Australian Government

Department of Education, Employment and Workplace Relations

RII09 Resources and Infrastructure Industry Training Package

Release: 2.0

CONTENTS

Modification History

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

Version	Release Date	Comments
2.0		RIIHAN303A Conduct integrated tool carrier operations replaced with new unit RIIHAN311A Conduct operations with integrated tool carrier
		RIIMCP201A Monitor coal preparation plant operations replaced with new RIIMCP301A Monitor operations in coal preparation plant
		RIINHB204A Assist air drilling replaced with new unit RIINHB219A Assist with air drilling
		RIINHB321A Construct single aquifer production bores replaced with new unit RIINHB325A Construct and complete single aquifer bores
		RIIPBP201A Control acid plant operations replaced with new unit RIIPBP302A Control operations in acid plant
		RIIWMG204A Reclaim and treat water system replaced with new unit RIIWMG302A Reclaim and treat water
		RII30109 Certificate III in Surface Extraction Operations replaced with RII30111 Certificate III in Surface Extraction Operations
		RII30309 Certificate III in Underground Metalliferous Mining replaced with RII30311 Certificate III in Underground Metalliferous Mining
		RII30409 Certificate III in Resource Processing replaced with RII30411 Certificate III in Resource Processing
		RII30609 Certificate III in Small Mining Operations replaced with RII30611 Certificate III in Small Mining Operations
		RII40309 Certificate IV in Metalliferous Mining Operations (Underground) replaced with RII40311 Certificate IV in Metalliferous Mining Operations

SkillsDMC

Version	Release Date	Comments
		RII40409 Certificate IV in Underground Coal Operations replaced with RII40411 Certificate IV in Underground Coal Operations New Skill Set Skill Set Supervision of Indigenous Employees Other New Units of Competency: RIICOM302A Communicate workplace information RIIENV302A Apply environmentally sustainable work practices RIIFIA401A Manage financial records RIILAT401A Provide leadership in the supervision of Indigenous employees RIIMPO331A Conduct operations with stockpile dozer RIIMPO332A Conduct operations with skid steer loader RIIVEH307A Operate heavy rigid vehicle Additional imported units: NWP331B Inspect conduit and report on condition and features (for operators) NWP440A Supervise conduit inspection and reporting (for supervisors and managers) ISC Upgrades – Updated units of competency – codes changed to Version B: RIIBEF201B Plan and organise work RIIBLA202B Support underground shotfiring operations RIICOM301B Communicate information RIIEGS202B Conduct field work RIIERR401B Apply and monitor surface operations emergency preparedness and response procedures RIIGOV401B Apply, monitor and report on compliance systems RIIHAN301B Operate elevating work platform RIIMEX203B Break oversize rock RIIMEX302B Assess ground conditions RIIMEX404B Apply and monitor systems for stable mining RIIMPO301B Conduct hydraulic excavator operations RIIMPO302B Conduct hydraulic shovel operations

Version	Release Date	Comments
		RIIMPO304B Conduct wheel loader operations RIIMPO305B Conduct coal stockpile dozer operations RIIMPO308B Conduct tracked dozer operations RIIMPO318B Conduct civil construction skid steer loader operations RIIMPO313B Conduct face loader operations RIIMPO321B Conduct civil construction wheeled front end loader operations RIINHB201B Load, secure and unload drilling equipment and materials RIINHB208B Assist diamond core drilling RIINHB304B Conduct air drilling RIINHB307B Conduct conventional core drilling RIINHB412B Construct geothermal wells RIIPBE205B Conduct roasting operations RIIPBE303B Conduct filtering operations RIIPBE304B Conduct heavy media separation RIIPBE308B Conduct thickening and clarifying process RIIPBE309B Conduct wet gravity separation RIIPBE310B Conduct flotation process RIIPBE311B Conduct magnetic separation RIIPEO201B Conduct conveyor operations RIIPEO203B Conduct stacker operations RIIPRO301B Conduct crushing and screening plant operations RIIRAI501BImplement mine transport and production equipment RIIRAI503B Implement site services and infrastructure systems RIIRIS201B Conduct local risk control RIISAM211B Remove, repair and refit tyres and tubes RIISAM502B Manage general drilling equipment maintenance RIISRM301B Blend stockpile materials RIISRM302B Conduct stockpile reclaiming operations RIISRM303B Move and position materials to form stockpiles RIISRM304B Maintain stockpiles RIIUND401B Apply and monitor the ventilation management plan RIIVEH201B Operate light vehicle
1	7 July 2009	Primary Release

