Electricity Supply Industry
Generation Training Package
UTP98
V2.00

Volume 1

Part A, B & C

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Please refer to the National Training Information Service for the latest version of Units of Competency and Qualification information (http://www.ntis.gov.au).			
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2.00	October 2001	NTQC	Inclusion of units and qualifications relating to briquetting and hydro generation. Inclusion of new units NEG048, NEG049, NEG050, NEG051, NEG113, NEG114, NEG180, NEG181, NEG227, NEG228, NEG229, NEG230. Inclusion of a new Certificate II ESI Generation. Amendments to existing Certificate II and Certificate IV qualifications. Amendments to units UTP NEG234 and UTP NEG272.

Forms control: All endorsed training packages will have a version number displayed on the imprint page of every volume constituting that training package. Every training package will display an up-to-date copy of this modification history form, to be placed immediately after the contents page of the first volume of the training package. Comments on changes will only show sufficient detail to enable a user to identify the nature and location of the change. Changes to training packages will generally be batched at quarterly intervals. This modification history form will be included within any displayed sample of that training package and will constitute all detail available to identify changes.

Important

Training Packages are living documents. Changes are periodically made to reflect the latest industry practices.

As a user of the Training Package, and before commencing any form of training or assessment, you must ensure delivery is from the **current version**.

Ensure you are complying with this requirement by:

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Where the ATP website shows a different version, the Modification History, again shown on the ATP website in the first few pages of the Training Package, will display the changes made in versions. ATP website for version comparison: http://www.atpl.net.au

The Modification History is also visible on the website of the developer of the Training Package: http://www.eeqsba.com.au

Changes in units of competency and packaging of qualifications are reflected on the **National Training Information Service** which displays only current information: **http://www.ntis.gov.au**

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PREFACE

Background

The National Training Package for the Electricity Supply Industry – Generation Sector of the Utilities Industry has been prepared by industry representatives from all State/Territories of Australia.

The endorsable components of the Package are comprised of the following three parts:

- Part A - Competency Standards
- Part B - Assessment Guidelines
- Part C – Qualifications

The Training Package is to be used by all those involved in the delivery of Generation Sector competencies. This includes:

- State training and recognition authorities who will use the Training Package as (1) being the industry's advice to government; and (2) the minimum requirements to be satisfied by potential and practising Registered Training Organisations in the delivery of services.
- State/Territory Industry Training bodies who will use the Training Package to underpin their relationship with, and support for, the State training and recognition authorities quality systems.
- Registered Training Organisations who will issue qualifications based on the requirements outlined in the Training Package.
- Individual candidates/trainees who will use the provisions of the Training Package to establish their responsibilities and to protect their prerogatives.

Responsibility for Systems Maintenance

The National Training Package for the Generation Sector is to be managed and maintained by the National Generation Training Group (NGTG)

NGTG is a standing working group of the National Utilities and Electrotechnology Industry Training Advisory Body (ITAB). The Group is to be representative of the Generation Sector throughout Australia and be bipartite. The detailed composition will be determined by the National Utilities and Electrotechnology ITAB and membership may be varied by that body.

The initial composition of the NGTG is included at Attachment 1 to this preface.

The charter of the NGTG is to monitor, review and maintain the National 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 Units of Competency, 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; and to review/revise the system as required.
- Effectiveness of the valuation of Units of Competency for the purpose of their inclusion in the qualifications framework.

The NGTG will meet at least twice annually to review and plan their management processes. 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 National Utilities and Electrotechnology ITAB, who will act as secretariat.

Current Membership of the National Generation Training Group (Attachment 1)

Name	Title	Organisation
Mr John Arnold	Manager Network Services	Hydro-Electric Corporation
Mr Paul Blume	Manager Employee Relations	Delta Electricity
Mr Lloyd Casey	Industrial Officer	Australian Services Union
Mr Mike Donaghue	Manager People & Culture	AUSTA Electric
Mr Grant Every-Burns	Chief Executive Officer	Macquarie Generation
Ms Anne Donnellan	Industrial Officer	AMWU
Mr Graham Gosling	Assistant Secretary	CEPU
Mr Trevor Harvey	Manager	Western Power Corporation
Mr Colin Johnston	Human Resource Manager	ETSA Corporation
Mr Greg McLean	Industrial Officer	ASU
Mr Barry O'Brien	Industrial Officer	ASU- National
Mr Neil Rose	Project Leader	CFMEU/Delta Electricity
Mr Mark Ryan	General Manager - Human Resources	Loy Yang Power
Dr Michael Sargent	Chief Executive Officer	ACTEW Corporation Ltd
Ms Ann Tout	Human Resources	Pacific Power
Mr Theo van der Meulen	Officer	ESAA Ltd
Ms Greta vom Berg	Manager Human Resource Development	SA Generation Corporation
Mr Graham Watson	Organiser	CEPU-Electrical Division

PART A

COMPETENCY STANDARD INDEX

Units of Competence are included at

Volume 2 Units 001 – 073
Volume 3 Units 074 – 121
Volume 4 Units 122 – 179
Volume 5 Units 180 – 234
Volume 6 Units 235 – 285

Part A – Competency Standards

Introduction

1.0 General

National Competency Standards are the benchmarks for the national system of vocational education and training.

Through national standards, the Industry establishes the competencies required for effective performance in employment. Hence the system is industry led and responsive to its changing skill needs.

A competency comprises the specification of the knowledge and skill, and the application of that knowledge and skill across industries or within an industry, to the standard of performance required in employment.

A competency-based system involves the delivery, assessment and certification of training. It is predicated on the identification and demonstrated attainment of the knowledge and 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 Training Framework Committee, form the keystone of the Australian vocational education and training system. The development, endorsement and on-going review of competency standards provides a vehicle for industry parties to ensure the integrity and continuing relevance of vocational education and training, both on and off-the-job.

2.0 Development of Competency Standards for the Generation Sector

Competency Standards were developed during the period 1994-1996 by the Generation Sector Working Party of the Electricity Supply Industry - National Competency Standards Group. The development project satisfied the following characteristics:

- The Generation Working Party and its Focus Groups were appropriately bipartite and representative of the Sector throughout Australia.
- Developm ent and validation included extensive consultation processes through workshops, meetings and mail-based circulation of the products and outcomes.
- The draft standards were distributed widely throughout the National ITAB network and feedback from other industries was actively encouraged.
- The competency standards have been subject to further widespread, and intense scrutiny during the process of developing the National Training Package.

The Sector's Standards Inventory includes in excess of 200 Units of Competency which include the following:

Core	4
Operations	75
Electrical/Electronic	43
Mechanical	27
Fabrication	28
Generic	37

A list of the Sector's Competency Standards and the detailed Units of Competency are included at Enclosure 2.

3.0 Industry Coverage

The Generation Sector is defined as:

> "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 formal industry coverage is under ANZSIC Code 3610 in which the sector is defined as consisting of units mainly engaged in the generation, transmission or distribution of electricity.

The Sector has been characterised during the last few years by the privatisation of many enterprises and the outsourcing of many functions and activities.

Notwithstanding these changes, over half the Electricity Supply Industry's direct workforce of 47,000 employees may be covered by these competency standards. The standards will also provide a benchmark for the industry as it continues the shift towards out-sourcing its day to day activities.

4.0 Other Industry Standards

It is recognised that the National 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 standards will be encouraged.

4.1 Mapping to the Metal and Engineering Industry National Competency Standards

A mapping exercise has been undertaken between the Metals and Engineering Industry Competency Standards and these standards to determine equivalence of outcomes. The mapping document is endorsed by the MERS ITAB and NUEITAB and is to form part of the non-endorsed components of this Training Package. A stand alone copy of the mapping document can be obtained by contacting NUEITAB.

A statement detailing the alignment between the Metal and Engineering Competency Standards and the Generation Standards has been included in each of the respective Unit(s) of Competence.

5.0 Mayer Key Competency Relationship

In accordance with the ANTA requirement, the Generation Competencies and the National Key Competencies have been aligned. The results of this alignment are at Enclosure 1.

The formal inclusion of the alignment outcome within each Unit of Competency will be undertaken progressively as the units are transferred to the revised ANTA standards template format.

6.0 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.

7.0 Access and Equity

The skills required of employees in the Generation sector of the Electricity Supply Industry are comprehensive and therefore many employment opportunities are available. The Competency Standards reflect the range of skills required and are written in a non-exclusive manner so as to increase the participation rates of equity groups and to minimise unintentional bias.

8.0 Maintenance of Competency Standards

The Generation Competency Standards were developed by and are therefore owned by the industry.

The Competency Standards must be maintained so that they reflect the ongoing needs of the Sector and respond in a timely manner to changed technologies and circumstances.

Responsibility for the maintenance of the Competency Standards is shared by the parties who constitute the Sector:

- Competency Standards maintenance will be coordinated and managed by the National Generation Training Group.
- Suggestions and proposals for changes from all parties are welcomed. These should be documented and submitted to the NGTG through the National Utilities and Electrotechnology ITAB.

9.0 Assessment Guidelines

The National Generation Sector has developed guidelines for the assessment of these standards. The guidelines are at Part B of this Training Package.

10.0 National Qualifications

The National Generation Sector has identified ten (10) qualifications which are linked to these standards. These are:

Diploma

Diploma - ESI Generation (Electrical/Electronic)
Diploma - ESI Generation (Operations)

Certificates

Certificate IV - ESI Generation (Electrical/Electronic)
Certificate IV - ESI Generation (Operations)
Certificate IV - ESI Generation (System Operations)
Certificate IV - ESI Generation (Mechanical)

Certificate III - ESI Generation (Electrical/Electronic)
Certificate III - ESI Generation (Operations)
Certificate III - ESI Generation (Mechanical)
Certificate III - ESI Generation (Fabrication)

Certificate II - ESI Generation

Note: ESI = Electricity Supply Industry

Details of these qualifications including the framework, rules for structuring and flexibility arrangements are included at Part C of this Training Package.

11.0 Acknowledgements

The National Utilities and Electrotechnology ITAB wishes to acknowledge the important developmental roles played by enterprises, employee representatives and individuals. Without the level of commitment and support received, this Training Package would not exist.

The National Utilities and Electrotechnology ITAB acknowledges and thanks the following:

- The organisations and individuals involved in membership of, and support for the Electricity Supply Industry - National Competency Standards Group (ESI-NCSG), (see list at Attachment 1) and the Chair and Members of the National Generation Working Party (see list at Attachment 2).
- The Industry Sector for contributing an estimated $1.5 million of support for the project.
- The CEOs and employees of Western Power and Pacific Power for providing Project Officer support.
- The CEOs and employees of ETSA and PAWA-NT for their direct fiscal contributions to the project.

The National Utilities and Electrotechnology ITAB is fully aware of the risk of singling out individuals and the inherent risk of missing out others who may be equally deserving. Despite this, the Chair and Members of the ITAB would like to publicly acknowledge the outstanding efforts and dedication to the project by:

- Mr Ray Christison, the initial Working Party Chair
- Mr John Arnold of HEC, the current Working Party Chair
- Mr Chris Watson of Western Power for his work as a Project Officer
- Mr Neil Rose of the CFMEU/Delta Electricity for his work as a Project Officer
- Members of the ESI-NCSG including the Chair, Mr Mike Sargent

12.0 Conclusion

The standards have been developed, reviewed and validated through extensive industry consultation. They reflect the views of the wide cross section of the sector throughout Australia. They have been used as the basis for the National Generation Sector Training Package and will also be used for subsequent competency systems development.

Electricity Supply Industry - National Competency Standards Group Membership (Attachment 1 to Part A)

Name	Organisation
Mr John Arnold	Hydro-Electric Corporation
Mr Paul Blume	Delta Electricity
Mr Lloyd Casey	Australian Services Union
Mr Mike Donaghue	AUSTA Electric
Mr Grant Every-Burns	Macquarie Generation
Ms Anne Donnellan	Australian Manufacturing Workers' Union
Mr Graham Gosling	CEPU
Mr Peter Graham	Pacific Power
Mr Trevor Harvey	Western Power Corporation
Mr Colin Johnston	ETSA Corporation
Mr Trevor Kemp	ETSA – Augusta Power Station
Mr Greg McLean	Australian Services Union
Mr Barry O'Brien	Australian Services Union - National
Mr Neil Rose	CFMEU/Delta Electricity
Mr Mark Ryan	Loy Yang Power
Dr Michael Sargent	ACTEW Corporation Ltd
Ms Ann Tout	Pacific Power
Mr Theo van der Meulen	ESAA Ltd
Ms Greta vom Berg	SA Generation Corporation
Mr Graham Watson	CEPU-Electrical Division

National Generation Working Party Membership

Name	Organisation
Mr John Arnold	Hydro-Electric Corporation
Mr Phil Baker	Australian Metal Workers Union
Mr Mike Barton	SMA Talbingo
Mr Bertram Birk	Power & Water Authority - NT
Mr Graeme Bishop	Pacific Power - Eraring Power Station
Mr Paul Burlinson	Australian Services Union (WA)
Mr Bob Carcary	CEPU - ETU (NSW)
Mr Lloyd Casey	Australian Services Union
Mr Ray Christenson	Former Chairperson of the Working Group
Ms Anne Donnellan	Australian Manufacturing Workers' Union
Mr Jim Ekford	Macquarie Generation
Mr Tom Francis	Pacific Power
Mr Bob Howlett	Electricity Supply Industry Training Organisation
Mr Trevor Kemp	ETSA - Augusta Power Station
Mr Andre Lewis	Australian National Training Authority
Mr Paul Matheson	ETSA Corporation
Mr Greg McLean	Australian Services Union
Mr Clive Patman	Western Power Corporation
Mr Martin Payne	Western Adelaide Institute of TAFE
Mr Ray Que	Gladstone Power Station
Mr Neil Rose	CFMEU/Delta Electricity`
Mr John Sullivan	Macquarie Generation - Bayswater Power Station
Mr Jim Thorogood	Power & Water Authority - NT
Ms Ann Tout	Pacific Power
Mr Rod Truce	AUSTA Electric
Mr Doug Vincent	CEPU - (ETU)
Mr Chris Watson	Western Power

Alignment with National Key Competencies

	Key Competencies
A	Collecting, Analysing and Organising Information
B	Communicating Ideas and Information
C	Planning and Organising Activities
D	Working with Others and in Teams
E	Using Mathematical Ideas and Techniques
F	Solving Problems
G	Using Technology

Unit Number	A	B	C	D	E	F	G
UTP NEG001 A	1	1	1	1	1	1	0
UTP NEG002 A	1	1	1	1	1	1	1
UTP NEG003 A	2	2	2	2	1	2	1
UTP NEG004 A	1	1	1	1	1	1	1
UTP NEG005 A	2	2	2	2	1	2	1
UTP NEG006 A	1-3	1-3	1-3	1-3	1-3	1-3	1-3
UTP NEG007 A	1	1	1	2	1	1	1
UTP NEG008 A	2	2	2	2	1	2	1
UTP NEG009 A	3	2	3	2	2	3	1
UTP NEG015 A	1	1	1	1	0	1	0
UTP NEG016 A	1	1	1	1	1	1	0
UTP NEG017 A	1	1	1	1	1	1	0
UTP NEG018 A	1	1	1	1	1	1	0
UTP NEG019 A	1	1	1	1	1	1	0
UTP NEG020 A	1	1	1	1	1	1	0
UTP NEG021 A	1	1	1	1	1	1	0
UTP NEG022 A	1	1	1	1	1	1	0
UTP NEG027 A	1	1	1	1	1	1	1
UTP NEG028 A	1	1	1	1	1	1	0
UTP NEG029 A	1	1	1	1	1	1	0
UTP NEG030 A	1	1	1	1	1	1	0
UTP NEG031 A	1	1	1	1	1	1	0

Unit Number	A	B	C	D	E	F	G
UTP NEG032 A	1	1	1	0	0	1	0
UTP NEG038 A	1	1	1	1	1	1	0
UTP NEG045 A	1	1	1	1	1	1	0
UTP NEG048 A	1	1	1	1	1	1	0
UTP NEG049 A	1	1	1	1	1	1	0
UTP NEG050 A	1	1	1	1	1	1	0
UTP NEG051 A	1	1	1	1	1	1	0
UTP NEG056 A	1	1	1	1	1	1	1
UTP NEG057 A	1	1	1	1	1	1	0
UTP NEG058 A	1	1	1	1	1	1	0
UTP NEG059 A	1	1	1	1	1	1	0
UTP NEG060 A	1	1	1	1	1	1	1
UTP NEG061 A	1	1	1	1	1	1	1
UTP NEG062 A	1	1	1	1	1	1	1
UTP NEG063 A	1	1	1	1	1	1	1
UTP NEG064 A	1	1	1	1	1	1	1
UTP NEG065 A	1	1	1	1	1	1	1
UTP NEG066 A	1	1	1	1	1	1	0
UTP NEG067 A	1	1	1	1	1	1	0
UTP NEG068 A	1	1	1	1	1	1	1
UTP NEG069 A	1	1	1	1	1	1	0
UTP NEG070 A	1	1	1	1	1	1	0
UTP NEG071 A	1	1	1	1	1	1	0
UTP NEG072 A	1	1	1	1	1	1	0
UTP NEG073 A	1	1	1	1	1	1	0
UTP NEG074 A	1	1	1	1	1	1	1
UTP NEG075 A	1	1	1	1	1	1	1
UTP NEG076 A	1	1	1	1	1	1	0
UTP NEG077 A	1	1	1	1	1	1	1
UTP NEG079 A	1	0	1	0	1	1	0
UTP NEG080 A	1	0	1	0	1	1	0
UTP NEG081 A	1	1	1	1	1	1	1

Unit Number	A	B	C	D	E	F	G
UTP NEG082 A	1	1	1	1	1	1	1
UTP NEG083 A	1	1	1	1	1	1	1
UTP NEG084 A	1	1	1	1	1	1	0
UTP NEG085 A	1	1	1	1	1	1	1
UTP NEG089 A	1	1	1	1	1	1	0
UTP NEG090 A	1	0	1	0	1	1	0
UTP NEG091 A	1	0	1	0	1	1	0
UTP NEG092 A	1	0	1	0	1	1	0
UTP NEG093 A	1	0	1	0	1	1	0
UTP NEG094 A	1	0	1	0	1	1	0
UTP NEG095 A	1	0	1	0	1	1	0
UTP NEG096 A	1	0	1	0	1	1	0
UTP NEG097 A	1	0	1	0	1	1	0
UTP NEG098 A	1	0	1	0	1	1	0
UTP NEG099 A	1	0	1	0	1	1	0
UTP NEG100 A	1	0	1	0	1	1	0
UTP NEG101 A	1	0	1	0	1	1	0
UTP NEG102 A	1	0	1	0	1	1	0
UTP NEG103 A	1	0	1	0	1	1	0
UTP NEG104 A	1	0	1	0	1	1	0
UTP NEG105 A	1	0	1	0	1	1	0
UTP NEG106 A	1	0	1	0	1	1	0
UTP NEG107 A	1	0	1	0	1	1	0
UTP NEG108 A	1	1	1	1	1	1	0
UTP NEG109 A	1	1	1	1	1	1	0
UTP NEG110 A	1	1	1	1	1	1	0
UTP NEG111 A	1	1	1	1	1	1	0
UTP NEG112 A	1	1	1	1	1	1	0
UTP NEG113 A	1	1	1	1	1	1	0
UTP NEG114 A	1	1	1	1	1	1	0
UTP NEG115 A	1	1	1	1	1	1	0
UTP NEG116 A	1	1	1	1	1	1	0

Unit Number	A	B	C	D	E	F	G
UTP NEG117 A	1	1	1	1	1	1	0
UTP NEG118 A	1	1	1	1	1	1	1
UTP NEG119 A	1	1	1	1	1	1	0
UTP NEG120 A	1	1	1	1	1	1	1
UTP NEG121 A	1	1	1	1	1	1	1
UTP NEG122 A	1	1	1	1	1	2	1
UTP NEG123 A	1	1	1	1	1	2	1
UTP NEG124 A	1	1	1	1	1	2	1
UTP NEG125 A	2	1	1	1	1	2	2
UTP NEG126 A	1	1	1	1	1	1	1
UTP NEG127 A	1	1	1	1	1	1	1
UTP NEG128 A	1	1	1	1	1	1	1
UTP NEG129 A	1	1	1	1	1	1	1
UTP NEG130 A	1	1	1	1	1	1	1
UTP NEG131 A	1	1	1	1	1	1	1
UTP NEG132 A	2	1	1	1	1	1	1
UTP NEG133 A	1	1	1	1	1	1	0
UTP NEG134 A	1	1	1	1	1	2	1
UTP NEG135 A	1	1	1	1	1	2	1
UTP NEG136 A	1	0	1	0	1	1	0
UTP NEG137 A	1	1	1	1	1	1	1
UTP NEG145 A	1	1	1	0	1	1	1
UTP NEG146 A	1	1	1	0	1	1	1
UTP NEG147 A	1	1	1	0	1	1	1
UTP NEG150 A	1	1	1	1	1	1	1
UTP NEG152 A	1	1	1	1	1	1	0
UTP NEG153 A	1	1	1	1	1	1	1
UTP NEG154 A	1	1	1	1	1	1	1
UTP NEG155 A	1	1	1	1	1	1	1
UTP NEG156 A	1	1	1	1	1	1	1
UTP NEG157 A	1	1	1	1	1	1	1
UTP NEG159 A	1	1	1	1	1	1	1

