill for Employment	Critical aspect of evidence
1 Developing and using skills within a real workplace	Demonstrates an ability to develop and use spatial, dexterity and technology skills as well as health, safety and housekeeping skills meaningful to a workplace environment.
2 Learning to learn in the workplace	Demonstrates an ability to access, confirm and learn, knowledge and culture related to, and used in, a workplace environment.
3 Reflecting on the	Demonstrates an ability to reflect on performance of the

Skill for Employment	Critical aspect of evidence
outcome and process of work task	work task, its outcome and the process used in completing the task in a workplace environment.
4 Interacting and understanding of the context of the work task	Demonstrates an ability to interact in real work tasks, understand the context of the task within a work environment, and speak and write to related personnel/communities to a standard expected in the workplace/industry sector.
5 Planning and organising the meaningful work task	Demonstrates an ability to prepare, organise and complete real workplace tasks to workplace standards, including selecting appropriate tools/equipment to complete tasks in a workplace environment and the setting and achievement of personal goals.
6 Performing the work task in non-routine or contingent situations	Demonstrates an ability to seek and apply solutions to problems, using mathematical and cognitive skills relevant to a workplace environment, and/or seek advice from appropriate personnel when in doubt.