Imprint

RII09 Resources and Infrastructure Industry Training Package

Printed by: Document Printing Australia Pty Ltd
AEShareNet Code:
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Preliminary Information

Important Note to Users

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

Check the version number before commencing training or assessment

This Training Package is Version 2 - check whether this is the latest version by going to the National Training Information Service (www.ntis.gov.au) and locating information about the Training Package. Alternatively, contact SkillsDMC (Resources and Infrastructure Industry Skills Council) at http://www.skillsdmc.com.au to confirm the latest version number.

Explanation of version number conventions

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

Explanation of the review date

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

Training Package Code:	RII09
Training Package Name:	Resources and Infrastructure Industry Training Package
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ISC Name:	SkillsDMC – Resources and Infrastructure Industry Skills Council

Training Package Code:	RII09
ISC Website URL:	www.skillsdmc.com.au

Training Package Volume Number	Training Package Volume Name
1	Introduction
2	General Fields of Competence Applicable to All Sectors
3	Technical Fields of Competence Applicable to All Sectors
4	Technical Fields of Competence Applicable to Some Sectors
5	Technical Fields of Competence Applicable to a Single Sector (Civil Construction and Coal Mining)
6	Technical Fields of Competence Applicable to a Single Sector (Metalliferous Mining and Drilling)

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History

This training package is the result of the rationalisation and consolidation of all five existing Resources and Infrastructure Training Packages: RII06 Civil Construction Training Package, V1, release date 14 July 2006; MNQ03 Extractive Industries Training Package, V1.1, release date 18 January 2008; MNM05 Metalliferous Mining Training Package, Version 1.1, release date 6 April 2007; DRT03 Drilling Training Package, Version 2, release date 25 May 2007; MNC04 Coal Training Package, version 2, release date 16 January 2008; BCC03 Civil Construction Training Package, version 3, release date 07 September 2007.

This RII09 Resources and Infrastructure Industry Training Package covers Skill Sets and AQF level Qualifications at Certificate I, Certificate II, Certificate III, Certificate IV, Diploma and Advanced Diploma.

Mapping to Previous Training Package

Mapping of RII09 Version 2 Training Package to RII09 Version 1 Training Package		
Code:	*Equivalence*	*EQU = Equivale*

		NEW = New to n
		NEQ = Not equiv **outcomes**
		NC = No change
Version 1 – Skill Sets	***Version 2 – Skill Sets***	
Skill Set Mine Surveying	Skill Set Mine Surveying	
Skill Set Leading Hand	Skill Set Leading Hand	
Skill Set Rouseabout Off Shore Oil and Gas	Skill Set Rouseabout Off Shore Oil and Gas	
Skill Set Site Health and Safety Coordinator	Skill Set Site Health and Safety Coordinator	
Skill Set Surface Shotfiring	Skill Set Surface Shotfiring	
Skill Set Underground Shotfiring - Coal	Skill Set Underground Shotfiring - Coal	
Skill Set Underground Shotfiring - Metalliferous	Skill Set Underground Shotfiring - Metalliferous	
	Skill Set Supervision of Indigenous Employees	
Version 1 – Qualifications	***Version 2 – Qualifications***	
Certificate I Qualifications		
RII10109 Certificate I in Resources and Infrastructure Operations	RII10109 Certificate I in Resources and Infrastructur Operations	
Certificate II Qualifications		
RII20109 Certificate II in Resources and Infrastructure Work Preparation	RII20109 Certificate II in Resources and Infrastructu Preparation	
RII20209 Certificate II in Surface Extraction Operations	RII20209 Certificate II in Surface Extraction Operati	
RII20309 Certificate II in Underground Coal Mining	RII20309 Certificate II in Underground Coal Mining	
RII20409 Certificate II in Underground Metalliferous Mining	RII20409 Certificate II in Underground Metalliferous	

Mapping of RII09 Version 2 Training Package to RII09 Version 1 Training Package

	Equivalence	*EQU = Equivale...*
Code:		