Unit Number	A	B	C	D	E	F	G
UTP NEG161 A	1	1	1	1	1	1	1
UTP NEG162 A	1	1	1	1	1	1	1
UTP NEG163 A	1	1	1	1	1	1	1
UTP NEG168 A	1	1	1	1	1	1	0
UTP NEG171 A	1	1	1	1	1	1	1
UTP NEG172 A	1	1	1	1	1	1	1
UTP NEG173 A	1	1	1	1	1	1	1
UTP NEG174 A	1	1	1	1	1	1	1
UTP NEG175 A	1	1	1	1	1	1	1
UTP NEG176 A	1	1	1	1	1	1	1
UTP NEG177 A	1	1	1	1	1	1	1
UTP NEG178 A	1	1	1	0	0	0	0
UTP NEG179 A	1	1	1	1	1	1	1
UTP NEG180 A	1	1	1	1	1	1	1
UTP NEG181 A	1	1	1	1	1	1	1
UTP NEG182 A	1	1	1	1	1	1	1
UTP NEG183 A	1	1	1	1	1	1	1
UTP NEG184 A	1	1	1	1	1	1	1
UTP NEG185 A	1	1	1	1	1	1	1
UTP NEG186 A	1	1	1	1	1	1	1
UTP NEG187 A	1	1	1	1	1	1	1
UTP NEG188 A	1	1	1	1	1	1	1
UTP NEG189 A	1	1	1	1	1	1	1
UTP NEG190 A	1	1	1	1	1	1	1
UTP NEG191 A	1	1	1	1	1	1	0
UTP NEG192 A	1	1	1	1	1	1	0
UTP NEG193 A	1	1	1	1	1	1	1
UTP NEG194 A	1	1	1	1	1	1	1
UTP NEG195 A	2	1	1	2	1	1	2
UTP NEG196 A	1	1	1	1	1	1	2
UTP NEG197 A	1	1	1	2	1	1	2
UTP NEG200 A	1-3	1-3	1-3	1-3	1-3	1-3	1-3

Unit Number	A	B	C	D	E	F	G
UTP NEG201 A	2	1	2	2	1	1	1
UTP NEG202 A	2	2	2	2	1	2	1
UTP NEG203 A	2	2	2	2	1	2	1
UTP NEG204 A	1	1	1	1	1	1	1
UTP NEG205 A	2	2	1	2	1	1	1
UTP NEG206 A	2	1	1	2	1	1	2
UTP NEG207 A	1	1	1	1	1	1	2
UTP NEG208 A	1	1	1	2	1	1	2
UTP NEG209 A	2	1	1	2	1	1	2
UTP NEG210 A	1	1	1	1	1	1	2
UTP NEG211 A	1	1	1	2	1	1	2
UTP NEG212 A	2	2	1	2	2	2	2
UTP NEG217 A	2	2	2	1	1	2	1
UTP NEG218 A	3	1	3	1	2	2	1
UTP NEG219 A	2	1	1	1	2	2	1
UTP NEG220 A	3	2	3	2	2	2	1
UTP NEG221 A	3	1	1	1	3	3	2
UTP NEG222 A	2	1	1	1	2	2	1
UTP NEG223 A	2	2	2	2	2	2	1
UTP NEG224 A	3	2	3	2	2	2	1
UTP NEG225 A	2	2	2	2	1	2	1
UTP NEG226 A	1	2	1	2	1	2	0
UTP NEG227 A	1	2	1	2	1	2	0
UTP NEG228 A	1	2	1	2	1	2	0
UTP NEG229 A	1	2	1	2	1	2	0
UTP NEG230 A	1	2	1	2	1	2	0
UTP NEG232 A	1	1	1	1	1	1	1
UTP NEG233 A	2	1	1	2	2	2	2
UTP NEG234 B	2	1	1	2	2	2	2
UTP NEG235 A	2	1	1	1	2	1	2
UTP NEG236 A	2	1	1	1	2	1	2
UTP NEG237 A	2	1	1	1	2	2	2

Unit Number	A	B	C	D	E	F	G
UTP NEG238 A	1	1	1	1	1	1	1
UTP NEG239 A	2	1	1	1	1	1	2
UTP NEG243 A	1	1	1	1	1	1	0
UTP NEG244 A	1	1	1	1	1	1	0
UTP NEG245 A	1	1	1	1	1	1	1
UTP NEG246 A	1	1	1	1	1	1	1
UTP NEG247 A	1	1	1	1	1	1	1
UTP NEG248 A	1	1	1	1	1	1	1
UTP NEG249 A	2	1	1	1	1	2	2
UTP NEG250 A	2	1	1	1	1	2	2
UTP NEG251 A	2	1	1	1	1	2	2
UTP NEG252 A	2	1	1	1	1	2	2
UTP NEG253 A	2	1	1	1	1	2	2
UTP NEG254 A	2	1	1	1	1	2	2
UTP NEG255 A	1	1	1	1	1	1	1
UTP NEG256 A	1	1	1	1	1	1	1
UTP NEG257 A	1	1	1	1	1	1	1
UTP NEG258 A	2	1	1	1	1	1	1
UTP NEG259 A	1	1	1	1	1	1	1
UTP NEG260 A	2	1	1	1	2	2	2
UTP NEG266 A	2	1	1	1	1	1	2
UTP NEG267 A	2	1	1	1	1	1	2
UTP NEG268 A	1	1	1	1	1	1	2
UTP NEG269 A	1	2	1	1	0	1	1
UTP NEG270 A	1	1	1	1	1	1	1
UTP NEG271 A	2	1	2	2	1	2	2
UTP NEG272 B	2	1	1	1	1	2	1
UTP NEG273 A	3	2	2	2	1	2	1
UTP NEG274 A	3	2	2	2	1	2	1
UTP NEG275 A	2	1	1	2	1	1	1
UTP NEG276 A	2	1	1	1	1	2	1
UTP NEG277 A	1	1	1	1	1	1	1

Unit Number	A	B	C	D	E	F	G
UTP NEG278 A	3	1	2	2	1	3	1
UTP NEG279 A	3	2	2	2	1	3	2
UTP NEG280 A	2	2	1	2	1	2	1
UTP NEG281 A	2	1	1	2	1	2	1
UTP NEG282 A	1	1	1	1	1	1	1
UTP NEG283 A	1	1	1	1	1	1	1
UTP NEG284 A	1	2	2	2	1	1	1
UTP NEG285 A	2	1	2	2	2	2	2

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Unit Number	Title Descriptor
UTP NEG001 A	**Manage/Monitor Occupational Health and Safety - Level A** Follow defined Occupational Health and Safety policies and procedures related to the work being undertaken in order to ensure own safety and that of others in the workplace
UTP NEG002 A	**Manage/Monitor Occupational Health and Safety - Level B** 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
UTP NEG003 A	**Manage/Monitor Occupational Health and Safety - Level C** 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
UTP NEG004 A	**Conduct Isolation Procedures for Permit to Work** This unit refers to the application of the Permit To Work procedures at the isolating level
UTP NEG005 A	**Manage & Coordinate Permit To Work System** This unit refers to the management of the Permit To Work system, its implementation, development and application on a day to day basis and during major outages and projects
UTP NEG006 A	**Solve Operational Problems** This unit covers the solving of operational problems within a team environment
UTP NEG007 A	**Conduct Emergency Response within a Workplace Team** This unit refers to emergency team operations
UTP NEG008 A	**Coordinate Emergency Team Operation** This unit refers to the coordination and management of an emergency team
Unit Number	**Title Descriptor**

UTP NEG009 A	**Develop Implement and Monitor Environmental Management Systems** This unit refers to the identification of environmental requirements, the implementation of a management strategy, and the monitoring and reviewing of its effectiveness
UTP NEG015 A	**Clean Plant and Equipment** This unit refers to the cleaning of industrial plant, machinery and surrounds associated with generating stations and related surroundings and may include the appropriate removal of excess or oil based soil
UTP NEG016 A	**Perform Basic Rigging Work** This unit refers to the rigging work associated with, but not limited to, movement of plant and equipment, particular hoists, safety nets and static lines, safety screens and shutters
UTP NEG017 A	**Perform Intermediate Rigging Work** This unit refers to the rigging work associated with, but not limited to, movement of plant and equipment, all hoists, rigging of cranes, dual lifts, demolition
UTP NEG018 A	**Perform Advanced Rigging Work** This unit refers to the 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
UTP NEG019 A	**Perform Dogging Work** This unit refers to the application of slinging techniques, including the selection and inspection of lifting gear, and the direction of the crane/hoist operator in the movement of the load including when the load is out of view of the operator
UTP NEG020 A	**Perform Basic Scaffolding** This unit refers to the application of scaffolding work including, 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)

Unit Number	Title Descriptor
UTP NEG021 A	**Perform Intermediate Scaffolding** This unit refers to the application of scaffolding work including, but not limited to, tube and coupler scaffolds, cantilevered and spurred scaffolds, barrow ramps and sloping platforms, mast climbers
UTP NEG022 A	**Perform Advanced Scaffolding** This unit refers to the application of scaffolding work including, but not limited to, hung scaffolds, including scaffolds hanging from tubes, wire ropes and chains, and suspended scaffolds
UTP NEG027 A	**Conduct Elevating Work Platform Operations** This unit refers to the inspection and pre-operational tests, positioning, setting up and operation of elevating work platforms
UTP NEG028 A	**Shift and Transfer Materials (a to j)** This unit refers to shifting, loading and carrying of materials
UTP NEG029 A	**Conduct Fork-Lift Operations** This unit refers to the inspection and pre-operational tests, driving, manoeuvring and the lifting and relocating of loads using a fork-lift
UTP NEG030 A	**Operate Lifting and Load Shifting Equipment (1)** This unit refers to the operation of specified cranes and lifting equipment that does not require a licence and that may be used to facilitate the installation, modification or maintenance of equipment associated with the power generation sector
UTP NEG031 A	**Operate Lifting And Load Shifting Equipment (2)** This unit refers to the operation of particular cranes and hoists that require a licence / certificate as required by Worksafe Australia
UTP NEG032 A	**Operate Explosive Powered Tool** This unit refers to the operation of an explosive powered tool commonly known as a ramset gun
UTP NEG038 A	**Transport Plant and Equipment** This unit refers to the transportation of plant and equipment

Unit Number	Title Descriptor
UTP NEG045 A	**Make and Spread a Stockpile** This unit refers to the making and spreading of stockpiles
UTP NEG048 A	**Operate & Monitor Briquette Coal Cooling Plant** This unit refers to the operations associated with the cooling of coal in the briquette manufacturing process
UTP NEG049 A	**Operate & Monitor Briquette Coal Drying Plant** This unit refers to the operations associated with the drying of coal used in the briquette manufacturing process
UTP NEG050 A	**Operate & Monitor Briquette Coal Press Plant** This unit refers to pressing of dried raw fine coal into briquettes.
UTP NEG051 A	**Perform Briquette Laboratory Tests** This unit refers to activities associated with the testing of coal briquette products carried out under supervision.
UTP NEG056 A	**Drive a Locomotive** This unit refers to the operation of a locomotive associated with coal transport on private lines
UTP NEG057 A	**Conduct Coal Wagon Shunting and Tippling Operations** This unit refers to the shunting of coal wagons and their subsequent unloading
UTP NEG058 A	**Install and maintain hydraulic/pneumatic components** This unit refers to the installation, repair and/or maintenance of fluid power components on stationary/mobile equipment
UTP NEG059 A	**Install and Maintain Industrial Pipe work** This unit refers to all work associated with the installation, maintenance and fabrication of industrial pipe work and may involve fault finding and repairs
UTP NEG060 A	**Install and Maintain Complex Mechanical Seals** This unit refers to all work associated with the installation and maintenance of complex mechanical seals and may involve fault finding, diagnosis and repairs
UTP NEG061 A	**Conduct Complex Levelling and Alignment** This unit refers to the advanced alignment of plant and machinery and may include high speed rotating plant

UTP NEG062 A	**Install and Maintain Mechanical Valves** This unit refers to the fault finding, diagnosis, repair and/or overhaul of mechanical valves, but excluding any associated servo or actuating unit
UTP NEG063 A	**Install and Maintain Complex Mechanical Valves** This unit refers to the fault finding, diagnosis, repair and/or overhaul of complex mechanical valves, but excluding any associated servo or actuating units
UTP NEG064 A	**Install and Maintain Mechanical Pumps** This unit refers to the installation and maintenance of all pumps, compressors and blowers and the installation of which requires no more than basic alignment
UTP NEG065 A	**Install and Maintain Complex Mechanical Pumps** This unit refers to the installation and maintenance of multistage centrifugal pumps, axial flow fans, blowers and compressors
UTP NEG066 A	**Install and Maintain Industrial Fans** This unit refers to 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
UTP NEG067 A	**Install and Maintain Industrial Transmissions** This unit refers to all work associated with the installation and maintenance of industrial transmissions and may involve fault finding, diagnosis and repairs
UTP NEG068 A	**Install and Maintain Fluid Power Systems** This unit refers to the fault finding, diagnosis, repair and/or maintenance of fluid power systems and components on stationary/mobile equipment
UTP NEG069 A	**Install and Maintain Industrial Screens, Strainers and Filters** This unit refers to the fault finding, diagnosis, repair and/or overhaul of industrial screens, strainers and filters
UTP NEG070 A	**Install and Maintain Conveyors and Associated Equipment** This unit refers to the fault finding, diagnosis and repair, adjustments, exchange of rollers and preparations for belt splicing/repairs

UTP NEG071 A	**Install and Maintain Material Feeders** This unit refers to the in-service fault finding, diagnosis and out of service inspection (internal/external), repairs and/or overhaul of material feeders
UTP NEG072 A	**Install and Maintain Material Crushers** This unit refers to the in-service fault finding, diagnosis and out of service inspection, repairs, and/or overhauls of material crushers and would involve roll/door assemblies
UTP NEG073 A	**Install and Maintain Fuel Transport Equipment** This unit refers to the installation and repair/overhaul of fuel carriage/delivery and associated systems

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Unit Number	Title Descriptor
UTP NEG074 A	**Install and Maintain Industrial Pressure Vessels** This unit refers to the boiler pressure parts, pressure vessels and associated components
UTP NEG075 A	**Install and Maintain Turbine (Steam, Gas)** This unit refers to the repair and overhaul of H P, L P, S F P T, cylinders and rotors on gas and steam units
UTP NEG076 A	**Install and Maintain Internal Combustion Engines** This unit refers to the maintenance and major overhauls of fixed or pad mounted internal combustion engines
UTP NEG077 A	**Install and Maintain Hydro Turbines** This unit refers to the inspection, repair and overhaul of hydro turbines
UTP NEG078 A	**Install and Maintain Wind Turbines** Reserved This unit has not yet been developed
UTP NEG079 A	**Conduct Minor/Basic Mechanical Maintenance** This unit refers to the range of minor/basic maintenance functions associated with, but not limited to, mechanical equipment
UTP NEG080 A	**Perform Basic Machining Operations** This unit refers to the basic machining operations that would not require the use of precision measuring instruments, or scaling from drawings and prints

UTP NEG081 A	**Perform Advanced Machining Operations** This unit refers to the 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
UTP NEG082 A	**Diagnose and Repair Faults in Mechanical Equipment** This unit refers to the diagnosing and repairing of faults in a range of mechanical equipment and may entail the work to be carried out whilst machinery/plant is on line
Unit Number	**Title Descriptor**
UTP NEG083 A	**Conduct Generator Mechanical Maintenance** This unit refers to the maintenance of an electrical generating unit
UTP NEG084 A	**Maintain and Test Fixed Fire Protection Systems** This unit refers to the maintenance, fault finding and in service testing of fixed fire protection systems
UTP NEG085 A	**Inspect and Repair/Replace Faults in Mechanical Equipment/Components** This unit refers to the inspection and repairing of faults in a range of mechanical equipment/components which may require fabrication work to be carried out
UTP NEG089 A	**Conduct Welding Inspection/Supervision** This unit relates to those competencies required to satisfy the code requirements relating to welding and supervision procedures including Australian and/or international standards, codes of practice, enterprise procedures and manufacturers specifications
UTP NEG090 A	**Weld using Manual Metal Arc Welding Process (MMAW)** This unit refers to the competence to perform general purpose manual metal arc welding to AS1554.G.P.
UTP NEG091 A	**Weld using Gas Metal Arc Welding Process (GMAW)** This unit refers to the competence to perform general purpose gas metal arc welding to AS1554.G.P.
UTP NEG092 A	**Weld using Gas Tungsten Arc Welding Process (GTAW)** This unit refers to the competence to perform general purpose gas tungsten arc welding to AS1554.G.P.

UTP NEG093 A	**Weld using Oxyacetylene Welding Process (OAW)** This unit refers to the competence to perform oxyacetylene (fuel gas) welding to AS1554.G.P.
UTP NEG094	**Weld using Submerged Arc Welding Process (SAW)** This unit refers to the competence to perform submerged arc welding to AS1554.G.P.
UTP NEG095 A	**Perform Advanced Welding using Manual Metal Arc Welding Process (MMAW)** This unit refers to the competence to perform special purpose manual metal arc welding to AS1554.S.P.
Unit Number	**Title Descriptor**
UTP NEG096 A	**Perform Advanced Welding using Gas Metal Arc Welding (GMAW)** This unit refers to the competence to perform special purpose gas metal arc welding to AS1544.S.P.
UTP NEG097 A	**Perform Advanced Welding using Gas Tungsten Arc Welding (GTAW)** This unit refers to the competence to perform special purpose gas tungsten arc welding to AS1554.S.P.
UTP NEG098 A	**Perform Advanced Welding using Oxyacetylene Welding Process (OAW)** This unit refers to the competence to perform special purpose oxyacetylene welding to AS1554.S.P.
UTP NEG099 A	**Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 1/1E (Low Carbon Steel Sheet and Plate)** This unit refers to the competence to weld to AS1796 certificate 1/1E (low carbon steel sheet and plate) using manual metal arc welding process
UTP NEG100 A	**Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 2 (Low Carbon Steel Pipe)** This unit refers to the competence to weld to AS1796 certificate 2 (LCS pipe) using manual metal arc welding process

UTP NEG101 A	**Perform Manual Metal Arc Welding to Weld to AS1796 Certificate 3/3E (Alloy Steel Plate)** This unit refers to the competence is to weld to AS1796 certificate 3/3E (alloy steel plate) using manual metal arc welding process
UTP NEG102 A	**Perform Manual Metal Arc Welding Process to Weld to AS1796 Certificate 4 (Alloy Steel Pipe)** This unit refers to the competence to weld to AS1796 certificate 4 (alloy steel pipe) using manual metal arc welding process
UTP NEG103 A	**Perform Gas Tungsten Arc Welding and Manual Metal Arc Welding Processes to Weld to AS1796 Certificate 5 (Alloy Steel Pipe)** This unit refers to the competence to weld to AS1796 certificate 5 (alloy steel pipes) using gas tungsten arc welding and manual metal arc welding processes
Unit Number	**Title Descriptor**
UTP NEG104 A	**Perform Oxyacetylene Welding Process (Fuel Gas) to AS1796 Certificate 6/6E** This unit refers to the competence to weld to AS1796 certificate 6/6E using oxyacetylene (fuel gas) welding process
UTP NEG105 A	**Perform Gas Tungsten Arc Welding to Weld to AS1796 Certificate 7 (Pipe)** This unit refers to the competence to weld to AS1796 certificate 7 (pipe) using gas tungsten arc welding process
UTP NEG106 A	**Perform Gas Metal Arc Welding to Weld to AS1796 Certificate 8/8E (Plate and Pipe)** This unit refers to the competence to weld to AS1796 certificate 8/8E (plate and pipe) using gas metal arc welding process
UTP NEG107 A	**Perform Submerged Arc Welding to Weld to AS1796 Certificate 9** This unit refers to the competence to weld to AS1796 certificate 9 using submerged arc welding process
UTP NEG108 A	**Perform Sheet Metal Work** This unit refers to the marking out and development, fabrication and installation of sheet metal work
UTP NEG109 A	**Fabricate Metal Structures and Components** This unit refers to the fabrication of metal structures and components required to facilitate the installation, modification and maintenance of equipment associated with the generation

	sector
UTP NEG110 A	**Repair/Replace/Modify Metal Structures and Components** This unit refers to the repair, replacement and/or modification of metal structures and components used in the generation sector
UTP NEG111 A	**Perform Routine Oxy-Acetylene Fuel Gas Welding (OAW)** This unit is intended to apply in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent codes and/or licensing requirements
Unit Number	**Title Descriptor**
UTP NEG112 A	**Perform Routine Manual Arc Welding** This unit is intended to apply in a maintenance environment where welding is not required to meet Australian Standard 1554 general purpose or equivalent codes and/or licensing requirements
UTP NEG113 A	**Perform Manual Heating, Thermal Cutting and Gouging** This unit is intended to apply in a maintenance environment and would be used to facilitate a wide range of maintenance activities.
UTP NEG114 A	**Perform Tool Store Duties** This unit is intended to cover the management and storage of tools and consumable items used in a workshop or similar environment associated with the generation sector.
UTP NEG115 A	**Install Electrical Equipment** This unit refers to 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
UTP NEG116 A	**Install Electrical Wiring Systems** This unit refers to the installation of electrical wiring systems including, but not limited to, general low voltage lighting, power circuits, control/indication and alarm circuits
UTP NEG117 A	**Install Complex Electrical Equipment** This unit refers to the installation of complex / H.V. electrical equipment
UTP NEG118 A	**Install Electronic Electrical Equipment** This unit refers to the installation of electronic electrical

	equipment containing solid state components, complex control panels and complex control equipment
UTP NEG119 A	**Maintain Electrical Equipment** This unit refers to 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
UTP NEG120 A	**Maintain Complex Electrical Equipment** This unit refers to the maintenance of complex and H.V. electrical equipment
UTP NEG121 A	**Maintain Electronic Electrical Equipment** This unit refers to the maintenance of electronic electrical equipment containing solid state components, complex control panels and complex control equipment

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Unit Number	Title Descriptor
UTP NEG122 A	**Diagnose and Repair Faults in Electrical Equipment** This unit refers to the diagnosing and repairing of faults in electrical equipment, and may involve the work to be carried out with equipment on line
UTP NEG123 A	**Diagnose and Repair Faults in Electronic Equipment** The unit refers to the diagnosing and repairing of faults in electronic equipment to board and component level and may involve the work to be carried out with equipment on line
UTP NEG124 A	**Diagnose and Repair Faults in Complex Electrical Equipment** This unit refers to the diagnosing and repairing of faults in complex and H.V. electrical equipment, and may involve the work to be carried out with equipment on-line
UTP NEG125 A	**Diagnose and Repair Faults in Electrical and Electronic Systems** This unit refers to the diagnosis and repairing of faults in electrical/electronic systems

UTP NEG126 A	**Modify Electrical Equipment** This unit refers to the modification of electrical equipment and may include, but not be limited to, alterations, additions or adjustments
UTP NEG127 A	**Modify Complex Electrical Equipment** This unit refers to the modification of complex and H.V. electrical equipment and may include, but not be limited to, alterations, additions or adjustments
UTP NEG128 A	**Modify Electronic Electrical Equipment** This unit refers to the modification of electronic electrical equipment and may include, but not be limited to, alterations, additions or adjustments
UTP NEG129 A	**Test and Commission Electrical Equipment** This unit refers to the testing and commissioning of electrical wiring systems and equipment
UTP NEG130 A	**Test and Commission Complex Electrical Equipment** This unit refers to the testing and commissioning of complex and H.V. electrical wiring systems and equipment
UTP NEG131 A	**Test and Commission Electronic Electrical Equipment** This unit refers to the testing and commissioning of electrical electronic equipment
UTP NEG132 A	**Test and Commission Electronic Electrical Systems** This unit refers to the testing and commissioning of electrical/electronic systems. Systems can refer to a combination of electrical/electronic machinery/equipment
UTP NEG133 A	**Maintain Battery Banks and Cells** This unit refers to the installation, testing and maintenance of all battery cells/banks including hydrogen generation cells/banks
UTP NEG134 A	**Diagnose and Repair Faults In Refrigeration/Air Conditioning Equipment** This unit refers to the diagnosing and repairing of faults in refrigeration/air conditioning equipment, and associated accessories and wiring systems

UTP NEG135 A	**Diagnose and Repair Faults in Complex Refrigeration/Air Conditioning Equipment** This unit refers to the diagnosing and repairing of faults in complex refrigeration/air conditioning equipment, and associated accessories and wiring system
UTP NEG136 A	**Conduct Minor/Basic Electrical Maintenance** This unit refers to the range of minor/basic maintenance functions associated with electrical equipment
UTP NEG137 A	**Conduct Generator Electrical Maintenance** This unit refers to those tasks required during the maintenance of an electrical generating set
UTP NEG145 A	**Perform Mechanical and Fabrication Drafting** This unit refers to the drafting and use of drawing equipment as applied to the production of schematic and plan drawings
UTP NEG146 A	**Perform Civil Drafting** This unit refers to the drafting and use of drawing equipment as applied to the production of sectional, arrangement, schematic and plan drawings
Unit Number	**Title Descriptor**
UTP NEG147 A	**Perform Electrical/Electronic Drafting** This refers to the drafting of electrical circuits and use of drawing equipment as applied to the production of schematic and wiring diagrams
UTP NEG150 A	**Operate Bulk Coal Handling Plant** This unit refers to the storing, reclaiming and dispatching of bulk coal
UTP NEG152 A	**Operate and Monitor Fuel Supply (Coal)** This unit refers to the operation, inspection and monitoring of coal delivery systems to the generating unit storage bunker
UTP NEG153 A	**Operate Ash and Dust Disposal Plant** This unit refers to the operation, inspection and monitoring of ash and dust disposal plants associated with a coal fired power station
UTP NEG154 A	**Operate Electrostatic Precipitator Dust Collection Plant** This unit refers to the operation, inspection and monitoring of electrostatic precipitator dust collection plant associated with a power station

UTP NEG155 A	**Operate Fabric Filter Dust Collection Plant** This unit refers to the operation, inspection and monitoring of fabric filter dust collection plant associated with coal fired power stations
UTP NEG156 A	**Operate and Monitor Fuel Supply (Gas or Oil)** This unit refers to the operation, inspection and monitoring of fuel supply from source to recipient unit storage
UTP NEG157 A	**Operate and Monitor Boiler Draught System** This unit refers to the operation, inspection and monitoring of boiler draft equipment
UTP NEG159 A	**Operate and Monitor Fuel Firing Plant (Gas or Oil)** This unit refers to the operation, inspection and monitoring of gas or oil firing plant
UTP NEG161 A	**Operate and Monitor Fuel Firing Plant (Coal)** This unit refers to the operation, inspection and monitoring of coal firing plant
UTP NEG162 A	**Operate and Monitor Boiler Steam/Water Cycle** This unit refers to the operation, inspection and monitoring of boiler steam/water cycle
UTP NEG163 A	**Operate Air Conditioning Plant** This unit refers to the operation and inspection of all air conditioning plant
UTP NEG164 A	**Operate and Monitor Site Services Water Systems** This unit refers to the operation, inspection and monitoring of site services water systems, excluding fixed fire water services
UTP NEG165 A	**Operate and Monitor Fixed Fire Protection Systems** This unit refers to the operation, inspection and monitoring of fixed fire protection systems
UTP NEG166 A	**Operate and Monitor Compressed Gas Systems** This unit refers to the operations of compressed gas systems excluding air/steam
UTP NEG167 A	**Operate and Monitor Gas Production Plant** This unit refers to the operation, inspection and monitoring of gas producing plant
UTP NEG168 A	**Operate and Monitor Compressed Air Systems** This unit refers to the operation of compressed air systems

UTP NEG171 A	**Operate and Monitor Water Treatment Plant** This unit refers to the operation, inspection and monitoring of water treatment and purification plant
UTP NEG172 A	**Operate Alkalinity Reduction Plant** This unit refers to the operation, inspection and monitoring of alkalinity reduction plant, including cooling tower water dosing plant
UTP NEG173 A	**Operate Reverse Osmosis Plant** This unit refers to the operation, inspection and monitoring of reverse osmosis plant
UTP NEG174 A	**Operate Brine Concentrator Plant** This unit refers to the operation, inspection and monitoring of brine concentrator plant
UTP NEG175 A	**Operate and Monitor Water Quality Control Systems** This unit refers to the operation and monitoring of water quality control systems in a power station
UTP NEG176 A	**Conduct Chemical Batching Operations** This unit refers to the mixing of chemicals for the treatment of a primary substance
UTP NEG177 A	**Operate Waste and Contaminated Water Plant** This unit refers to the operation, inspection and monitoring of waste and contaminated water plant associated with a power generating complex
UTP NEG178 A	**Perform Plant Lubrication** This unit refers to maintaining grease, oil levels and quality in all areas of plant
UTP NEG179 A	**Operate and Monitor Oil Systems** This unit refers to the operation and inspection of oil systems

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Unit Number	Title Descriptor
UTP NEG180 A	**Monitor and Maintain Civil Assets** This unit refers to the monitoring and remedial maintenance required to ensure the integrity of civil assets encountered with in the hyrdo-electric generating system
UTP NEG181 A	**Undertake dam safety surveillance** This unit refers to ongoing surveillance of water storage facilities to ensure structural integrity and water quality is maintained
UTP NEG182 A	**Operate and Monitor Auxiliary Steam Systems** This unit refers to the operation, inspection and monitoring of auxiliary steam systems in a power station
UTP NEG183 A	**Operate and Monitor Cooling Systems** This unit refers to the operation of cooling systems within power stations
UTP NEG184 A	**Operate and Monitor Water Systems (Condensate & Feedwater)** This unit refers to the operation, inspection and monitoring of condensate and feedwater systems
UTP NEG185 A	**Operate and Monitor Condensing and Cooling Water System** This unit refers to the operation, inspection and monitoring of condenser and auxiliary cooling water systems
UTP NEG186 A	**Operate and Monitor H.R.S.G. Hot Gas Control System** This unit refers to the operation and monitoring of waste heat recovery systems
UTP NEG187 A	**Operate and Monitor AC Electrical Systems within a Power Station** This unit refers to the local and remote operation of AC electrical switchgear, ring mains, switchboards and distribution systems including transformers, within a power station and the remote operation of high voltage switch yards
UTP NEG188 A	**Operate and Monitor DC Electrical Systems within a Power Station** This unit refers to the local and remote operation of DC electrical switchgear, ring mains, switchboards, rectification and distribution systems within a power station

Unit Number	Title Descriptor
UTP NEG189 A	**Operate Local Systems** This unit refers to the operation of plant at the local position in conjunction with coordinated systems under the control of appropriate authorised personnel
UTP NEG190 A	**Operate and Monitor a Wind Generator** This unit refers to the operation, inspection and monitoring of wind generator plant of any capacity
UTP NEG191 A	**Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine** This unit refers to the operation, inspection and monitoring of single fuel internal combustion engines
UTP NEG192 A	**Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine** This unit refers to the operation, inspection and monitoring of dual fuel reciprocating engines
UTP NEG193 A	**Operate A Hydro Generator Synchronous Condenser / Pump Unit** This unit refers to the start up, steady state running and shutdown of a hydro unit operating in generator or synchronous condenser or pump mode
UTP NEG194 A	**Operate and Monitor Gas Turbine** This unit refers to the local operation, inspection and monitoring of a gas turbine
UTP NEG195 A	**Manage a Gas Turbine Start Up** This unit refers to the establishment of combustion in a gas turbine, and establishing the gas turbine at full speed
UTP NEG196 A	**Manage, Operate and Monitor Gas Turbine Unit** This unit refers to the management of an inservice gas turbine unit
UTP NEG197 A	**Manage a Gas Turbine Shut Down** This unit refers to the management of the shut down of a gas turbine unit to a standby state
UTP NEG200 A	**Plan and Organise Work** This unit covers the planning and organising of tasks to be undertaken by the team
UTP NEG201 A	**Maintain Quality Systems Within The Team** This unit covers the overseeing of compliance with performance indicators

Unit Number	Title Descriptor
UTP NEG202 A	**Coordinate Team Activities** This unit covers the directing and coordinating of team activities required to achieve agreed goals
UTP NEG203 A	**Promote Effective Communication** This unit covers the facilitating of workplace communications
UTP NEG204 A	**Apply Quality Systems To Work** This unit covers the application of desired standards to work
UTP NEG205 A	**Deliver and Review Training** This unit is targeted at Category 1 trainers playing a key role in providing training and raising the levels of competency in the workforce
UTP NEG206 A	**Manage a Boiler Start-Up** This unit refers to the establishment of combustion in a boiler through to a stage at which combustion support energy is no longer necessary
UTP NEG207 A	**Manage, Operate and Monitor a Boiler Unit** This unit refers to the management of an in-service boiler unit capable of supplying steam
UTP NEG208 A	**Manage a Boiler Unit Shut Down** This unit refers to the management of the shut down of a boiler unit to a de-pressurised state
UTP NEG209 A	**Manage a Steam Turbine Run Up** This unit refers to the management of a steam turbine to a stable operating condition
UTP NEG210 A	**Manage, Operate and Monitor Turbine** This unit refers to the management of an in-service steam turbine
UTP NEG211 A	**Manage a Steam Turbine Shut Down** This unit refers to the shut down of a steam turbine to where it can be placed at rest
UTP NEG212 A	**Co-ordinate Electrical Energy Production** This unit refers to the safe and effective management of energy production to meet demand on an electricity generating unit
UTP NEG217 A	**Undertake Commissioning/Decommissioning** This unit refers to the decommissioning of plant and equipment and its subsequent recommissioning following maintenance or overhaul

Unit Number	Title Descriptor
UTP NEG218 A	**Produce Maintenance Strategies For Generation Production Plant** This unit refers to the establishment and implementation of maintenance strategies for generation production plant that may include boiler, turbine, water, electrical, control and monitoring, ash and dust, water treatment and fuel plant
UTP NEG219 A	**Produce Maintenance Plans For Generation Production Plant** This unit refers to the establishment and implementation of maintenance plans for generation production plant that may include, boiler, turbine, water, electrical, control and monitoring, ash and dust, water treatment and fuel plant
UTP NEG220 A	**Establish and Implement Operational Strategies For Power Production** This unit refers to the development of operational strategies to achieve the short and long term goals of the production plant
UTP NEG221 A	**Perform Risk Analysis of Generation Plant** This unit refers to identifying and analysing the risk in loss of generation/production plant
UTP NEG222 A	**Perform Cost Estimations** This unit refers to the cost estimations for planned and forced plant outages (plant may be a single item or a whole unit)
UTP NEG223 A	**Conduct Project Management** This unit refers to the planning, implementation, monitoring and completion of project work
UTP NEG224 A	**Manage Commissioning/ Decommissioning** This unit refers to the management of commissioning of plant and equipment and its subsequent decommissioning. It may also involve the removal of plant or equipment for refurbishment
UTP NEG225 A	**Manage Quality Control Procedures** This unit refers to the management of quality control procedures
UTP NEG226 A	**Implement Industrial Relations Procedures** This unit refers to the first stage of industrial relations procedures within the work place

Unit Number	Title Descriptor
UTP NEG227 A	**Manage and Operate Hydro-Electric Generating Plant and Auxiliary Equipment** This unit refers to the management, organisation and superintendence of a hydro-electric generating station. This will include both the operational and maintenance activities associated with such plant
UTP NEG228 A	**Conduct Water Conveyance and Control** This unit refers to the management of storage, conveyance and control systems of hydro generation water supplies
UTP NEG229 A	**Implement Dam Safety Surveillance Procedures** This unit covers the scheduling, implementation and reporting of dam safety surveillance
UTP NEG230 A	**Monitor and Implement the Application of Environmental Plans and Procedures** This unit addresses the monitoring and implementation of the application of environmental plans and procedures and the development of environmental procedures for the local work area
UTP NEG232 A	**Conduct Technical Inspection of Process Plant and Equipment** This unit refers to the technical inspection of generation plant, equipment, processes and associated infrastructure
UTP NEG233 A	**Conduct Performance Testing on Process Plant and Equipment** This unit refers to the performance testing on generation plant equipment and processes to assess plant efficiency
UTP NEG234 B	**Conduct/Implement Condition Monitoring** This unit refers to the condition monitoring and the testing to determine the efficiency of a range of rotational plant and associated equipment used in the generation industry

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Unit Number	Title Descriptor
UTP NEG235 A	**Monitor Efficiency of Thermal Steam Cycle Power Plant** This unit refers to the collection of data and the calculation of the efficiency of plant associated with the thermal steam cycle
UTP NEG236 A	**Monitor Power Generation Plant Reliability** This unit refers to generating plant reliability
UTP NEG237 A	**Tune Process Plant and Equipment** This unit refers to the investigation, nomination and adjustments of tuning parameters associated with generation plant, equipment and processes
UTP NEG238 A	**Perform Process Plant Inspections** This unit refers to the inspection of generation production plant and associated equipment
UTP NEG239 A	**Conduct Non-Routine Operational Testing** This unit refers to the testing of generation plant and associated equipment which may be of a non-routine nature
UTP NEG243 A	**Install Instrumentation Equipment** This unit refers to the 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
UTP NEG244 A	**Install Instrumentation Wiring Systems** This unit refers to the installation of instrumentation wiring systems including, but not limited to, cords and cables such as flexible multicore, thermocouple, co-axial, ribbon and hook up cable, signal and data cable
UTP NEG245 A	**Install Complex/Electronic Instrumentation Equipment** This unit refers to the 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 nucleonic equipment
UTP NEG246 A	**Maintain Instrumentation Equipment** This unit refers to the maintenance of instrumentation equipment including, but not limited to, process measurement and control and analytical instrumentation

UTP NEG247 A	**Maintain Complex Instrumentation Equipment** This unit refers to the 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
UTP NEG248 A	**Maintain Electronic Instrumentation Equipment** This unit refers to the maintenance of electronic instrumentation equipment
UTP NEG249 A	**Diagnose and Repair Faults in Instrumentation Equipment** This unit of competence encompasses the diagnosis and repair (to block level) of instrumentation used in "closed loop" systems, including, but not limited to, sensor elements, signal characterising equipment, input/output blocks, controllers, transducers and final elements
UTP NEG250 A	**Diagnose and Repair Faults in Complex Instrumentation Equipment** This unit refers to the diagnosis 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
UTP NEG251 A	**Diagnose and Repair Faults in Instrumentation Systems** This unit refers to the diagnosis and repair of instrumentation systems and all ancillary equipment including, but not limited to, PC operating systems, distributive control systems, programmable logic control systems and process control systems
UTP NEG252 A	**Modify Instrumentation Equipment** This unit refers to the modification 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
UTP NEG253 A	**Modify Complex Instrumentation Equipment** This unit refers to the 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

Unit Number	Title Descriptor
UTP NEG254 A	**Modify Electronic Instrumentation Equipment** This unit refers to the modification of electronic equipment including, but not limited to, process control instrumentation, power grid energy control, supervisory instrumentation and security equipment (CCTV)
UTP NEG255 A	**Test and Commission Instrumentation Equipment** This unit refers to the testing and commissioning of instrumentation wiring systems, piping and tubing systems and equipment, including, but not limited to process measuring and control instrumentation and analytical instrumentation
UTP NEG256 A	**Test and Commission Complex Instrumentation Equipment** This unit refers to the 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 nucleonic equipment
UTP NEG257 A	**Test and Commission Electronic Instrumentation Equipment** This unit refers to the 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 and security equipment (CCTV)
UTP NEG258 A	**Test and Commission Instrumentation Systems** This unit refers to the 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 and process control systems
UTP NEG259 A	**Terminate Fibre Optic Cables** This unit refers to the termination of fibre optic cables to equipment including, but not limited to, digital process controllers, distributive control systems, process computers and complex fire/security systems
UTP NEG260 A	**Write Programs for Control Systems** This unit refers to the writing of programs from flow charts for electronic control systems

Unit Number	Title Descriptor
UTP NEG266 A	**Operate and Monitor Supervisory, Control and Data Acquisition Systems** This unit refers to the monitoring and operation of screen based supervisory, control and data acquisition systems
UTP NEG267 A	**Operate and Monitor System Equipment** This unit refers to the operation, monitoring and control of H.V. apparatus on the system via scada control
UTP NEG268 A	**Operate and Monitor Communications Systems** This unit refers to the application of communications systems
UTP NEG269 A	**Liaise with Stakeholders** This unit refers to the communication between staff and external/internal stakeholders
UTP NEG270 A	**Maintain and Utilise Records** This unit refers to the maintenance and use of recorded data
UTP NEG271 A	**Manage the Network/System** This unit refers to the management of a network/system. Systems may be interconnected, remote or isolated
UTP NEG272 B	**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
UTP NEG273 A	**Schedule Generation** This unit relates to the scheduling of generation plant to economically meet forecast demand
UTP NEG274 A	**Plan a Scheduled Outage** This unit refers to the process of planning an outage
UTP NEG275 A	**Manage Local H.V. Networks** This unit refers to the local control & management of H.V. substations and /or local networks
UTP NEG276 A	**Interpret and Analyse protection operation** This unit refers to the interpretation and analysis of the operation of high voltage protection schemes and related L.V. protection

Unit Number	Title Descriptor
UTP NEG277 A	**Operate H.V. Primary Switchgear** This unit refers to the local operation of high voltage primary circuit breaking devices
UTP NEG278 A	**Develop Contingency Plans** This unit refers to the preparation of contingency plans required to support the integrity of the enterprise
UTP NEG279 A	**Manage Operational Crisis to Maintain/Restore System Integrity** This unit refers to the management of a crisis of a magnitude which affects the integrity and effectiveness of the system
UTP NEG280 A	**Control Hydro Generation/Pumping** This unit refers to the remote control of hydro plant
UTP NEG281 A	**Develop H.V. Switching Programs** This unit refers to the development of switching programs where multiple sources of supply must be considered and managed
UTP NEG282 A	**Operate H.V. Secondary Switchgear** This unit refers to the local operation of high voltage secondary switchgear
UTP NEG283 A	**Operate H.V. Condition Changing Apparatus** This unit refers to the local operation of all high voltage condition modifying devices
UTP NEG284 A	**Coordinate and Direct Switching Program** This unit refers to the coordination and direction of resources when managing a switching program
UTP NEG285 A	**Coordinate Power Generation** This unit refers to the operation of multiple generators sharing load under the control of one operator in an isolated system

Glossary

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

Refers to: diagnosis of performance, classification of eligibility, award of credentials, assurance of progress of learning.