RII20509 Certificate II in Resource Processing	RII20509 Certificate II in Resource Processing
RII20609 Certificate II in Mining Field/Exploration Operations	RII20609 Certificate II in Mining Field/Exploration Operations
RII20709 Certificate II in Civil Construction	RII20709 Certificate II in Civil Construction
RII20809 Certificate II in Bituminous Surfacing	RII20809 Certificate II in Bituminous Surfacing
RII20909 Certificate II in Drilling Operations	RII20909 Certificate II in Drilling Operations
RII21009 Certificate II in Drilling Oil/Gas (Off shore)	RII21009 Certificate II in Drilling Oil/Gas (Off shore
RII21109 Certificate II in Drilling Oil/Gas (On shore)	RII21109 Certificate II in Drilling Oil/Gas (On shore

Certificate III Qualifications

RII30109 Certificate III in Surface Extraction Operations	RII30111 Certificate III in Surface Extraction Operat
RII30209 Certificate III in Underground Coal Operations	RII30209 Certificate III in Underground Coal Operat
RII30309 Certificate III in Underground Metalliferous Mining	RII30311 Certificate III in Underground Metalliferou
RII30409 Certificate III in Resource Processing	RII30411 Certificate III in Resource Processing
RII30509 Certificate III in Mining Exploration	RII30509 Certificate III in Mining Exploration
RII30609 Certificate III in Small Mining Operations	RII30611 Certificate III in Small Mining Operations
RII30709 Certificate III in Mine Emergency Response and Rescue	RII30709 Certificate III in Mine Emergency Respons Rescue
RII30809 Certificate III in Civil Construction Plant Operations	RII30809 Certificate III in Civil Construction Plant Operations

Mapping of RII09 Version 2 Training Package to RII09 Version 1 Training Package

Code:	*Equivalence*	*EQU = Equivale*

RII30909 Certificate III in Civil Construction	RII30909 Certificate III in Civil Construction
RII31009 Certificate III in Bituminous Surfacing	RII31009 Certificate III in Bituminous Surfacing
RII31109 Certificate III in Bridge Construction and Maintenance	RII31109 Certificate III in Bridge Construction and Maintenance
RII31209 Certificate III in Civil Foundations	RII31209 Certificate III in Civil Foundations
RII31309 Certificate III in Pipe Laying	RII31309 Certificate III in Pipe Laying
RII31409 Certificate III in Road Construction and Maintenance	RII31409 Certificate III in Road Construction and Maintenance
RII31509 Certificate III in Road Marking	RII31509 Certificate III in Road Marking
RII31609 Certificate III in Trenchless Technology	RII31609 Certificate III in Trenchless Technology
RII31709 Certificate III in Tunnel Construction	RII31709 Certificate III in Tunnel Construction
RII31809 Certificate III in Drilling Operations	RII31809 Certificate III in Drilling Operations
RII31909 Certificate III in Drilling Oil/Gas (Off shore)	RII31909 Certificate III in Drilling Oil/Gas (Off shor
RII32009 Certificate III in Drilling Oil/Gas (On shore)	RII32009 Certificate III in Drilling Oil/Gas (On shor
RII32109 Certificate III in Timber Bridge Construction and Maintenance	RII32109 Certificate III in Timber Bridge Constructi Maintenance

Certificate IV Qualifications

RII40109 Certificate IV in Surface Extraction Operations	RII40109 Certificate IV in Surface Extraction Operat
RII40209 Certificate IV in Surface Coal Mining (Open Cut Examiner)	RII40209 Certificate IV in Surface Coal Mining (Ope Examiner)

Mapping of RII09 Version 2 Training Package to RII09 Version 1 Training Package

Code:	Equivalence	EQU = Equivalen

RII40309 Certificate IV in Metalliferous Mining Operations (Underground)	RII40311 Certificate IV in Metalliferous Mining Ope (Underground)
RII40409 Certificate IV in Underground Coal Operations	RII40411 Certificate IV in Underground Coal Operat
RII40509 Certificate IV in Resource Processing	RII40509 Certificate IV in Resource Processing
RII40609 Certificate IV in Civil Construction Operations	RII40609 Certificate IV in Civil Construction Operat
RII40709 Certificate IV in Civil Construction Supervision	RII40709 Certificate IV in Civil Construction Superv
RII40809 Certificate IV in Civil Construction Design	RII40809 Certificate IV in Civil Construction Design
RII40909 Certificate IV in Drilling Operations	RII40909 Certificate IV in Drilling Operations
RII41009 Certificate IV in Drilling Oil/Gas (Off shore)	RII41009 Certificate IV in Drilling Oil/Gas (Off shor
RII41109 Certificate IV in Drilling Oil/Gas (On shore)	RII41109 Certificate IV in Drilling Oil/Gas (On shor