Auxiliary Steam System

Steam used to assist the generation process, i.e. air extraction, gland sealing etc.

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 is of large voluminous construction that produce large volumes of high pressure steam required for the thermal power generation process. These boilers contain several stages of superheating and may also contain reheating elements.

Brine Concentrator

Plant for concentrating salts in discharged cooling waters, purifying the majority of water for re-use.

Bulk

Large quantity.

Chemicals

Chemicals used in the power generation processes.

Clean

Make site, buildings, plant and equipment safe, tidy and clear of obstructions (including dirt and grime).

Codes of Practice

Refers to: those 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.

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's 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 etc.

Condenser

Chamber beneath a turbine's low pressure cylinder(s) in which steam is condensed to water.

Condensing

Make denser or more compact. Main application in the generation industry is the condensing of steam to water.

Condition Changing

Voltage control. Apparatus may include tap changers, reactors and synchronous condensers.

Condition Monitoring

Process of measuring key performance characteristics of an item of equipment on a continuous or regular basis, usually for the purpose of optimising maintenance requirements.

Conduct

1. Manner of doing business or work.

2. Transmission of heat or power.

Contaminated

Polluted. Degradation 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

1. An incident that involves risk and suspense that may require a decisive and crucial response.

2. 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

Want earnestly, bordering on required or necessary. The preferred option.

Diagnose and Repair

Refers to corrective maintenance which is the recognition, location and rectification of faults.

Direct (work)

Set direction/requirements and instruct or allocate staff to achieve the required outputs.

Distribution System

Integrated electricity supply system.

Dogging

Attachment of, and the direction of, the lifting of materials in conjunction with a manned crane or hoist.

Drawings

Refers to: block, wiring, PID, schematic, layout drawings and site plans.

Draft System

Plant used to supply adequate air for combustion. Plant 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

Refers to: equipment where the majority of its components are electronic.

Emergency Response

Responding to a sudden state of danger or a condition needing immediate treatment.

Enterprise

Refers to electricity generators and their procedures and standards which can refer to isolation/permit procedures, station/depot instructions, work orders and agreed quality assurance requirements.

Environment

The area surrounding the work site which can be directly or indirectly affected by occurrences at the work site. It includes the atmosphere, soils, drains, underground water tables and the ecosystem. Protection of the *environment* 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.

The protection of the environment would also include the minimisation of those factors that contribute, directly or indirectly, to the production of greenhouse gases.

These contributing factors might include the minimisation of construction waste materials, the correct use of enterprise vehicles and machinery, the re-use or recycling of trade materials where possible and the overall reduction of energy usage through general awareness and the use of appropriate technologies.

Environmental Control

Protection of the surrounding environment. See also *environment*

Erect

Refers to: the actions of preparing foundations, the erection and stabilisation of structures and the placement of electrical equipment.

Explosive Power Tool

Ram set gun or similar tools.

External

Areas external to the power generation site.

Fabricate

To take raw stock and make detailed parts by a variety of methods, such as cutting, bending, attaching, etc. It may be applied to metal and composite structures, electrical parts, etc.

Facilitating

Promote or help forward.

Feedwater

High pressure and high temperature treated water supplied to a boiler.

Feedwater System

Part of a generating unit's steam/water cycle, in particular the high pressure water system from the feed pump suction to the boiler including pumps, economiser high pressure feed water heaters, feedwater regulating valves etc.

Field (operations)

External to the main centre of operation.

Fork Lift

Vehicle with fork in front for lifting and moving materials.

Fuel

Used for combustion and may include coal, gas, oil, refuse etc.

Generation

Production of electricity.

Hardware

Refers to: material or non-moving parts of systems including such items 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

Refers to: 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 Duel Fuel Reciprocating Engine

Engine having two fuel sources (normally diesel fuel and gas).

Internal Combustion Single Fuel Reciprocating Engine

Engine having one fuel source.

Isolated Power Systems

Power systems not connected to a power grid, ie Alice Springs.

Key Role

Essential or of vital importance.

Lay

Refers to: the placement in position of underground cables in preparation for jointing and terminating.

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

Not exceeding 1000 volts AC or 1500 volts DC.

Lubrication

Minimisation of friction by the application of specified oils or greases.

LV

Low Voltage.

Maintain

Refers to: preventative maintenance and the replacement of damaged or faulty components found during preventative maintenance.

Make and Spread (stockpile)

The formation of, and the management of, a stockpile (usually coal).

Manage (plant operations)

Planning, preparing, organisation and actual operation of major plant startups or shutdowns plus the in service control of normal and abnormal plant operating conditions.

Manoeuvering

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

Refers to: alterations, additions, adjustments or re-adjustments to existing equipment

Monitor

Maintain regular surveillance (see also ‘condition monitoring’).

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

Be 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

Refers to: supervisor, foreperson, other tradespersons, operations personnel and other workers.

Outage

Period of non-operation.

Perform

Carry into effect, execute (operation).

Performance Testing

Check of plant output under test conditions.

Permit to Work

Written approval to work (in safety and in a clearly defined area).

Plan

Formulated or organised methods by which actions are to be done in order to achieve a defined objective or outcome.

Plant

1. Apparatus associated with power production.

2. Mobile plant i.e. implements and vehicles.

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

Refers to: 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

1. Converting AC to DC .

2. Process of repairing faults or failures of equipment or systems.

Regulatory Authority

Refers to: any organisation or department which has a responsibility for establishing and monitoring adherence to procedures, specifications or standards within the Generation sector.

Reliability

May be relied upon (to continue producing). Measure of the probability of failure.

Relocating

Move to a new position.

Request/Work Orders

Refers to: work generated by schedules, instructions, handover details from previous shift, inspection test plant, defect cards, danger tags.

Requirements

That to which *equipment* and procedures and their outcomes must conform and includes statutory obligations and regulations and *Standards* called-up by legislation or regulations. *Requirements* may include:

- codes of practice
- job specifications
- *Standards* called-up in specifications
- procedures and work instructions
- quality assurance systems
- manufacturers' 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 *environment*.

Reverse Osmosis

Process of removing chemicals from (usually) water by forcing it through a semi permeable membrane using high pressure.

Rigging

Set up slings etc. to ensure a controlled lift of materials by 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).

Service

Refers to: procedural maintenance which would, in general, be of a routine nature.

Set-up

Refers to: specifications set by manufacturers', 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

1. Degree of excellence required for a particular purpose.

2. Required quality of work.

Statutory requirements

Refers to: those 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

Refers to: the placement of aerial conductors/cables in position, including tensioning.

Structure

Refers to: a pole or tower with associated hardware which supports electrical apparatus.

Switchboard

A combination of cubicles or switches located together that enable the connection or disconnection of electrical circuits.

Switchgear

Apparatus designed to make or break electrical connections.

Systems

Systems in the generation industry means the interaction between a number of elements requiring consideration of the total effect of the parts, rather than a concentration on any single part, and in respect of which actions and responses that are needed, may require analytical skills and techniques.

Tasks

Single items of work.

Team

People working together in a cooperative/collaborative manner.

Technical Inspection

Examine closely, utilising specific criteria relevant to the apparatus concerned.

Test

Refers to: 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

Refers to: 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

Refers to 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

Refers to: correcting or altering a system, circuit, components or indicators to provide a specified outcome or condition.

Turbine

Wheel or rotor driven by the impact or reaction of steam or water (generic). Main plant item in thermal or hydro power production consisting of a number of stages. May include a number of turbines connected in tandem.

Undertake

Be committed to perform, or take responsibility for, work, testing etc.

Waste

Substances of no further use in the power production process, i.e. 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

Refers to: time sheets, job cards, plans and records.

PART B

ASSESSMENT GUIDELINES

Part B - Assessment Guidelines

Introduction

The purpose of assessment is to confirm that an individual can perform to those standards expected in the workplace as expressed in the relevant endorsed competency standards.

These guidelines contain five sections:

1. Assessment System Overview
2. Assessor Qualifications and Training
3. Guidelines for Designing Assessment Materials
4. Guidelines for Conducting Assessments
5. Sources of Information on Assessment

The guidelines outlined in this document are intended to underpin assessments which lead to recognition of the achievement of National Gas Industry Competency Standards AQF levels 2-6 and the issuing of credentials under the Australian Qualification Framework (AQF).

The guidelines are to be used by all those involved in the assessment of Generation Sector competencies. This includes:

- State training and recognition authorities who will use the guidelines as (1) being the industry's advice to government and (2) the minimum requirements to be satisfied by potential and practising Registered Training Organisations in the undertaking of assessment.
- State/Territory Industry Training bodies who will use the guidelines to underpin their relationship with, and support for, the State training and recognition authorities quality systems.
- Registered Training Organisations who will issue qualifications based on the requirements outlined in the Training Package.
- Individual candidates/trainees who will use the provisions of the guidelines to establish their responsibilities and to protect their prerogatives.

1. Assessment System Overview

1.1 Benchmarks for Assessment

Within the Generation Sector of the Electricity Supply Industry, the benchmark for all competency-based assessment is the *Unit of Competency*. By way of supporting and reinforcing both the concept of competency and the Unit of Competency as the currency for the vocational education and training system, the 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 can occur outside the workplace.

All persons may claim formal recognition for an assessment of an individual Unit of Competency or a group of units.

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

The Units of Competency which form the benchmarks within the Generation Sector of the Electricity Supply Industry are:

National Electricity Generation (UTP NEG) Sector Competency Standards, Edition 1, 1997.

Imported national Units of Competency which have been valued by the National Generation Training Group (NGTG) for credit towards the Qualifications Framework.

An index of developed units is contained in Part A of this National Training Package.

1.1.1 Assessment Systems and Strategies

Within the National Generation Sector there are three main assessment systems. Whilst it is not the purpose of these Guidelines to provide an extensive technical description of each, it is important that we acknowledge their differences and the impact of these differences on our management processes. The three systems are:

- **Sampling**

  This is an approach in which evidence of competency is derived from a limited sample of performance. Technical/application skills are normally assessed by practical measures and knowledge is assessed by conventional written or oral questioning.

- **Profiling**

  This requires the progressive collection, documentation and judgement of **direct** and possibly **indirect** evidence, often over an extended period of time. In a competency system, the focus for the evidence is to be set against the critical aspects detailed in the competency unit, and the collection process staged against known and pre-planned workplace occurrences. Profiling requires a series of audit assessments and/or a final holistic assessment event.

- **Portfolio**

  This requires the progressive collection or build up of **indirect** evidence as to the individual's competency. It may include certificates of attainment from elsewhere, suitably focused references and testimonials, formal project appraisals, work records and any other evidence which is current and relevant to the competencies sought.

  These Assessment Systems are not mutually exclusive and a combination approach may be followed. The selection of an approach or System will be acceptable to the industry if the outcome is valid, the requirements of the competency satisfied, the approach supports industry-wide consistency, and the costs are acceptable to the Industry.

  All systems and strategies may be used to gather evidence and assess performance. The assessment processes and practices must satisfy the principles of assessment which are:

- **Validity**

  The assessment instruments and items must be designed and administered in a manner which ensures they measure the intended performance requirement.

- **Reliability**

  Assessment practices will undergo constant monitoring and review to ensure consistency in the application of process and interpretation of evidence.

- **Flexibility**

  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 learners.

- **Fairness**

  Assessment methods and practices shall be equitable to all individuals, and procedures and criteria applied to the judgement process will be made clear.

  Additionally assessment processes must satisfy the requirement for *currency* in relation to evidence of competency. Currency has two dimensions:

  1. Currency in terms of technology and/or processes; and
  2. Currency in terms of recency of application

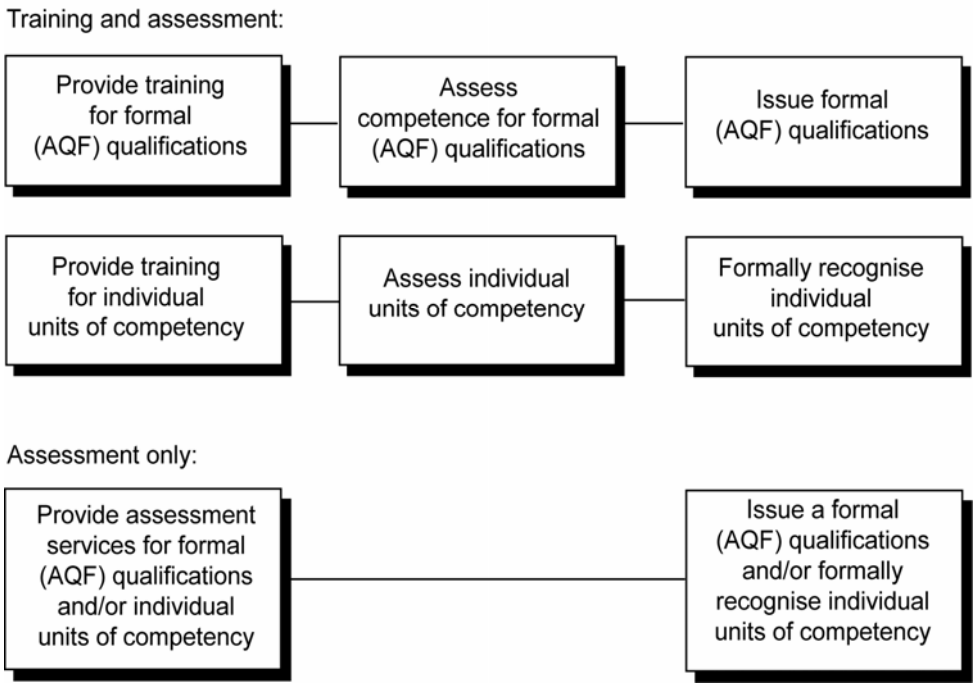
Clearly if there has been a recent and quantum change in technology, then evidence of actions before such change is unlikely to reflect the required currency. Similarly, if the individual claiming competency has not performed/applied that competency for extensive periods of time then documentary evidence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

The determination of currency of evidence is an important and sensitive issue. The principle to be applied in the Generation Sector is quite straight forward. When there are doubts as to the currency of any claimed competency, the claims are to be fully substantiated through both direct and supporting assessment processes.

1.2 Role of a Registered Training Organisation (RTO)

A Registered Training Organisation (RTO) is one which has been formally recognised by State/Territory training and recognition authorities as being capable of providing quality outcomes for a specified area and range of services. The role of RTOs will vary depending on the outcomes being pursued and the services offered. For the Generation Sector, these services are divided into 3 possible roles:

Possible roles 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 Unit of Competency. In addressing these critical aspects, and ensuring reasonable consistency, the assessment is to ensure that:

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

The RTO is also responsible for the issuing of formal recognition in the form of National Qualifications or Statements of Attainment, and where applicable individual entries into the Industry Skills Passport. The RTO will therefore:

- issue the National Qualification based on individuals having been assessed as competent in all the Units of Competency which constitute the qualification. (See Part C of the Training Package), or
- issue formal recognition (Statements of Attainment) in respect of individual Units of Competency for which candidates have been assessed and found competent.

An RTO may engage external appropriately qualified organisations and individuals to undertake aspects of the training and/or assessment process on their behalf. External organisations need not be registered training organisations (RTOs) in their own right. However, they need to meet the quality assurance measures as defined by the RTO issuing the qualification or recognition. In this way the RTO maintains in accordance with any requirements determined by State Training Authorities the overall responsibility for the quality assurance arrangements.

Consistent with the criteria established by State Training Authorities, RTOs are responsible for the implementation of the quality assurance arrangements included in these guidelines.

1.3 Assessment Pathways

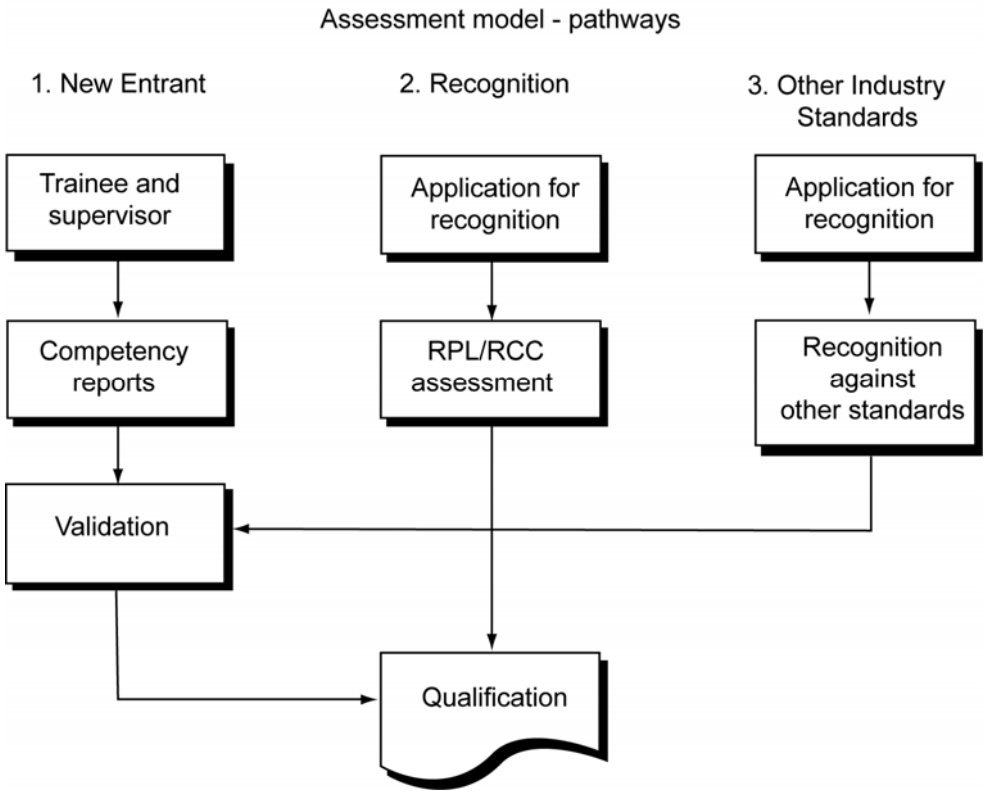
There are three Assessment Pathways that have been identified by industry which provide recognition of individual Units of Competence or groups of Units that make up Qualifications or Statements of Attainment. From an Industry perspective, assessment is to lead to formal recognition of the Industry's benchmark competencies or formal recognition of competencies from other industries. Formal recognition may be for individual competencies or for groups of competencies which combine to satisfy a National Qualification.

The Assessment Pathways are therefore threefold:

Pathway 1: New Entrant Competency Development

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

Pathway 3: Recognition of other Industry/Enterprise Standards

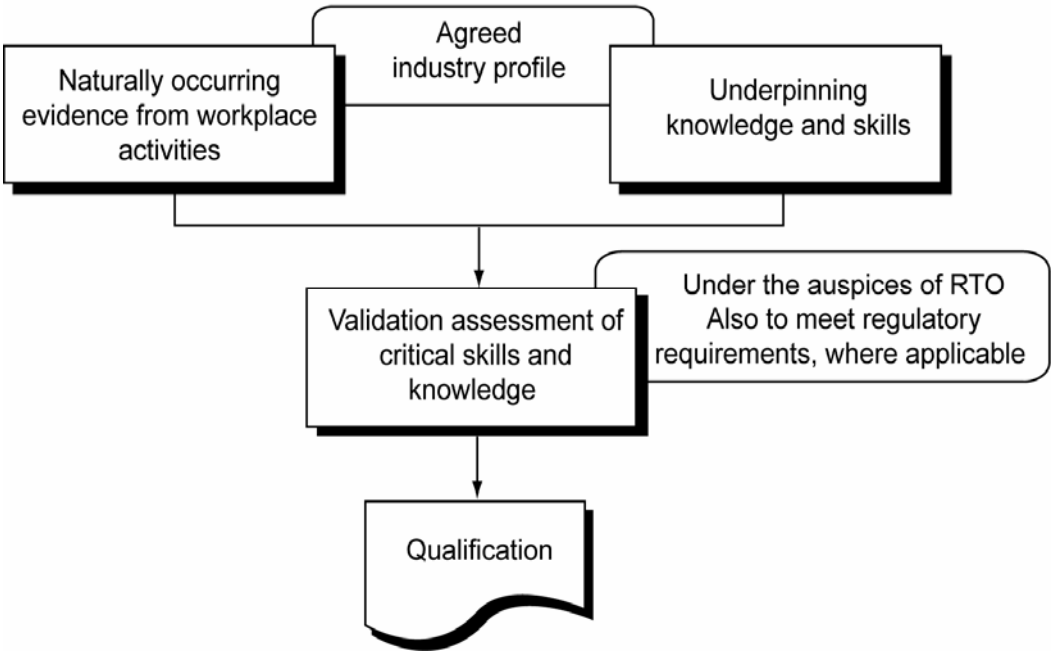


Pathway 1: New Entrant Competency Development

This pathway is for individuals who are undertaking an industry endorsed Model Training Program. The users of this pathway may be contracted employment based employees who are generally new apprentices or who undertake a training program in an institutional environment to achieve the same outcome.

The judgement about competence with respect to Units of competence forming a qualification needs to ensure sufficient evidence is gathered in a timely and accurate manner from several sources, such as, work place and educational experiences in which individuals are involved.

Pathway 1. Evidence of competency (New entrant)



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

This pathway is for those who may have acquired skills and knowledge in relevant Units of Competence outside formally recognised processes. The users of this pathway will include applicants from overseas and applicants who have developed skills in allied industries but who have no formal recognition in respect of industry standards or qualifications.

An existing national mechanism for the assessment and recognition of competencies is through the Tradesmens' Rights Regulation Act which is administered by Trades Recognition Australia (TRA), which is part of the Commonwealth Department of Industrial Relations. TRA's activities as the "relevant Australian authority" for trade skills assessment under regulations to the Migration Act, are consistent with and are accommodated by this pathway.

The Trades Recognition Australia process mainly operates to provide formal recognition of the competencies of migrants, competencies which have been developed by structured training and or work experience in overseas countries. However, it is also an important mechanism for the assessment and recognition of the competencies of unemployed people who do not have access to the profiling pathway.

Evidence of Competence

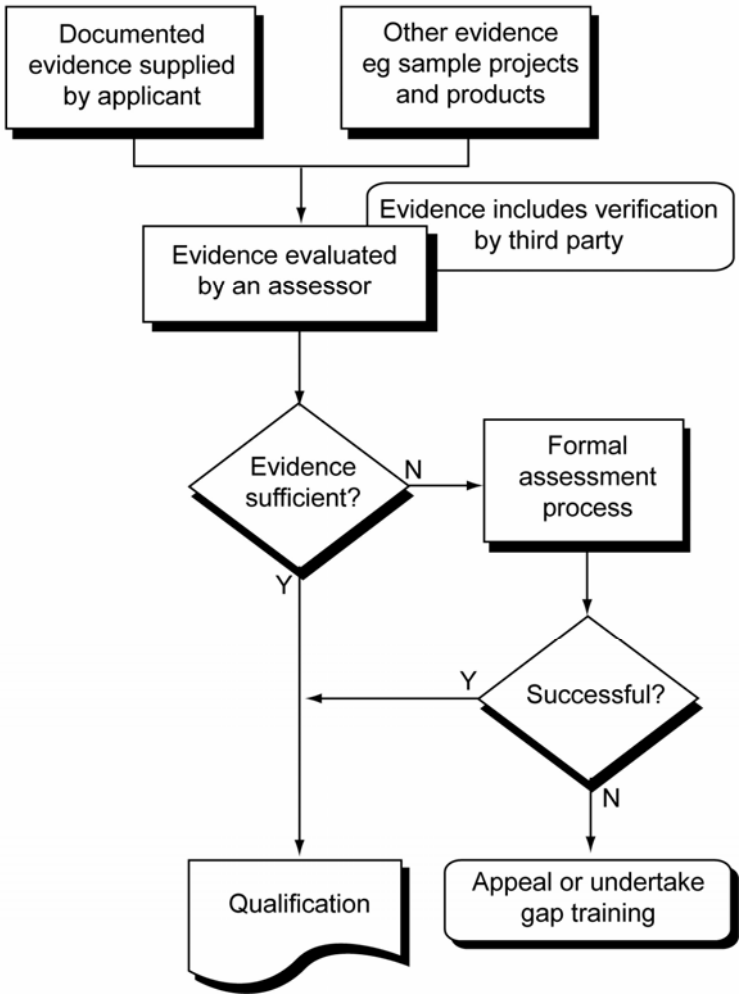
In this pathway many types of evidence are able to be used to determine competency for the issuance of qualifications or Statements of Attainment. The evidence may come from such things as records of previous relevant work experience. This type of evidence will need endorsement by a supervisor/mentor 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.

Industry would expect that this evidence will 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 deemed competent for the unit/s of competence or gaps are identified and noted. 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 such things as a personal portfolio, curriculum vitae, interview, comments by peers or employers and challenge tests.

The recognition of a subset of the Units of Competence forming a Statement of Attainment within a Qualification would generally require individuals to complete the additional Units in order to attain the appropriate Pathway that provides credit may be developed by the RTO in consultation with respective stakeholders.

Pathway 2. Recognition (RPL/RCC)



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 Unit(s) of Competence from these areas.

Recognition of Units of Competence between industries is through an agreed mapping process that ensures equivalence of outcomes. The mutual recognition of Units, as part of any mapping arrangements, is the responsibility of the parties who have the responsibility for maintaining the competency standards. In this instance the National Utilities and Electrotechnology ITAB and any other party.

Registered Training Organisations should contact the National Utilities and Electrotechnology ITAB Ltd regarding mutual recognition agreements.

Evidence of competence

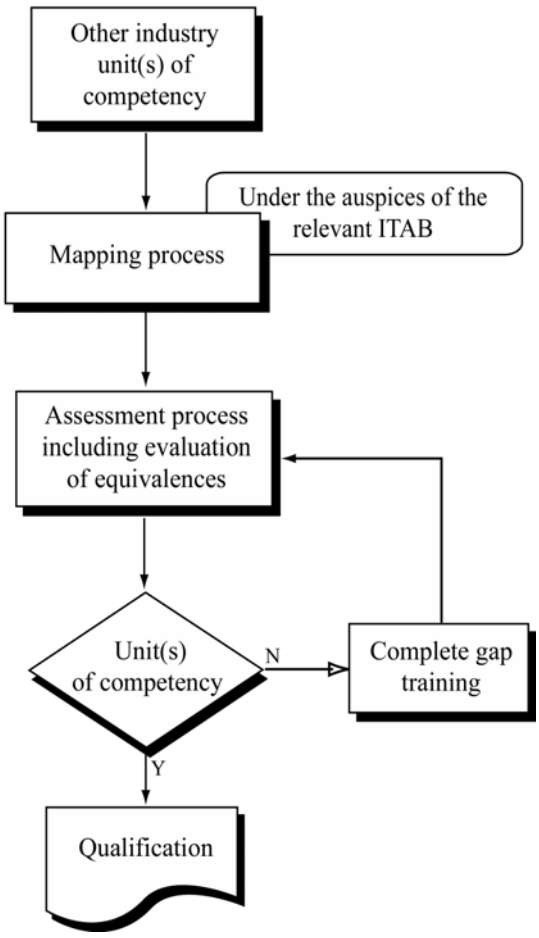
In this pathway evidence will be based on the mapping of unit(s) of competence in other Industry Competency Standards against the unit(s) in the Generation Industry Standards, for which formal recognition is sought. The applicant would be required to supply details of the unit(s) held and the unit(s) sought, including any assessment reports to the Registered Training Organisation, or their appointed nominee, for a determination.

This evidence will be assessed by the Registered Training Organisation (or their nominee) and a judgement made. The result will be either that the applicant is deemed competent for the Unit(s) or gaps are identified, advised and noted. The applicant can consider the judgement, pursue gap training or appeal the decision.

Evidence used in the judgement process is based on individuals' records of achievement relative to the Units of Competence for which recognition is sought.

The recognition of a subset of the Units of Competence forming a Statement of Attainment within a Qualification would generally require individuals to complete the additional Units or part thereof in order to attain the full qualification. An appropriate Pathway that provides credit may be developed by the RTO in consultation with respective stakeholders.

Pathway 3. recognition of other industry standards



1.4 Recording Assessment Outcomes

Registered Training Organisations are to provide all relevant assessment information to regulatory authorities, or their agents, pertaining to National, State or Territory licensing or certification requirements.

1.5 New Apprenticeship Opportunities

New apprenticeship initiatives can be arranged by Registered Training Organisations (RTOs) by designing relevant training programs or utilising the industry endorsed Model Training Program which will lead to the Qualifications detailed in Part C of this Training Package.

2. Assessor Qualifications and Training

The integrity of the National Generation Sector assessment processes is centred on the need for all assessment to be conducted under the direction or the authority of formally qualified assessors who may function with or within registered training organisations (RTOs).

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 will establish the system and identify the evidence required, they may cause the evidence to be gathered by others after which they will examine the evidence and make judgements.

The partnership between assessors and other competent persons is essential if the system is to function. However, technical assessment responsibility and systems accountability may only be exercised by a qualified assessor.

2.1 Assessor qualifications

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.

The assessment for competence

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), environmental, occupational health & safety (OHS), equity, etc).

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, carry out or review* assessment related matters are to be currently competent against the competency standard contained within the Assessment and Workplace Training National Training Package:

Development of assessment instruments

Competency against the required National Standards is to be attained through approved processes which ensure that:

- the candidate satisfies the theory underpinning the Unit(s).
- the candidate satisfies the practical application required of the Unit(s).
- the approved provider is satisfied that the candidate will be capable of competently conducting assessments in the intended environment.

2.2 Using qualified assessors

In keeping with the above policies, 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 competent against the assessor competency standards contained within the Assessment and Workplace Training National Training Package and the relevant industry vocational competencies.
- using a workplace assessor who is competent against the assessor competency standards contained within the Assessment and Workplace Training National Training Package 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 competent against the assessor competency standards contained within the Assessment and Workplace Training National Training Package 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 competent against the assessor standards contained within the Assessment and Workplace Training National Training Package 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 competent against the assessor standards contained within the Assessment and Workplace Training National Training Package.

Notwithstanding, the industry would expect that in all instances the Registered Training Organisation will retain the responsibility of managing the Training Program, the ultimate attributing of competence against Unit(s) of Competence using qualified assessors and the Issuance of Qualifications and/or Statements of attainment. The process should be undertaken in accordance with the recognition processes defined by relevant training authorities.

3. Guidelines for Designing Assessment Materials

3.1 Assessment Material Concepts

Assessment is about forming a judgement as to whether an individual is or is not competent. To be fair and consistent the judgement is to be based on the collection, analysis and evaluation of relevant and focussed evidence. To facilitate counselling and follow-up, the collection of evidence and the subsequent decision process needs to be adequately recorded.

In order to satisfy these requirements, assessment materials are developed, designed and implemented by appropriately recognised competent assessors. The materials may range from relatively straightforward questions/answers and task tests to quite elaborate simulations for assessing concepts and values.

There is no single blueprint for assessment materials and indeed there are benefits for all from soundly based experimentation. The assessment materials need to facilitate the process 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 the making of logical and supportable judgements
- providing the means for the recording of the process and the judgements
- providing a basis for post-assessment
- providing a basis for the counselling and guidance of the candidate.

The Industry has two expectations of those who design and develop assessment materials.

Expectation 1

- The assessment materials will satisfy the requirements which the industry has established as an essential minimum.

Expectation 2

- Where there are optional strategies and choices to be made, the option selected is that which is demonstrably the most appropriate to the circumstances.

3.2 Essential Design Requirements

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

Assessment of competency standards

Assessment must directly address the Unit of Competency and, within this, satisfy the critical aspects of evidence including the related performance criteria, range of variables, endorsements and underpinning knowledge and skills.

Learning Outcomes or other curricula documents are not to be the focus of summative assessment unless their direct relationship to the Unit of Competency is formally proven and recorded.

Assessment system/process documentation

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 language used must be appropriate to the situation, the Assessor and the candidate.

The assessment materials must address the totality or holistic aspects of the competency in a realistic and effective way.

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 and access to the required work.

Assessment of underpinning theory

Summative assessment of the theory (knowledge) underpinning competency 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 this information when it is needed at some other time.

Assessment of trainees with low language/literacy/numeracy Skills

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

Stand alone requirements for assessment materials

Assessment Materials need to be designed in a manner which facilitates the capturing of evidence and the recording/reporting of decisions. The Assessment Material will normally be Unit of Competency based and it needs to be a stand-alone self explanatory document. A qualified Assessor should be able, on thebasis of the Assessment Material, to prepare for, conduct, record and report on an assessment process/outcomes.

3.3 Optional Strategies (where choice is to be exercised)

Optional strategies are generally related to the type and range of evidence required and the methods by which the evidence is to be gathered, recorded and analysed and the containment of the costs of assessment.

Types and range of evidence

The type and range of evidence required to assess competency is established, at least initially, in the critical aspects of evidence contained in each Unit of Competency.

Where the critical aspects of evidence do not provide sufficient detail, further analysis of the performance criteria (PC), the range of variables and the theory underpinning may be required. Where competency-based curriculum or module descriptors have been specifically prepared for the Unit of Competency, these too may be used for further detail.

Evidence collection methods

Having established the type and range of evidence required, those who prepare assessment materials need next to determine the most appropriate evidence collection method. Appropriate in this sense means the most effective and logical methods given the subject, the working environment, the target audience, the available time, the frequency of, and access to, the occurrence requiring competency, safety requirements and other relevant factors.

It will seldom be possible to arrive at a generalised solution to evidence collection. At the very least there are differing methods related to the theory underpinning and the practical applications and developers would do well to handle these two as discrete facets.

The options for assessing theory are described in a range of texts and they include everything from short oral questions to full blown essays. They may be audio or computer aided. But, to be effective, they must capture what the competency requires of the candidate. In terms of the theory or knowledge, is the candidate required to recall, to locate, to interpret, to evaluate, to analyse, to synthesise or to conceptualise? When this need is identified, the method of gathering the evidence becomes much easier to determine.

Evidence of practical application will likewise have to be analysed to determine how it may best be captured. The options range from simple observation, repetitive observations or projects (either routine or special) to the other end of the spectrum where full simulations are required.

In the development and/or review of Assessment materials the question which needs to be satisfied is ‘What evidence would a reasonable person require in

order to infer that the candidate is competent, or more pointedly, on what evidence would the Assessor accept the candidate now in his/her own work group, as being competent?'

Costs of assessment

The costs of assessment are critical to all parties. If the costs are unreasonably high there will be pressure to reduce these, in some cases to the point where the integrity of assessment outcomes is threatened. In order to maintain the resource commitment to assessment it will need to be demonstrated that the assessment process and materials produce a consistent quality outcome in a way which is most cost effective and least intrusive to normal workplace operations.

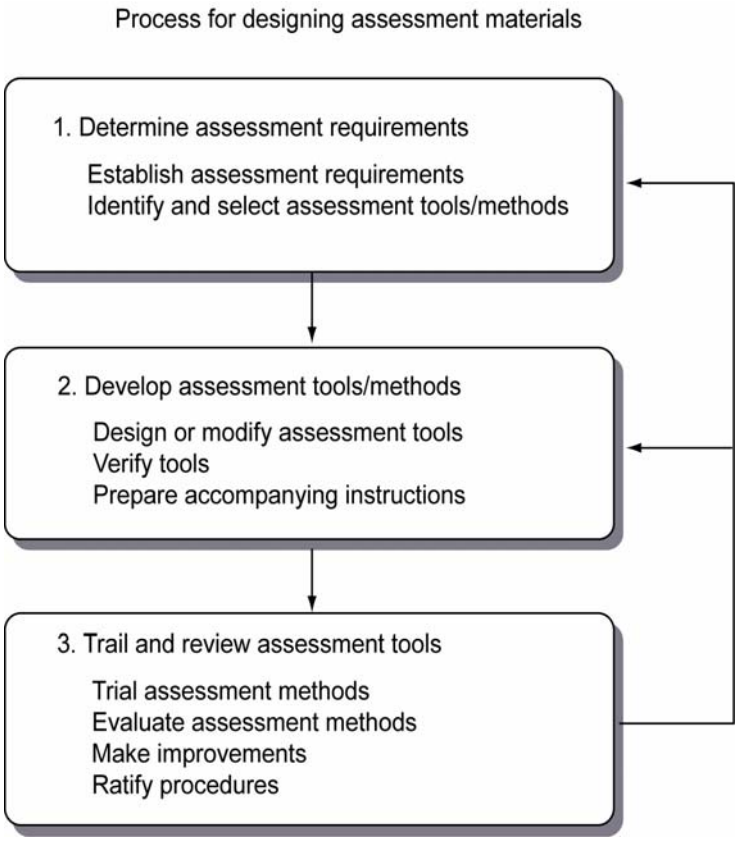
Having determined what evidence is required, the designers must establish the most efficient collection methods. The key threats to efficiency and cost effectiveness include the following:

1. . The Assessor may be away from their normal place of work resulting in a loss of productivity.
2. . The candidate's productivity will, at a minimum, be impaired during assessment.
3. . Equipment or plant which is required for the assessment may not be operating to capacity.
4. . Resources such as venues, transport or replacement personnel may be required to support the process.

There will be occasions when high cost assessment is unavoidable. The operations of single items of major plant may require simulation leading to on-line activities. Emergency response assessment is likewise costly. The issue for designers is not to avoid high cost assessment but rather to be able to justify the costs of assessment for each unit. In particular they need to demonstrate that they have considered all the relevant options and selected those which satisfy quality but minimise the cost impacts of 1. - 4. above.

3.4 Assessment material design process

There are a range of views on how best to approach the design of assessment materials and this diversity is both positive and desirable. An overview of a



typical process is depicted in the following table and paragraphs:

Determine Assessment Requirements

Establish assessment requirements

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

Can you assess at either the unit or element level?

Do you always need to assess real work?

How is the critical evidence specified?

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

Which assessment tasks will provide broad coverage of the range of variables?

Are there any knowledge and skills that the candidate should have before they are assessed for the Unit?

Identify and select assessment tools/methods

The assessor will be required to identify and select the assessment methods consistent with the Generation Sector's assessment situation and procedures. The types of assessment methods which will require consideration include the following:

- **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 from immediate supervisory or other appropriate persons may constitute profiling reports. 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**

  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**

  To measure the extent of knowledge or test problem solving capabilities. These may be used to complement practical demonstration.

- **Oral tests**

  These can be an adjunct to practical demonstration.

- **Projects**

  Tends to be unsupervised. The assessor uses the final product on which to base a judgement.

- **Simulation**

  This may involve an off-site practical test. The actual tasks and conditions are similar to real life situations.

- **Portfolios**

  Used for assessing skills achieved in the past. Can include work samples.

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 Unit of Competency and address the totality of the competency in a realistic and effective way.

Trial and review assessment tools

Trial assessment methods

The assessor will be required to trial the assessment methods with a representative group of people similar to those who will ultimately be assessed.

Evaluate assessment methods

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

Once trials are conducted the assessor will need to seek responses from all parties and compile and analyse these responses.

Make improvements

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

Ratify procedures

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

3.5 Assessment Instruments

Assessment instrument is the term used to describe the documentation for the recording of the assessment process and the outcomes.

A template for a Generation Sector Assessment Instrument is provided at Attachment 1 to this Part.

4. Guidelines for Conducting Assessments

4.1 Assessment Conduct Concepts

Assessment within the Generation Sector is to be carried out by a Qualified Assessor who will have been trained in the conduct of assessment.

The main issues to be satisfied during the conduct of assessment include the following:

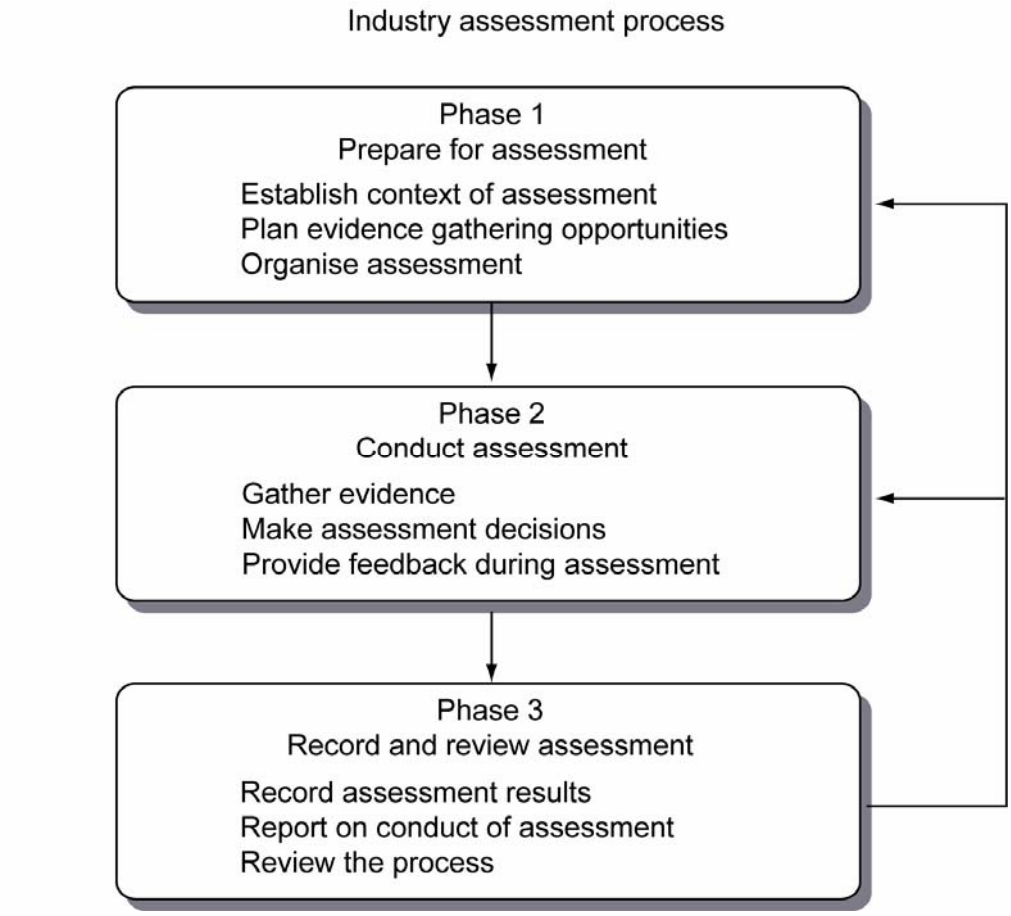
- Assessment should be planned, arranged and organised well in advance of the event/process.
- The candidate should be involved in the planning and preparation so that their readiness and availability is assured, and their advice on evidence collection opportunities may be considered.
- The environment 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.
- their inadequacies were pointed out in a sensitive and constructive manner.
- the reasons for the assessment decisions were appropriate, logical and constructively explained.