Diploma Qualifications

RII50109 Diploma of Surface Operations Management	RII50109 Diploma of Surface Operations Manageme
RII50209 Diploma of Underground Metalliferous Mining Management	RII50209 Diploma of Underground Metalliferous Mi Management
RII50309 Diploma of Minerals Processing	RII50309 Diploma of Minerals Processing
RII50409 Diploma of Civil Construction Management	RII50409 Diploma of Civil Construction Managemen
RII50509 Diploma of Civil Construction Design	RII50509 Diploma of Civil Construction Design

Mapping of RII09 Version 2 Training Package to RII09 Version 1 Training Package

Code:		Equivalence	EQU = Equivale

RII50609 Diploma of Drilling Operations	RII50609 Diploma of Drilling Operations
RII50709 Diploma of Drilling Oil/Gas (Off shore)	RII50709 Diploma of Drilling Oil/Gas (Off shore)
RII50809 Diploma of Drilling Oil/Gas (On shore)	RII50809 Diploma of Drilling Oil/Gas (On shore)
RII50909 Diploma of Underground Coal Mining Management	RII50909 Diploma of Underground Coal Mining Management
Advance Diploma Qualifications	
RII60109 Advanced Diploma of Metalliferous Mining	RII60109 Advanced Diploma of Metalliferous Minin
RII60209 Advanced Diploma of Extractive Industries Management	RII60209 Advanced Diploma of Extractive Industrie Management
RII60309 Advanced Diploma of Underground Coal Mining Management	RII60309 Advanced Diploma of Underground Coal M Management
RII60409 Advanced Diploma of Drilling Management	RII60409 Advanced Diploma of Drilling Managemen
RII60509 Advanced Diploma of Civil Construction Design	RII60509 Advanced Diploma of Civil Construction I
RII60609 Advanced Diploma of Civil Construction	RII60609 Advanced Diploma of Civil Construction
RII60709 Advanced Diploma of Surface Coal Mining	RII60709 Advanced Diploma of Surface Coal Mining Management

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

	Equivalence Code:	EQU =	Equivalent
		NEW =	New unit to meet industry need
		NEQ =	Not equivalent but similar outco

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

	Equivalence Code:	*EQU =*	*Equivalent*
		NEW =	*New unit to meet industry need*
		NEQ =	*Not equivalent but similar outc*
		IMP =	*Imported unit updated from orig*
Version 1 Unit Code	*Version 1 Unit Title*	*Version 2 Unit Code*	*Version 2 Unit Title*

1. General Fields of Competence Applicable to All Sectors

1.1 Risk Management – RIIRIS

| RIIRIS201A | Conduct local risk control | RIIRIS201B | Conduct local risk con |

1.2 Governance & Compliance - RIIGOV

| RIIGOV401A | Apply, monitor and report on compliance systems | RIIGOV401B | Apply, monitor and re compliance systems |

1.3 Occupational Health & Safety – RIIOHS

| RIIOHS202A | Enter and work in confined spaces | RIIOHS202A | Enter and work in con spaces |

1.4 Environment - RIIENV

| | | RIIENV302A | Apply environmentall sustainable work prac |

1.6 Communication – RIICOM

| RIICOM301A | Communicate information | RIICOM301B | Communicate informa |
| | | RIICOM302A | Communicate workpl information |

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

		Equivalence Code:	*EQU =*	*Equivalent*
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			NEQ =	*Not equivalent but similar outco*

1.7 Leadership & Teamwork – RIILAT

		RIILAT401A	Provide leadership in supervision of Indiger employees

1.8 Business Effectiveness – RIIBEF

RIIBEF201A	Plan and organise work	RIIBEF201B	Plan and organise wor

1.9 Financial Administration & Management

BSBFIA302A	Process payroll	RIIFIA401A	Manage financial reco

2. Technical Fields of Competence Applicable to All Sectors

2.2 Blasting – RIIBLA

RIIBLA202A	Support underground shotfiring operations	RIIBLA202B	Support underground shotfiring operations