4.2 Overview Of Assessment Conduct Issues

The flow chart below provides an overview for assessment within the Generation Sector. The flow chart outlines the process involved in conducting assessment in both the institutional and workplace context and consists of the three major components each assessor will need to address:



4.2.1. Prepare for Assessment

Establish context of assessment

- Identify the competency standards appropriate to the assessment including the relevant performance measures applying to assessment.
- Ensure the candidate has access to the relevant competency standards and other relevant information.
- Discuss and confirm the purpose of assessment with the candidate and where appropriate, the employer.
- Discuss the Generation Sector/enterprise assessment policy with the candidate (they need to understand how the competencies to be assessed will fit in with the Industry Training Framework or enterprise arrangements for training. The assessor should also understand what the candidate has done to acquire the knowledge and skills).
- Explain and obtain agreement to the assessment procedure.

Plan evidence gathering opportunities

- Identify opportunities to gather evidence of competence which occurs as part of the workplace activities.
- Explain to the candidate what evidence will be looked at to constitute competency.
- Choose the techniques that will be used to assess the candidate's knowledge and skill.
- Identify the need to gather additional evidence which may not occur as part of workplace activities.
- Ensure the planned approach to gathering evidence will provide sufficient, reliable, valid and fair evidence of competence.

Organise assessment

- Obtain the appropriate resources. Practical assessment should preferably be conducted on site. However, if on-site practical assessment is not possible then off-site assessment at a mutually agreeable site could be appropriate. It can be part of the current work (i.e. observation of current tasks) or a demonstration (i.e. a simulated task).
- Check the assessment environment permits fair, valid and reliable assessment and that it is safe and accessible.
- Discuss the context and purpose of assessment arrangements and requirements with the person being assessed, and confirm that it is agreed and understood.
- Inform the relevant people of assessment plans.

4.2.2 Conduct Assessment

Gather evidence

- Evidence is gathered in accordance with agreed competency standards and in accordance with Generation Sector assessment procedures using specified assessment methods and tools.
- Document the evidence gathered in accordance with the assessment procedure.
- Ensure evidence gathered is valid, reliable and consistent.

Make assessment decision

- Evaluate the evidence gathered in terms of its
- validity
- authenticity
- sufficiency
- currency
- consistent achievement of the specified standard
- Make the assessment decision in accordance with the criteria specified in the assessment procedure.
- If in doubt, seek guidance from a more experienced assessor nominated in the assessment procedure.

Provide feedback during assessment

- Candidate is put at ease throughout assessment and given clear and constructive feedback where appropriate.
- Progress is discussed (if it is appropriate to the form of assessment being used).
- Discussion is held with candidate on methods of overcoming any gaps of competency revealed by the assessment.
- If appropriate, give guidance on training opportunities that could overcome any gaps revealed in the assessment.
- Where appropriate, confirm with the person being assessed the opportunities for re-assessment and/or the available Generation Sector appeal procedure.

4.2.3 Record And Review Assessment

Record assessment result

- Assessment results are properly recorded on the Generation Sector Assessment Instrument and in accordance with specified assessment procedure.
- The assessment result is recorded in line with the Instrument's required details and record-keeping requirements.
- Assessment records are stored by the assessor in a secure place to ensure both access to authorised people only and the confidentiality of assessment outcomes.

Report on conduct of assessment

- Any disputed assessment decisions are recorded and reported promptly to those nominated by the RTO in the assessment procedure.
- Where appropriate, report positive and negative features experienced in conducting assessments to the RTO.
- Where appropriate, make suggestions for improving the process to the RTO.

Review the procedure

This needs to be done in cooperation with the candidates who have been assessed, but not necessarily as part of an individual assessment procedure. This will involve:

- Reviewing the operations of the assessment procedure at the site.
- Recording and reporting promptly any assessment decision disputed by the person being assessed to the RTO.
- Making suggestions for improving any aspect of the assessment process to the RTO.

5. Sources of Information on Assessment

Information on Assessment falls into four categories:

- Industry Policy
- State/Territory Policy
- National Policy and Guidelines
- Process Information

Industry Policy

The National and State/Territory ITABs are the custodians of industry policy. They have responsibility for the definition and implementation of this National Training Package in conjunction and cooperation with the State/Territory recognition authority.

State/Territory Policy

The State/Territory training and recognition authorities have constitutional responsibility for vocational education and training. They will, from time to time issue, policies and guidance on training and assessment issues.

National Policy and Guidelines

National Policy and Guidelines are established under the auspices of the Australian National Training Authority and the relevant Commonwealth Department. This information includes:

- Competency Standards for Assessment (September 1995)
- Guide to Competency Standards for Assessment, ANTA, 1997
- Standards Best Practice Manual, ANTA, 1997
- Guidelines for Training Package Development, ANTA, 1997

Process Information

Process information covers all parts of the competency assessment process. It is published in books, periodicals, computer packages and increasingly on electronic information services. It would be quite pointless in including here information which may shortly be replaced or redundant. A list of available and relevant information sources are at Attachment 2 to this Part. The Attachment will be re-issued on a regular basis.

It is also suggested that those wishing to obtain information relevant to Competency Assessment in the Generation Sector should contact, in order of priority:

1. their State/Territory Training and Recognition Authority.
2. their servicing ITAB at the State/Territory level.
3. the National Utilities and Electrotechnology ITAB.
4. the National Assessors and Workplace Trainers Body (refer to ANTA for current address/communication details).

5.1 Competency Standards And Evidence Guides

Format and Definitions:

Standards Best Practice Manual. (1997). Australian National Training Authority, Australian Training Products Ltd.

National Training Board (1992) *Policy and Guidelines*. (Second Edition), National Training Board: Canberra

Sources:

Metal & Engineering Industry Training Package, Nov 1998	National Metal, Engineering and Related Services Industry Training Advisory Board (NMERS ITAB)
Administration Training Package, Oct 1997	Administration Training Company GPO Box 1469 N. MELBOURNE VIC 3001
Frontline Management Competency Standards	Australian National Training Authority (ANTA) AMP Place, 10 Eagle Street BRISBANE QLD 4001 (07) 3246 2300
Road Transport Industry Competency Standards	Transport & Distribution Industry Training Advisory Body c/- National Union of Workers 552 Victoria Street NORTH MELBOURNE VIC 3051
Electrical Contracting Industry Award Standards (ECIA)	NEEITC Ltd PO Box Q284, QVB Sydney NSW 1230 (02) 929002533
National Building and Construction Industry Competency Standards	Construction Training Australia PO Box 650 CARLTON SOUTH VIC 3053 (03) 96638066

Assessment Instrument

Unit Title

Scope Of Assessment: (Range, complexity & context of application for this assessment to be specified here)

Name of Candidate:
Work Area/Contact Number:
Name of Workplace Supervisor:
Name of Assessor:
Date of Assessment:

Part A	Questions to assess underpinning knowledge of the Unit	Page
Part B	Observation checklists to assess practical skills	Page
Part C	Supporting evidence (including supervisor's report)	Page

Notes for this Assessment Instrument Use

Designing the instrument

- The questions and observation checklists in this example were designed by analysing the performance criteria for the Unit and the accompanying evidence guide.
- Practical assessment for the Unit may require the assessor to undertake additional tasks if the assessment of this cannot be fitted into the candidate's normal work cycle.
- Part C "Supporting Evidence" may be required when the assessor is:
  - unable to identify certain aspects of the work outcome
  - uncertain of the assessment decisions and requires additional evidence to back up their own judgement
  - not actually present to assess all critical aspects of the job.

Conducting the assessment

The assessor should check whether the candidate has any literacy or numeracy problems before the assessment is conducted. For example, the assessor could ask the candidate to fill in the details on the cover sheet for the unit assessment instruments (ie. names, dates).

To make sure that the candidate is ready for assessment, the assessor will need to ask questions that test underpinning knowledge before conducting the practical demonstrations. However, in some cases it may be more appropriate to ask particular questions during the actual performance of the workplace tasks.

Recording the assessment result

The assessor will need to explain the outcome of the assessment to the candidate. The assessor and the candidate will need to complete, sign and date the result sheet.

Part A: Questions to assess underpinning knowledge

The candidate is to answer all questions.

Ask the candidate each question using the words listed below. You may clarify the question with the candidate but you must not provide assistance with the answers.

A suggested framework for questions		Satisfactory Response	
		Yes	No

Feedback to Candidate:

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Part B: Observation checklists to assess practical skills

You Should Stop The Assessment Immediately If The Candidate's Work Practices Are Unsafe

Element 1

Practical skills	Competent	Not Yet Competent
Feedback to Candidate:		

Element 2

Practical skills	Competent	Not Yet Competent
Feedback to Candidate:		

Element 3

Practical skills	Competent	Not Yet Competent
.....		

Element 4

Practical skills	Competent	Not Yet Competent
Feedback to Candidate:		

When relevant components of other Units are assessed concurrently with this unit, record the outcomes using the assessment instruments listed separately for those units.

Part C: Supporting Evidence (including supervisors report)

Unit/Element	Source of Evidence	Valid?
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N
		Y/N

Supervisor Report:

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Part D: Assessor's outcome for the Unit

COMPETENCY ASSESSMENT RESULT **Unit**	
Name of candidate:	
The candidate was assessed as:	☐ **COMPETENT** ☐ **NOT YET COMPETENT**
Feedback to candidate:	
Signatures	
The candidate has been informed of the assessment result and the reasons for the decision.	_____ Signature of Assessor Date:
I have been informed of the assessment result and the reasons for the decision.	_____ Signature of Candidate Date:

Some Current Information Sources on Assessment

Assessment Instrument Design

Guidelines for Training Packages Development (1997) Australian National Training Authority

Hagar, P., Athanasou, J. & Gonzi, A. (1994) *Assessment Technical Manual* Australian Government Publishing Service: Canberra

Toop, L., Gibb, J. & Worsnop, P. (1994) *Assessment System Design* Australian Government Publishing Service: Canberra

Assessor Training

Competency Standards for Assessment (1995) Australian National Training Authority

Guidelines for Training Package Development (1997) Australian National Training Authority

Standards Best Practice Manual. (1997). Australian National Training Authority, Australian Training Products Ltd.

Conducting Assessments

Foyster, J. (1990) *Getting to Grips with Competency-based Training and Assessment*. TAFE National Centre for Research and Development Ltd: Adelaide

Hager, P. (1993) *Principles of Competency-Based Assessment.* In *Testing Times* conference papers. National Centre for Vocational Education Research Ltd: Leabrook, South Australia

Competency Standards for Assessment (1995) Australian National Training Authority

Rumsey, D. (1994) *Assessment Practical Guide* Australian Government Publishing Service: Canberra

Guidelines for Training Package Development (1997) Australian National Training Authority

NSW Department of Training and Education Coordination & Commonwealth Department of Employment, Education, Training and Youth Affairs (1996) *Teaching and Learning Key Competencies*. A resource kit.

Evidence Gathering Methods

Competency Standards for Assessment (1995) Australian National Training Authority

Guidelines for Training Package Development (1997) Australian National Training Authority

NSW Department of Training and Education Coordination & Commonwealth Department of Employment, Education, Training and Youth Affairs (1996) *Teaching and Learning Key Competencies*. A resource kit.

Assessment System Design and Management

Competency Standards for Assessment (1995) Australian National Training Authority

Guidelines for Training Packages Development (1997) Australian National Training Authority

PART C

QUALIFICATIONS

Part C - Qualifications

1. Introduction

The purpose of this Part is to describe what Generation Qualifications are, how they are structured and the constraints to be understood and observed by those wishing to use the Qualification System.

The information on the Generation Sector Qualifications is presented as follows:

- This overview, which covers the principles, the components and composition of qualifications, and
- Competency Valuation processes and rules
- Issuance of qualifications and competency recognition
- A Vertical Valuation Table (Appendix 1)
- A Horizontal Valuation Table (Appendix 2)
- A Unit Valuation Matrix (Appendix 3)
- The National Generation Qualifications Framework (Enclosure 1)

1.1 Underlying principles

The National Generation Sector Qualifications Framework was developed to adhere to the following principles:

1. Qualifications are to be competency based and are made up by clustering or grouping individual Units of Competency.
2. Qualifications should be relevant, in terms of both level and scope, to the realistic needs of the industry and to facilitate real career pathways. Qualification structures are not intended to be misused for other purposes.
3. Qualifications should reflect work requirement and not be influenced by the variety of existing qualifications which may have been used in the past for career progression.
4. Qualifications should be constructed so as to enhance the prospects for consistency, transferability and portability within and across industries.

1.2 Flexibility and customisation

1.2.1 Flexibility

The approach adopted in the Generation Sector Qualifications Framework is aimed at providing the maximum flexibility for all parties using the qualifications.

Qualifications have been structured to meet the needs of all employers and their employees. The qualifications contain a broad range of electives; sufficiently broad to reflect, and respond to, diverse approaches to work requirements.

1.2.2 Customisation

Customisation can be dealt with in the following contexts:

Individual Units of Competence provide for enterprise operational procedures and work orders to apply within the regulatory requirement of the State and Territory electricity authorities.

Industry or enterprise developed Units of Competence may be added to the elective group of units within the Qualification Framework, provided the additional unit is relevant and complementary to the Core Units of Competence, is in accordance with Section 2 of these guidelines, and its inclusion does not change the intended outcome of the overall qualification.

There are single Units of Competence that can be considered for inclusion with other industry developed Units of Competence to form a 'customised qualification'. However, many of the single Units of Competence in the Generation National Training Package would be inappropriate for inclusion without other related units because of safety, regulatory and risk related occupational issues.

In all cases consultation with the National Utilities and Electrotechnology Industry Training Advisory Body Ltd, and other relevant authorities, is strongly recommended and is dealt with in accordance with other sections within Part C of this National Training Package.

1.3 Electricity Generation National Qualifications

Electricity Generation National Qualifications are detailed at Enclosure 1 and summarised as follows:

Diploma

Diploma - ESI Generation (Electrical/Electronic)
Diploma - ESI Generation (Operations)

Certificates

Certificate IV - ESI Generation (Electrical/Electronic)
Certificate IV - ESI Generation (Operations)
Certificate IV - ESI Generation (System Operations)
Certificate IV - ESI Generation (Mechanical)
Certificate III - ESI Generation (Electrical/Electronic)
Certificate III - ESI Generation (Operations)
Certificate III - ESI Generation (Mechanical)
Certificate III - ESI Generation (Fabrication)
Certificate II - ESI Generation

Note: ESI = Electricity Supply Industry

1.4 Key features of the qualifications structure

The qualifications framework has been designed and developed to satisfy the requirements for flexibility, quality and consistency whilst achieving valid

alignment with the Australian Qualifications Framework (AQF). To achieve this, the design processes have been designed to:

- Permit flexibility by maximising the range of options available within the structures;
- Satisfy quality requirements by ensuring the integrity of the AQF in terms of relative competency levels; and
- Achieve consistency by ensuring the relative value of the Units of Competency and the total value of qualifications are realistic reflections of their actual worth.

These design needs resulted in the identification of rules and definitions which are explained in the following paragraphs.

1.5 Composition of qualifications

For employment based contracted training, the composition of qualifications must be agreed between all valid stakeholders.

General principles regarding the composition of qualifications are as follows:

1. Units of Competency making up a qualification must be appropriate to the work being performed, or likely to be performed, by the person seeking the qualification and meet relevant regulatory requirements..
2. Units of Competency making up a qualification must be appropriate to the level and integrity of the qualification sought, consistent with the packaging rules.
3. Unless specifically stated otherwise, the major component of the Units of Competency making up a qualification should be Common Core and Stream Core units.
4. Endorsed national industry/enterprise developed and/or customised Units may be included as part of a qualification when based on the provision outlined in 2.3 below.

1.6 Structuring of qualifications

Qualifications are constructed by the clustering or grouping of a range of the following types of Competency Units together with a valuation weighting system for electives:

Core/Foundation

Common Core are those applicable to every employee. They must be attained and held at all levels and attract no weighting value for the purpose of the qualification package.

Stream

These are competencies which are required for the Stream or specialisation (Mechanical, Electrical, Fabrication, Operations, General, etc.). They include mandatory units for the stream/level, where applicable. In some cases they include optional clusters from within the stream. Where units are detailed within the stream the respective units attract no value for the purpose of the qualification package.

Electives

Any unit which is not required as Core/Foundation or Stream may be treated as an elective and valued in accordance with 2.3. Electives may be drawn from any other nationally endorsed standards, either from within or outside the Generation Sector. These are valued for the purpose of the qualification package with the requirements being specified in 2.5 Valuing of Qualifications.

It should be noted that each Qualification stands alone from the other related Qualifications and should be treated as such when determining the group of Units relative to the Qualifications.

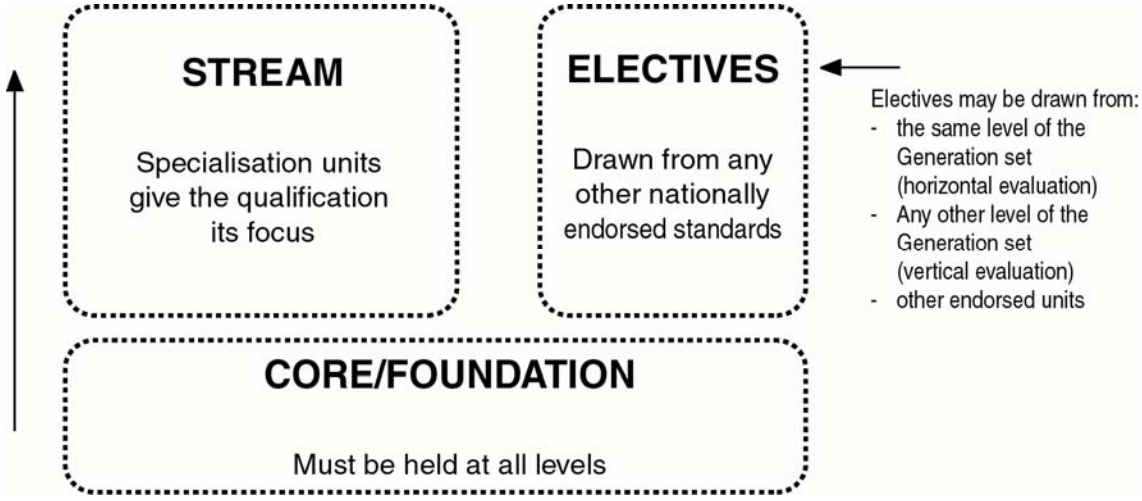
Valuation process

The Appendices (particularly Appendix 1 – National Generation Competency Standards Vertical Evaluation Table of Units) and Enclosure 1 to these guidelines indicate the value of generation units of competency and the structure of generation qualifications.

Valuing electives

Elective units obtained from outside the Generation Sector must be valued in accordance with Section 2.3 of these guidelines.

Units of Competency making up a Generation Sector Qualification



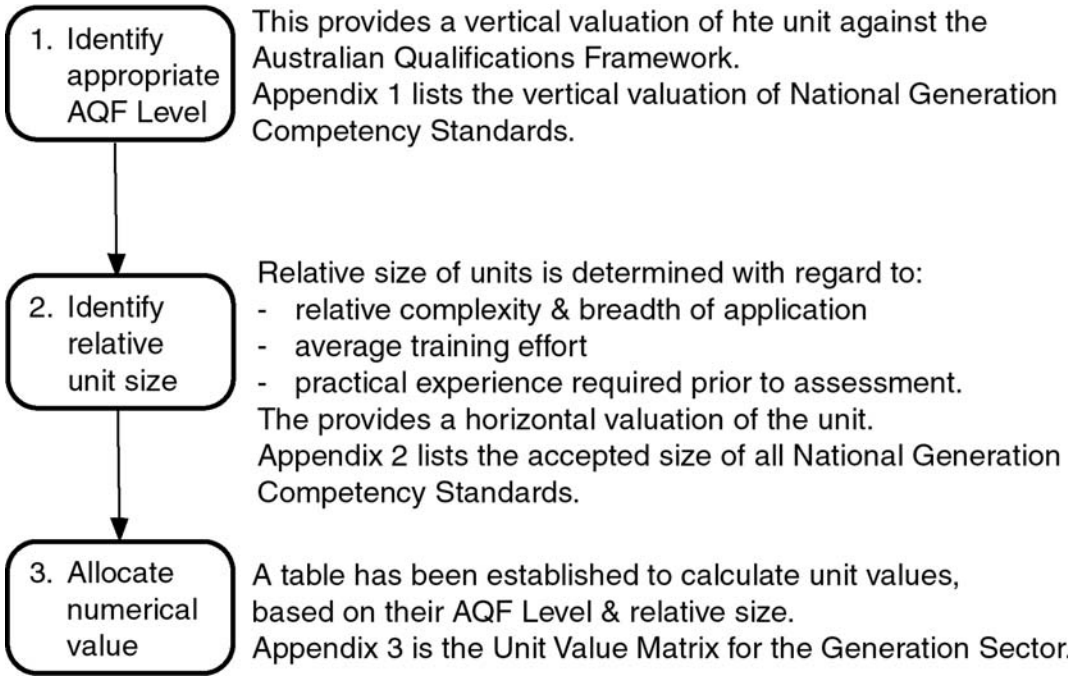
2. Valuation of Units of Competence

Equity between qualifications has been achieved by applying guidelines that effectively balance flexibility with consistency. These guidelines are based on a Unit of Competency weighting system utilising Appendix 1, 2 and 3 and the principles of 1.6 - Structuring of Qualifications.

Common Core and Stream Core Units are not assigned a weighting value within a qualification structure. Each Elective Unit is assigned a weighting value that reflects its level of content, relative complexity, autonomy, training effort and context/breadth of application relative to the Qualification sought. Every Unit of Competence which has been or may be used by the Generation Sector will be valued following the methodology and rules established by the Sector. These are detailed at paragraphs 2.1 to 2.5 below.

2.1 Unit value

To assist with the structuring of qualifications all Generation Sector Units of Competency have been valued both vertically and horizontally. The process used is unique to the Generation Sector. Values applied in this sector cannot be used as a comparative evaluation tool with units in other sectors or industries. Any units imported into Generation Sector Qualifications as Electives must be individually valued using the rules and processes established for the Generation Sector and detailed in this guide.



2.2 Applying the unit values

The units valuation processes will never provide an absolute solution for all situations. Some units will have variable values because they do not neatly sit at a particular level and others are purpose designed to float across levels. This concept becomes apparent from an examination of Appendices 1, 2 and 3.

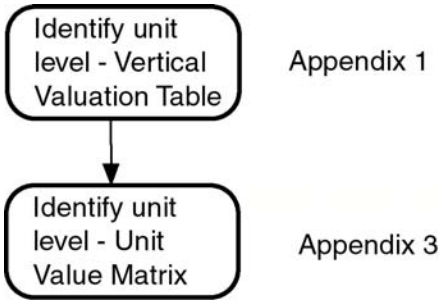
In applying the unit values, in order to construct or to evaluate a qualification, the following rules will normally apply;

- **Core/Stream/Generic Units** - attract no value (they are an essential component) in calculating points required for the qualification.
- **Set Value Generic Units** - Units 200, 201, 202, 203, 205 and 278, regardless of where they are used, attract a value of 8 points.
- **Elective (set level)** - units which appear at only one (set) level on the Vertical Valuation Table - Appendix 1 attract a value appropriate to the unit level and size. Unit Value Matrix - Appendix 3 is to be used.
- **Elective (more than one level) -** for the purposes of varying technologies and complexity of the systems some units are included at more than one level on the Vertical Valuation Table - Appendix 1. Where this occurs the level of the Unit(s) is to be identified in advance as part of the competencies to be obtained by an individual. This may include the candidate, the employer and the assessing/certifying authority (parties).

2.2.1 Recounting

It should be noted that each Qualification and respective package of Units is to be treated as stand alone for the purposes of determining values for the horizontal and vertical electives. However, recounting of a natural prerequisite in an existing, already held, qualification is not accepted. That is, where a Unit is a natural prerequisite to a higher level Unit (e.g. Install and Maintain Mechanical Valves and Install and Maintain Complex Mechanical Valves) the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification.

Valuing Elective Units



2.3 Valuing imported units

Imported units are:

i) Those from other industries which have been nationally endorsed by the National Training Framework Committee (NTFC) and which have no pre-existing mapping arrangements with the Generation Sector.

ii) Those units developed at the enterprise level which are desired to be formally recognised in the Generation Competency Standards Vertical Valuation Table - Appendix 1, and in accordance with 2 - Valuation of Units of Competency.

Imported units are to be valued in accordance with the criteria applied to Generation Standards herein, Part C - Qualifications. The valuation of imported units is to be referred to and carried out by the National Generation Training Group (NGTG) – detailed in the Preface of this Training Package, if the outcomes are to have official status. This action is to be coordinated by the National Utilities and Electrotechnology ITAB Ltd. Enterprises or Registered Training Organisations (RTOs) may wish to have such other external or internal Unit(s) of Competence added or valued by the NGTG for the elective aspects of the Qualification.

2.4 Endorsements

Endorsement is the term used to describe situations where the application of the Unit of Competency (as described in the Range of Variables) is sufficiently varied to warrant special endorsement, valuation and recognition.

For example, in Unit 28, the competency may be undertaken using a bulldozer, a scraper or a variety of plant or equipment. In this case the value of the unit to the individual may be increased via the use of endorsements. This situation is unusual in the Generation Standards and it only arises where the general limits of context and range are abnormally stressed, i.e. where the option of having one unit and a sizeable range of variables versus the option of splitting the unit is not clear-cut.

Example of the Use of Endorsements

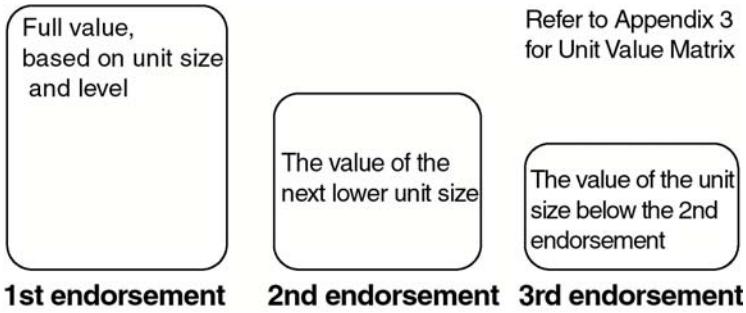
UTP NEG028 (a to j) A Shift and Transfer Materials (a to j qualifier)

- The employee is successfully assessed for bobcat operation
- The employee receives the 1st endorsement of this unit
- The employee is successfully assessed for front end loader operation
- The employee receives the 2nd endorsement of this unit
- The employee is successfully assessed for bulldozer operation
- The employee receives the 3rd endorsement of this unit

Where endorsement has been achieved for a unit, a transcript (Statement of Attainment or Qualification) will be issued stating the Unit title and alpha qualifier with the endorsement category in brackets, e.g. Unit 28 Shift and Transfer Materials (Bulldozer).

Valuing endorsements

Under the National Generation Qualificaions unit valuation system points may be awarded for up to three endorsements of affected units of competency. Evidence guides indicate which units this relates to.



2.5 Valuing of qualifications

Qualifications have been structured to provide a flexible and appropriate mix of Units of Competency as follows:

AQF Level	Qualification	Elective Unit Points Required		
		Horizontal Elective	Any Level Electives	Total
V	**Diploma**			
	Operations	0	136	136
	Electrical/Electronic	0	136	136
IV	**Certificate**			
	Operations	56	40	96
	System Operations	56	40	96
	Electrical/Electronic	56	40	96
	Mechanical	56	40	96
III	**Certificate**			
	Operations	32	24	56
	Electrical/Electronic	32	24	56
	Mechanical	32	24	56
	Fabrication	32	24	56
II	**Certificate**			
	Operations	10	6	16

In addition to the achievement of common core/stream core the appropriate elective valuing criteria must be met to achieve a qualification. This horizontal elective represents a minimum which must be obtained and can be greater provided the total value of electives is achieved.

3. Issuance of qualifications and competency recognition

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

- A full qualification in accordance with the criteria established under the Generation Qualifications Framework (at Enclosure 1). Where the title of the qualification within the framework requires further clarity to satisfy State/Territory and/or enterprise requirements, then an additional occupational identifier to the title in the National Generation Qualifications Framework shall be provided.
- A Statement of Attainment, and where appropriate an authorised entry in an individuals Industry Skills Passport, which recognises the attainment of a subset group of individual Units of Competence within a full qualification.

Formal recognition of both types is to be issued by a Registered Training Organisation (RTO). The recognition is to be recorded on formats established by relevant State Training Authorities and include additional items which have been agreed by industry via the National Utilities and Electrotechnology ITAB or its nominated representatives. Industry would expect formal recognition is to include:

- 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 (ANTA) logo and, preferably, the logo of the National Utilities and Electrotechnology ITAB Ltd.
- An attached transcript of information that is meaningful for maximum recognition and skills transfer. Generally this would be the individual Unit of Competence titles and any endorsement thereof, as well as detailed statements about the achievement of knowledge and skills. Where Nationally and Industry endorsed training materials e.g. modules, programs or other exist and these are used to provide the underpinning knowledge and skills identified in the Units of Competence, then the relevant Titles of the subjects within the Training programs as above, shall form part of the transcript attached to the qualification.

4. Maintenance of qualifications

The Generation Qualifications structure was developed by, and is therefore owned by, the industry.

The Qualifications structure must be maintained so that they reflect the ongoing needs of the Sector and respond in a timely manner to changed technologies and circumstances.

Responsibility for the maintenance of the Qualifications structure is shared by the parties who constitute the Sector:

Qualifications maintenance will be coordinated and managed by the National Generation Training Group (NGTG).

Suggestions and proposals for changes from all parties are welcome. These should be documented and submitted to the NGTG through the National Utilities and Electrotechnology ITAB.

5. Pathways into individual qualification

There are four identified pathways into individual qualifications at Certificate II and Diploma levels:

1. Entry level contracted employment, as a new apprenticeship.
2. Existing employees whose occupation is peculiar to one stream and who may wish to gain a qualification in another stream (including individuals who are trained outside Australia).
3. Operatives wishing to multi-skill by seeking to obtain a National Generation Qualification or Statements of Attainment (including individuals who are trained outside Australia).
4. Employees of other industries or companies with relevant or similar skills who may wish to have their skills recognised within the National Generation Qualification (including individuals who are trained outside Australia).

In general these pathways will include a combination of on and off job training 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.

Industry acknowledges that competence may be developed entirely in an institutional setting or entirely on the job. However the combination of Units of competence which will result for instance, in an AQF3 outcome will require a substantial period of training and practice for new entrants (New Apprenticeships) to achieve competence. Whilst these are nominal hours and whilst it may be the case that some reduction in this time could be achieved in an institutional setting, due to reducing any peripheral activity that naturally occurs in an actual workplace, the burden on an institute, individual or employer in relation to costs, would be considerable and possibly prohibitive. A combination of off and on the job pathway is clearly more cost effective than an institutional only pathway or all on the job approach where developing competency is underpinned by a rich knowledge base. However, all pathways are recognised as possible and are only limited by costs.

The decision as to where the training is provided and the evidence is gathered, is a matter for the Registered Training Organisation (RTO). The RTO would be expected to carry out such activity in accordance with the criteria established by the relevant State or Territory Training Authority and as outlined in the respective parts A, B and C of this Training Package. The institutional pathway is clearly much more expensive than a combination or all on the job approach to developing competence.

The industry is of the view that what is critical is that all evidence must be present so that best practice in assessment and the judgement process about attributing competence is valid and reliable.

Appendices:

1. **Vertical Valuation Table (of Competency Units)**

2. **Horizontal Valuation Table (of Competency Units)**

3. **Unit Value Matrix**

Appendix 1 - Vertical Valuation Table (of Competency Units)

AQF	Core	Mechanical	Fabrication	Electrical	Operations	Generic	
7							
6						009	
5	002			125, 132, 237, 251, 258, 260	206, 209, 211, 212, 235, 271, 273, 279, 285	003, 009, 218, 220, 223, 224, 232, 233, 234	
4	002	060, 061, 063, 065, 068, 075, 082, 083, 145	089, 145	121, 123, 124, 127, 128, 130, 135, 137, 147, 237, 247, 248, 250, 253, 254, 256, 257, 260	004, 005, 008, 161, 162, 174, 183, 184, 187, 188, 195, 196, 197,200, 206, 207, 208, 209, 210, 211, 217, 227, 228, 229, 230, 232, 267, 271, 272, 273, 274, 275, 276, 280, 281, 284, 285	002, 003, 219, 221, 222, 225, 232, 233, 234, 236	
3	001, 006, 204, 268	018, 058, 062, 064, 066, 067, 069, 070, 071, 072, 073, 074, 076, 077, 081, 082, 083, 084, 145	018, 059, 073, 074, 082, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109,110, 145	115, 116, 117, 118, 119, 120, 121, 122, 126, 129, 131, 134, 137, 147, 243, 244, 245, 246, 249, 252, 255, 259	004, 045, 150, 153, 154, 155, 157, 159, 161, 162, 165, 166, 167, 168, 171, 172, 173, 174, 175, 177, 179, 182, 183, 184, 185, 186, 188, 190, 193, 194, 196, 197, 198, 207, 208, 210, 211, 217, 266, 272, 277, 282, 283	002, 022, 146, 226, 239	200, 201, 202, 203, 205, 278
2		080	111, 112, 113	133, 136	028, 038, 048, 049, 050, 051, 056, 057, 152, 153, 154, 156, 163, 164, 176, 180, 181, 189, 191, 192	007, 015, 016, 017, 019, 020, 021, 029, 030, 031, 032, 079, 080, 114, 178, 238, 269, 270	

Appendix 2: Horizontal Evaluation Table (Unit Size)

NEG 001	small	NEG 029	small	NEG 069	medium	NEG 092	small	NEG 111	small	NEG 132	large
NEG 002	medium	NEG 030	small	NEG 070	medium	NEG 093	small	NEG 112	small	NEG 133	small
NEG 003	Large	NEG 031	medium	NEG 071	large	NEG 094	small	NEG 113	small	NEG 134	large
NEG 004	Medium	NEG 032	small	NEG 072	large	NEG 095	small	NEG 114	medium	NEG 135	medium
NEG 005	Large	NEG 038	small	NEG 073	large	NEG 096	small	NEG 117	medium	NEG 136	small
NEG 006	medium	NEG 045	large	NEG 074	large	NEG 097	small	NEG 118	medium	NEG 137	large
NEG 007	medium	NEG 048	medium	NEG 075	large	NEG 098	small	NEG 119	medium	NEG 145	medium
NEG 008	medium	NEG 049	medium	NEG 076	large	NEG 099	small	NEG 120	medium	NEG 146	medium
NEG 009	large	NEG 050	medium	NEG 077	large	NEG 100	small	NEG 121	medium	NEG 147	medium
NEG 015	small	NEG 051	medium	NEG 079	small	NEG 101	small	NEG 122	medium	NEG 150	large
NEG 016	small	NEG 060	medium	NEG 080	medium	NEG 102	small	NEG 123	medium	NEG 152	small
NEG 017	small	NEG 061	medium	NEG 081	large	NEG 103	small	NEG 124	medium	NEG 153	medium
NEG 018	medium	NEG 062	medium	NEG 082	medium	NEG 104	small	NEG 125	large	NEG 154	medium
NEG 019	small	NEG 063	medium	NEG 083	large	NEG 105	small	NEG 126	medium	NEG 155	medium
NEG 020	small	NEG 064	medium	NEG 084	medium	NEG 106	small	NEG 127	medium	NEG 156	small
NEG 021	small	NEG 065	medium	NEG 085	medium	NEG 107	small	NEG 128	medium	NEG 157	medium
NEG 022	medium	NEG 066	medium	NEG 089	large	NEG 108	large	NEG 129	medium	NEG 159	medium
NEG 027	small	NEG 067	medium	NEG 090	small	NEG 109	large	NEG 130	medium	NEG 161	medium
NEG 028	large	NEG 068	large	NEG 091	small	NEG 110	large	NEG 131	medium	NEG 162	medium

Appendix 2: Horizontal Evaluation Table (Unit Size)

NEG 163	small	NEG 184	medium	NEG 205	medium	NEG 228	medium	NEG 251	large	NEG 275	small
NEG 164	small	NEG 185	medium	NEG 206	large	NEG 229	medium	NEG 252	medium	NEG 276	medium
NEG 165	small	NEG 186	medium	NEG 207	medium	NEG 230	medium	NEG 253	medium	NEG 277	small
NEG 166	medium	NEG 187	large	NEG 208	medium	NEG 232	medium	NEG 254	medium	NEG 278	small
NEG 167	small	NEG 188	medium	NEG 209	large	NEG 233	medium	NEG 255	medium	NEG 279	small
NEG 168	medium	NEG 189	medium	NEG 210	medium	NEG 234	medium	NEG 256	medium	NEG 280	small
NEG 171	medium	NEG 190	small	NEG 211	medium	NEG 235	small	NEG 257	medium	NEG 281	medium
NEG 172	small	NEG 191	small	NEG 212	large	NEG 236	small	NEG 258	large	NEG 282	small
NEG 173	small	NEG 192	small	NEG 217	large	NEG 237	medium	NEG 259	small	NEG 283	small
NEG 174	small	NEG 193	medium	NEG 218	medium	NEG 238	small	NEG 260	medium	NEG 284	small
NEG 175	medium	NEG 194	medium	NEG 219	medium	NEG 239	small	NEG 266	medium	NEG 285	medium
NEG 176	small	NEG 195	medium	NEG 220	medium	NEG 243	medium	NEG 267	small		
NEG 177	small	NEG 196	medium	NEG 221	medium	NEG 244	medium	NEG 268	small		
NEG 178	small	NEG 197	medium	NEG 222	medium	NEG 245	medium	NEG 269	small		
NEG 179	medium	NEG 200	small	NEG 223	medium	NEG 246	medium	NEG 270	small		
NEG 180	large	NEG 201	small	NEG 224	medium	NEG 247	medium	NEG 271	large		
NEG 181	medium	NEG 202	small	NEG 225	medium	NEG 248	medium	NEG 272	small		
NEG 182	medium	NEG 203	small	NEG 226	small	NEG 249	medium	NEG 273	medium		
NEG 183	medium	NEG 204	small	NEG 227	large	NEG 250	medium	NEG 274	medium		

Appendix 3: Unit Value Matrix

AQF Level	Competency Unit Size		
	Small	Medium	Large
5	16	32	40
4	8	16	20
3	4	8	10
2	2	4	5

National Qualification Framework

This enclosure contains the detailed framework and structures for the following National Generation Qualifications:

Diploma

Diploma - ESI Generation (Electrical/Electronic)
Diploma - ESI Generation (Operations)

Certificates

Certificate IV - ESI Generation (Electrical/Electronic)
Certificate IV - ESI Generation (Operations)
Certificate IV - ESI Generation (System Operations)
Certificate IV - ESI Generation (Mechanical)

Certificate III - ESI Generation (Electrical/Electronic)
Certificate III - ESI Generation (Operations)
Certificate III - ESI Generation (Mechanical)
Certificate III - ESI Generation (Fabrication)

Certificate II - ESI Generation

Note: ESI = Electricity Supply Industry

ESI Generation (Electrical/Electronic) – Diploma

National Qualification No	UTP 5 01 98	
Stream:	Electrical/Electronic	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety - Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have 1 of 2 AND	UTP NEG125 A	Diagnose & Repair Faults in Electrical / Electronic Systems
	UTP NEG251 A	Diagnose and Repair Faults in Instrumentation Systems
Must have 1 of 2 AND	UTP NEG 132 A	Test and Commission Electrical / Electronic Systems
	UTP NEG 258 A	Test and Commission Instrumentation Systems
Must have any 9 of 14	UTP NEG125 A	Diagnose & Repair Faults in Electrical / Electronic Systems
	UTP NEG132 A	Test and Commission Electrical / Electronic Systems
	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG205 A	Deliver and Review Training
	UTP NEG237 A	Tune Process Plant and Equipment
	UTP NEG239 A	Conduct Non-Routine Operational Testing

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National Qualification No	UTP 5 01 98	
	UTP NEG251 A	Diagnose and Repair Faults in Instrumentation Systems
	UTP NEG256 A	Test and Commission Complex Instrumentation Equipment
	UTP ANEG257	Test and Commission Electronic Instrumentation Equipment
	UTP NEG258 A	Test and Commission Instrumentation Systems
	UTP NEG260 A	Write Programs for Control Systems

Elective Units

1. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	136 Points
Total value of electives required		**136 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

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Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Operations) - Diploma

National Qualification No	UTP 5 02 98	
Stream:	Operations	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety - Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG205 A	Deliver and Review Training
	UTP NEG206 A	Manage a Boiler Start Up
	UTP NEG207 A	Manage, Operate and Monitor a Boiler Unit
	UTP NEG208 A	Manage a Boiler Unit Shut Down
	UTP NEG209 A	Manage a Steam Turbine Run Up
	UTP NEG210 A	Manage, Operate and Monitor Turbine
	UTP NEG211 A	Manage a Steam Turbine Shut Down
	UTP NEG212 A	Coordinate Electrical Energy Production
	UTP NEG232 A	Technical Inspection of Process Plant and Equipment
	UTP NEG234 B	Conduct / Implement Condition Monitoring

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Elective Units		
1. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	136 Points
Total value of electives required		**136 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Electrical/Electronic) – Certificate IV