2.3 Service & Maintenance – RIISAM

RIISAM211A	Remove, repair and refit tyres and tubes	RIISAM211B	Remove, repair and re and tubes
RIISAM502A	Manage general drilling equipment maintenance	RIISAM502B	Manage general drilli equipment maintenanc

2.4 Load Handling – RIIHAN

RIIHAN301A	Operate elevating work platform	RIIHAN301B	Operate elevating wor platform

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency

Note: This table only includes units where there has been a change between Versions 1 and 2

		Equivalence Code:	*EQU =*	*Equivalent*
			NEW =	*New unit to meet industry need*
			NEQ =	*Not equivalent but similar outc...*
RIIHAN303A	Conduct integrated tool carrier operations	RIIHAN311A		Conduct integrated to... carrier operations
RIIHAN307A	Operate a loading crane	RIIHAN307A		Operate a vehicle loa... crane

2.5 Vehicle Operations RIIVEH

RIIVEH201A	Operate light vehicle	RIIVEH201B		Operate light vehicle
		RIIVEH307A		Operate heavy rigid v...

2.7 Emergency Response & Rescue – RIIERR

RIIERR401A	Apply and monitor surface operations emergency preparedness and response procedures	RIIERR401B		Apply and monitor su... operations emergency preparedness and resp... systems

3. Technical Fields of Competence Applicable to Some Sectors (2 to 4 Sectors)

3.1 Materials Extraction – RIIMEX

RIIMEX203A	Break oversize rock	RIIMEX203B		Break oversize rock
RIIMEX302A	Assess ground conditions	RIIMEX302B		Assess ground conditi...
RIIMEX404A	Apply and monitor systems for stable mining	RIIMEX404B		Apply and monitor sy... for stable mining

3.2 Stockpile & Reclaim Material – RIISRM

RIISRM301A	Blend stockpile materials	RIISRM301B		Blend stockpile mater...
RIISRM302A	Conduct stockpile reclaiming	RIISRM302B		Conduct stockpile rec...

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

		Equivalence Code:	*EQU =*	*Equivalent*
			NEW =	*New unit to meet industry need*
			NEQ =	*Not equivalent but similar outc...*
	operations			operations
RIISRM303A	Move and position materials to form stockpile	RIISRM303B		Move and position ma... to form stockpiles
RIISRM304A	Maintain stockpiles	RIISRM304B		Maintain stockpiles

3.3 Mobile Plant Operations – RIIMPO

RIIMPO301A	Conduct hydraulic excavator operations	RIIMPO301B	Conduct hydraulic exc... operations
RIIMPO302A	Conduct hydraulic shovel operations	RIIMPO302B	Conduct hydraulic sho... operations
RIIMPO304A	Conduct wheel loader operations	RIIMPO304B	Conduct wheel loader... operations
RIIMPO305A	Conduct stockpile dozer operations	RIIMPO305B	Conduct coal stockpil... operations
RIIMPO308A	Conduct tracked dozer operations	RIIMPO308B	Conduct tracked doze... operations
RIIMPO311A	Conduct haul truck operations	RIIMPO311A	Conduct haul truck op...
RIIMPO313A	Conduct face loading operations	RIIMPO313B	Conduct face loader operations
RIIMPO318A	Conduct skid steer loader operations	RIIMPO318B	Conduct civil constru... skid steer loader oper...
RIIMPO321A	Conduct civil construction wheeled loader operations	RIIMPO321B	Conduct civil constru... wheeled front end loa... operations
		RIIMPO331A	Conduct operations w... stockpile dozer

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

		Equivalence Code:	*EQU =*	*Equivalent*
			NEW =	*New unit to meet industry need*
			NEQ =	*Not equivalent but similar outco*
		RIIMPO332A		Conduct operations w steer loader

3.4 Processing (General) – RIIPRO

| RIIPRO301A | Conduct crushing and screening plant operations | RIIPRO301B | | Conduct crushing and screening plant operat |