National Qualification No	UTP 4 01 98	
Stream:	Electrical/Electronic	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety - Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have and 1 of 3 AND	UTP NEG123 A	Diagnose and Repair Faults in Electronic Equipment
	UTP NEG124 A	Diagnose and Repair Faults in Complex Electrical Equipment
	UTP NEG250 A	Diagnose and Repair Faults in Complex Instrumentation Equipment
Must have any 1 of 3 AND	UTP NEG130 A	Test and Commission Complex Electrical Equipment
	UTP NEG256 A	Test and Commission Complex Instrumentation Equipment
	UTP NEG257 A	Test and Commission Electronic Instrumentation Equipment
Must have any 10 of 20	UTP NEG121 A	Maintain Electronic Electrical Equipment
	UTP NEG123 A	Diagnose and Repair Faults in Electronic Equipment
	UTP NEG124 A	Diagnose and Repair Faults in Complex Electrical Equipment

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National Qualification No	UTP 4 01 98	
	UTP NEG127 A	Modify Complex Electrical Equipment
	UTP NEG128 A	Modify Electronic Electrical Equipment
	UTP NEG130 A	Test and Commission Complex Electrical Equipment
	UTP NEG137 A	Conduct Generator Electrical Maintenance
	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG205 A	Deliver and Review Training
	UTP NEG237 A	Tune Process Plant and Equipment
	UTP NEG247 A	Maintain Complex Instrumentation Equipment
	UTP NEG248 A	Maintain Electronic Equipment
	UTP NEG250 A	Diagnose & Repair Faults in Complex Instrumentation Equipment
	UTP NEG253 A	Modify Complex Instrumentation Equipment
	UTP NEG254 A	Modify Electronic Instrumentation Equipment
	UTP NEG256 A	Test and Commission Complex Instrumentation Equipment
	UTP NEG257 A	Test and Commission Electronic Instrumentation Equipment

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Elective Units		
3. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	56 Points
4. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	40 Points
Total value of electives required		**96 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

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Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Operations) – Certificate IV

National Qualification No	UTP 4 02 01	
Stream:	Operations	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety – Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have	UTP NEG004 A	Conduct Isolation Procedures for Permit to Work
	UTP NEG005 A	Manage and Coordinate Permit to Work System
	UTP NEG187 A	Operate & Monitor AC Electrical Systems within a Power Station
	UTP NEG232 A	Technical Inspection of Process Plant and Equipment
	UTP NEG276 A	Interpret and Analyse Protection Operation
Must have any 8 of 22	UTP NEG195 A	Manage a Gas Turbine Start Up
	UTP NEG196 A	Manage, Operate and Monitor a Gas Turbine Unit
	UTP NEG197 A	Manage a Gas Turbine Shut Down
	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG205 A	Deliver and Review Training
	UTP NEG206 A	Manage a Boiler Start Up
	UTP NEG207 A	Manage, Operate and Monitor a Boiler Unit
	UTP NEG208 A	Manage a Boiler Unit Shut Down
	UTP NEG209 A	Manage a Steam Turbine Run Up

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National Qualification No	UTP 4 02 01	
	UTP NEG210 A	Manage, Operate and Monitor Turbine
	UTP NEG211 A	Manage a Steam Turbine Shut Down
	UTP NEG227 A	Manage and Operate Hydro-Electric Generating Plant and Auxiliary Equipment
	UTP NEG228 A	Conduct Water Conveyance and Control
	UTP NEG229 A	Implement Dam Safety Surveillance Procedures
	UTP NEG230 A	Monitor and Implement the Application of Environmental Plans and Procedures

Elective Units

5. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	56 Points
6. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	40 Points
	Total value of electives required	**96 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

continued next page

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (System Operations) – Certificate IV

National Qualification No:	UTP 4 03 98	
Stream:	System Operations	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety - Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have	UTP NEG004 A	Conduct Isolation Procedures for Permit to Work
	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG267 A	Operate and Monitor System Equipment
	UTP NEG274 A	Plan a Scheduled Outage
	UTP NEG276 A	Interpret and Analyse Protection Operation
Must have any 3 of 7	UTP NEG005 A	Manage and Coordinate Permit to Work System
	UTP NEG187 A	Operate & Monitor AC Electrical Systems within a Power Station
	UTP NEG212 A	Coordinate Electrical Energy Production
	UTP NEG217 A	Undertake Commissioning/ Decommissioning
	UTP NEG271 A	Manage the Network / System
	UTP NEG273 A	Schedule Generation
	UTP NEG284 A	Coordinate and Direct Switching Program

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Elective Units		
1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	54 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	40 Points
Total value of electives required		**96 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Mechanical) – Certificate IV

National Qualification No	UTP 4 04 98	
Stream:	Mechanical	
Core Units		
1. Common Core	UTP NEG002 A	Manage/Monitor Occupational Health and Safety – Level B
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have	UTP NEG082 A	Diagnose and Repair Faults in Mechanical Equipment
AND		
Must have any 10 of 13	UTP NEG060 A	Install and Maintain Complex Mechanical Seals
	UTP NEG061 A	Conduct Complex Levelling and Alignment
	UTP NEG063 A	Install and Maintain Complex Mechanical Valves
	UTP NEG065 A	Install and Maintain Complex Mechanical Pumps
	UTP NEG068 A	Install and Maintain Fluid Power Systems
	UTP NEG075 A	Install and Maintain Turbine (Steam, Gas)
	UTP NEG083 A	Conduct Generator Mechanical Maintenance
	UTP NEG200 A	Plan and Organise Work
	UTP NEG201 A	Maintain Quality Systems within the Team
	UTP NEG202 A	Coordinate Team Activities
	UTP NEG203 A	Promote Effective Communication
	UTP NEG205 A	Deliver and Review Training
	UTP NEG239 A	Conduct Non-Routine Operational Testing

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Elective Units		
1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	56 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	40 Points
Total value of electives required		**96 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Electrical/Electronic) – Certificate III

National Qualification No	UTP 3 01 98	
Stream:	Electrical/Electronic	
Core Units		
1. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have any 9 of 20	UTP NEG115 A	Install Electrical Equipment
	UTP NEG116 A	Install Electrical Wiring Systems
	UTP NEG117 A	Install Complex Electrical Equipment
	UTP NEG118 A	Install Electronic Electrical Equipment
	UTP NEG119 A	Maintain Electrical Equipment
	UTP NEG120 A	Maintain Complex Electrical Equipment
	UTP NEG122 A	Diagnose and Repair Faults in Electrical Equipment
	UTP NEG126 A	Modify Electrical Equipment
	UTP NEG129 A	Test and Commission Electrical Equipment
	UTP NEG131 A	Test and Commission Electronic Electrical Equipment
	UTP NEG133 A	Maintain Battery Banks and Cells
	UTP NEG137 A	Conduct Generator Electrical Maintenance

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National Qualification No:	UTP 3 01 98	
	UTP NEG239 A	Conduct Non-Routine Operational Testing
	UTP NEG243 A	Install Instrumentation Equipment
	UTP NEG244 A	Install Instrumentation Wiring Systems
	UTP NEG245 A	Install Complex/Electronic Instrumentation Equipment
	UTP NEG246 A	Maintain Instrumentation Equipment
	UTP NEG249 A	Diagnose and Repair Faults in Instrumentation Equipment
	UTP NEG252 A	Modify Instrumentation Equipment
	UTP NEG255 A	Test and Commission Instrumentation Equipment

Elective Units

1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	32 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	24 Points
	Total value of electives required	**56 Points**

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Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

Regulatory Requirements

Where electrical licensing applies regard must be had for constructing the qualification in such a way that the Units of Competence meet regulatory requirements.

end

ESI Generation (Operations) – Certificate III

National Qualification No	UTP 3 02 98	
Stream:	Operations	
Core Units		
1. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have	UTP NEG004 A	Conduct Isolation Procedures for Permit to Work
	UTP NEG165 A	Operate and Monitor Fixed Fire Protection Systems
	UTP NEG168 A	Operate and Monitor Compressed Air Systems
	UTP NEG179 A	Operate and Monitor Oil Systems
	UTP NEG183 A	Operate and Monitor Cooling Systems
	UTP NEG272 B	Manage Critical Incidents
Must have any 7 of 29	UTP NEG028 A	Shift and Transfer Materials
	UTP NEG038 A	Transport Plant and Equipment
	UTP NEG045 A	Make and Spread a Stock Pile
	UTP NEG150 A	Operate Bulk Coal Handling Plant
	UTP NEG157 A	Operate and Monitor Boiler Draught System
	UTP NEG159 A	Operate and Monitor Fuel Firing Plant (Gas)

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National Qualification No:	UTP 3 02 98	
	UTP NEG161 A	Operate and Monitor Fuel Firing Plant (Coal)
	UTP NEG162 A	Operate and Monitor Boiler Steam/Water Cycle
	UTP NEG166 A	Operate and Monitor Compressed Gas Systems
	UTP NEG167 A	Operate and Monitor Gas Producing Plant
	UTP NEG171 A	Operate and Monitor Water Treatment Plant
	UTP NEG172 A	Operate Alkalinity Reduction Plant
	UTP NEG173 A	Operate Reverse Osmosis Plant
	UTP NEG174 A	Operate Brine Concentrator Plant
	UTP NEG175 A	Operate and Monitor Water Quality Control Systems
	UTP NEG177 A	Operate Waste and Contaminated Water Plant
	UTP NEG182 A	Operate and Monitor Auxiliary Steam Systems
	UTP NEG184 A	Operate and Monitor Water Systems (Condensate and Feedwater)
	UTP NEG185 A	Operate and Monitor Condensing and Cooling Water Systems
	UTP NEG188 A	Operate and Monitor DC Electrical Systems within a Power Station
	UTP NEG194 A	Operate a Hydro Generator Synchronous Condenser/Pump Unit
	UTP NEG206 A	Manage a Boiler Start-Up
	UTP NEG207 A	Manage, Operate and Monitor a Boiler Unit
	UTP NEG208 A	Manage a Boiler Unit Shut Down
	UTP NEG209 A	Manage a Steam Turbine Run Up
	UTP NEG210 A	Manage, Operate and Monitor Turbine

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National Qualification No:	UTP 3 02 98	
	UTP NEG211 A	Manage a Steam Turbine Shut Down
	UTP NEG277 A	Operate H.V. Primary Switchgear
	UTP NEG282 A	Operate H.V. Secondary Switchgear

Elective Units

1.	**Horizontal level electives** Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	32 Points
2.	**All level electives** All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	24 Points
		Total value of electives required	**56 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

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Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Mechanical) – Certificate III

National Qualification No	UTP 3 03 98	
Stream:	Mechanical	
Core Units		
1. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have any 8 of 14	UTP NEG059 A	Install and Maintain Industrial Pipework
	UTP NEG062 A	Install and Maintain Mechanical Valves
	UTP NEG064 A	Install and Maintain Mechanical Pumps
	UTP NEG066 A	Install and Maintain Industrial Fans
	UTP NEG067 A	Install and Maintain Industrial Transmissions
	UTP NEG069 A	Install and Maintain Industrial Screens, Strainers & Filters
	UTP NEG070 A	Install and Maintain Conveyers & Associated Equipment
	UTP NEG071 A	Install and Maintain Material Feeders
	UTP NEG072 A	Install and Maintain Material Crushers
	UTP NEG073 A	Install and Maintain Fuel Transport Equipment
	UTP NEG074 A	Install and Maintain Industrial Pressure Vessels
	UTP NEG077 A	Install and Maintain Hydro Turbines
	UTP NEG082 A	Diagnose and Repair Faults in Mechanical Equipment
	UTP NEG084 A	Maintain and Test Fixed Fire Protection Systems

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Elective Units		
1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	32 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	24 Points
Total value of electives required		**56 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Fabrication) – Certificate III

National Qualification for in ESI Generation (Fabrication):	UTP 3 04 98	
Stream:	Fabrication	
Core Units		
1. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have any 11 of 15	UTP NEG073 A	Install and Maintain Fuel Transport Equipment
	UTP NEG074 A	Install and Maintain Industrial Pressure Vessels
	UTP NEG085 A	Inspect and Repair/Replace Faults in Mechanical Equipment/Components
	UTP NEG090 A	Weld Using Manual Metal Arc Welding Process (MMAW)
	UTP NEG091 A	Weld Using Gas Metal Arc Welding Process (GMAW)
	UTP NEG092 A	Weld Using Gas Tungsten Arc Welding Process (GTAW)
	UTP NEG093 A	Weld Using Oxyacetylene Welding Process (OAW)
	UTP NEG094 A	Weld Using Submerged Arc Welding Process (SAW)

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National Qualification No:	UTP 3 04 98	
	UTP NEG095 A	Perform Advanced Welding Using Manual Metal Arc Welding Process (MMAW)
	UTP NEG096 A	Perform Advanced Welding Using Gas Metal Arc Welding Process (GMAW)
	UTP NEG097 A	Perform Advanced Welding Using Gas Tungsten Arc Welding Process (GTAW)
	UTP NEG098 A	Perform Advanced Welding Using Oxyacetylene Welding Process (OAW)
	UTP NEG108 A	Perform Sheet Metal Work
	UTP NEG109 A	Fabricate Metal Structures and Components
	UTP NEG110 A	Repair/Replace/Modify Metal Structures and Components

Elective Units

1.	**Horizontal level electives** Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	32 Points
2.	**All level electives** All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	24 Points
		Total value of electives required	**56 Points**

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Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

end

ESI Generation (Operations) – Certificate II

National Qualification No	UTP 2 01 98	
Stream:	Operations	
Core Units		
1. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
2. Stream Core Must have any 3 of 5	UTP NEG015 A	Clean Plant and Equipment
	UTP NEG079 A	Conduct Minor/Basic Mechanical Maintenance
	UTP NEG136 A	Conduct Minor/Basic Electrical Maintenance
	UTP NEG178 A	Perform Plant Lubrication Perform
	UTP NEG238 A	Perform Process Plant Inspection
Must have any 5 of 28 N.B Unit UTP NEG018 A subsumes both UTP NEG017 A and UTP NEG016 A; UTP NEG017 A subsumes UTP NEG016 A only. Also UTP NEG022 A subsumes UTP NEG021 A and UTP NEG020 A; UTP NEG021 A subsumes UTP NEG020 A only. Note: This should be accorded recognition when determining "must haves."	UTP NEG016 A	Perform Basic Rigging Work
	UTP NEG017 A	Perform Intermediate Rigging Work
	UTP NEG018 A	Perform Advanced Rigging Work
	UTP NEG019 A	Perform Dogging Work
	UTP NEG020 A	Perform Basic Scaffolding
	UTP NEG021 A	Perform Intermediate Scaffolding
	UTP NEG022 A	Perform Advanced Scaffolding

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National Qualification No:	UTP 2 01 98	
	UTP NEG027 A	Conduct Elevating Work Platform Operations
	UTP NEG028 A	Shift and Transfer
	UTP NEG029 A	Conduct Fork-Lift Operations
	UTP NEG030 A	Operate Lifting and Load Shifting Equipment (1)
	UTP NEG031 A	Operate Lifting and Load Shifting Equipment (2)
	UTP NEG038 A	Transport Plant and Equipment
	UTP NEG056 A	Drive a Locomotive
	UTP NEG057 A	Conduct Coal Wagon Shunting and Tippling Operations
	UTP NEG152 A	Operate and Monitor Fuel Supply (Coal)
	UTP NEG153 A	Operate Ash and Dust Disposal Plant
	UTP NEG154 A	Operate Electrostatic Precipitator Dust Collection Plant
	UTP NEG155 A	Operate Fabric Filter Dust Collection Plant
	UTP NEG156 A	Operate and Monitor Fuel Supply (Gas or Oil)
	UTP NEG164 A	Operate and Monitor Site Services Water System
	UTP NEG180 A	Maintain and Monitor Civil Assets
	UTP NEG181 A	Undertake Dam Safety Surveillance

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Elective Units		
1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	10 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	6 Points
Total value of electives required		**16 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.

End

ESI Generation – Certificate II

National Qualification No	UTP 2 02 01	
Stream:		
Core Units		
2. Common Core	UTP NEG001 A	Manage/Monitor Occupational Health and Safety – Level A
	UTP NEG006 A	Solve Operational Problems
	UTP NEG204 A	Apply Quality Systems to Work
	UTP NEG268 A	Operate and Monitor Communications Systems
3. Stream Core Must have any 8 of 40 N.B Unit UTP NEG018 A subsumes both UTP NEG017 A and UTP NEG016 A; UTP NEG017 A subsumes UTP NEG016 A only. Also UTP NEG022 A subsumes UTP NEG021 A and UTP NEG020 A; UTP NEG021 A subsumes UTP NEG020 A only. Note: This should be accorded recognition when determining "must haves."	UTP NEG015 A	Clean Plant and Equipment
	UTP NEG016 A	Perform Basic Rigging Work
	UTP NEG017 A	Perform Intermediate Rigging Work
	UTP NEG018 A	Perform Advanced Rigging Work
	UTP NEG019 A	Perform Dogging Work
	UTP NEG020 A	Perform Basic Scaffolding
	UTP NEG021 A	Perform Intermediate Scaffolding
	UTP NEG022 A	Perform Advanced Scaffolding
	UTP NEG027 A	Conduct Elevating Work Platform Operations
	UTP NEG028 A	Shift and Transfer
	UTP NEG029 A	Conduct Fork-Lift Operations
	UTP NEG030 A	Operate Lifting and Load Shifting Equipment (1)
	UTP NEG031 A	Operate Lifting and Load Shifting Equipment (2)
	UTP NEG038 A	Transport Plant and Equipment
	UTP NEG048 A	Operate Briquette Coal Cooling Plant
	UTP NEG049 A	Operate Briquette Coal Drying Plant
	UTP NEG050 A	Operate Briquette Coal Press Plant

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National Qualification No	UTP 2 02 01	
	UTP NEG051 A	Perform Briquette Laboratory Tests
	UTP NEG056 A	Drive a Locomotive
	UTP NEG057 A	Conduct Coal Wagon Shunting and Tippling Operations
	UTP NEG079 A	Conduct Minor/Basic Mechanical Maintenance
	UTP NEG080 A	Perform Basic Machining Operations
	UTP NEG111 A	Perform Routine Oxy-acetylene Welding (OAW)
	UTP NEG112 A	Perform Routine Manual Metal Arc Welding (MMAW)
	UTP NEG113 A	Perform Manual Heating, Thermal Cutting and Gouging
	UTP NEG114 A	Perform Tool Store Duties
	UTP NEG133 A	Maintain Battery Banks and Cells
	UTP NEG136 A	Conduct Minor/Basic Electrical Maintenance
	UTP NEG152 A	Operate and Monitor Fuel Supply (Coal)
	UTP NEG153 A	Operate Ash and Dust Disposal Plant
	UTP NEG154 A	Operate Electrostatic Precipitator Dust Collection Plant
	UTP NEG155 A	Operate Fabric Filter Dust Collection Plant
	UTP NEG156 A	Operate and Monitor Fuel Supply (Gas or Oil)
	UTP NEG164 A	Operate and Monitor Site Services Water System
	UTP NEG166 A	Operate and Monitor Compressed Gas Systems

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National Qualification No	UTP 2 02 99	
	UTP NEG168 A	Operate and Monitor Compressed Air Systems
	UTP NEG191 A	Operate and Monitor an Internal Combustion Single Fuel Reciprocating Engine
	UTP NEG192 A	Operate and Monitor an Internal Combustion Dual Fuel Reciprocating Engine
	UTP NEG238 A	Perform Process Plant Inspection
	UTP NEG270 A	Maintain and Utilise Records

Elective Units

1. Horizontal level electives Horizontal level electives are to be drawn from the AQF level relevant to the qualification detailed in the Table or imported, provided the Unit of Competency has been nationally endorsed and valued in accordance with Part "C" of the Generation Sector National Training Package. The total number of points here represents a minimum which must count towards the total value of electives required.	Total	10 Points
2. All level electives All level electives can be drawn from anywhere on the Table or imported, provided the Unit of Competency has been nationally endorsed and valued by the National Generation Training Group in accordance with Part "C" of the Generation Sector National Training Package.	Total	6 Points
	Total value of electives required	**16 Points**

Core Units

Competency must be demonstrated in the core units as detailed above. Core units attract no value, but must be obtained in conjunction with the electives chosen and the principles outlined in Part "C" of the Generation Sector National Training Package.

Qualification Pathways

The requirements of this qualification will be deemed to have been met when competency is demonstrated for the Core and respective Stream Units outlined above, and the remaining Electives amounting to the total value prescribed.

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National Qualification No	UTP 2 02 99

Valuation of Units

- Valuation of elective units drawn from outside the Nationally endorsed Generation Competency Standards must be established using the principles set down in Part "C" of the Generation Sector National Training Package.
- Currently held Units of Competency which exist at more than one level in the Table will attract the difference in vertical value when applied at a higher level than currently held, and the calculation should be in accordance with Part "C" of the Generation Sector National Training Package.
- Table – National Generation Competency Standards Vertical Valuation Table of Units – Appendix 1.
- Where a Unit is a natural pre-requisite to a higher level Unit, the lower level Unit is not to be used for recounting in any of the electives for the intended Qualification if it is already held and accounted for in another attained Generation Qualification. Refer to "Recounting" in Section 2.2 of Part "C" of the Generation Sector National Training Package.