3.6 Conservation and Rehabilitation – RIICAR

MNMEGS314A	Rehabilitate exploration site	RIICAR301A		Rehabilitate exploratio
MNMSM304A	Rehabilitate small mine site	RIICAR302A		Rehabilitate small mi
MNQOPS405A	Supervise site rehabilitation operations	RIICAR401A		Supervise rehabilitatio operations
RTD2022A	Carry out natural area restoration works	RTD2022A		Carry out natural area restoration works
RTD2202A	Conduct erosion and sediment control activities	RTD2202A		Conduct erosion and sediment control activ
RTD3034A	Implement revegetation works	RTD3034A		Implement revegetatio works
RTD3205A	Construct conservation earthworks	RTD3205A		Construct conservatio earthworks
THTGTM02A	Carry out grounds maintenance	THTGTM02A		Carry out grounds maintenance

3.5 Plant & Equipment Operations – RIIPEO

| RIIPEO201A | Conduct conveyor operations | RIIPEO201B | | Conduct conveyor op |

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

		Equivalence Code:	*EQU =*	*Equivalent*
			NEW =	*New unit to meet industry need*
			NEQ =	*Not equivalent but similar outc…*
RIIPEO203A	Conduct stacker operations	RIIPEO203B	Conduct stacker opera…
3.7 Water Management – RIIWMG				
RIIWMG204A	Reclaim and treat water system	RIIWMG302A	Reclaim and treat wat…
3.9 Resources & Infrastructure – RIIRAI				
RIIRAI501A	Implement mine transport systems and production equipment	RIIRAI501B	Implement mine trans… systems and productio… equipment
RIIRAI503A	Implement site services and infrastructure systems	RIIRAI503B	Implement site servic… infrastructure systems
3.11 Underground Mining – RIIUND				
RIIUND401A	Apply and monitor the ventilation management plan	RIIUND401B	Apply and monitor th… ventilation manageme…
3.12 Trenchless Technology – RIICTT				
		NWP331B	Inspect conduit and re… condition and features
		NWP440A	Supervise conduit insp… and reporting
4. Technical Fields of Competence Applicable to a Single Sector				
4.2.2 Coal Mining (Underground) – RIIMCU				
RIIMCU213A	Conduct feeder breaker operations	RIIMCU213A	Conduct feeder break… operations

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

	Equivalence Code:	*EQU =*	*Equivalent*
		NEW =	*New unit to meet industry need*
		NEQ =	*Not equivalent but similar outco*

4.2.4 Coal Mining (Coal Preparation) – RIIMCP

RIIMCP201A	Monitor coal preparation plant operations	RIIMCP301A	Monitor plant operatio coal preparation

4.3.3 Exploration & Field Work – RIIEGS

RIIEGS202A	Conduct field work	RIIEGS202B	Conduct field work

4.3.4 Processing - RIIPBP, RIIPGP, RIIPHA & RIIMPG

RIIPBP201A	Control acid plant operations	RIIPBP302B	Control operations in plant

4.3.5 Beneficiation – RIIPBE

RIIPBE205A	Conduct roasting operations	RIIPBE205B	Conduct roasting oper
RIIPBE303A	Conduct filtering process	RIIPBE303B	Conduct filtering proc
RIIPBE304A	Conduct heavy media separation	RIIPBE304B	Conduct heavy media separation
RIIPBE308A	Conduct thickening and clarifying process	RIIPBE308B	Conduct thickening ar clarifying process
RIIPBE309A	Conduct wet gravity separation	RIIPBE309B	Conduct wet gravity separation
RIIPBE310A	Conduct flotation process	RIIPBE310B	Conduct flotation proc
RIIPBE311A	Conduct magnetic separation	RIIPBE311B	Conduct magnetic sep

4.4 Drilling

Mapping of RII09 Version 1.0 Units of Competency to RII09 Version 2.0 Units of Competency
Note: This table only includes units where there has been a change between Versions 1 and 2

	Equivalence Code:	*EQU =*	*Equivalent*
		NEW =	*New unit to meet industry need*
		NEQ =	*Not equivalent but similar outc...*

4.4.1 Drilling (General) – RIINHB

RIINHB201A	Load, secure and unload drilling equipment and materials	RIINHB201B	Load, secure and unlo... drilling equipment an... materials
RIINHB204A	Assist air drilling	RIINHB219A	Assist with air drilling...
RIINHB208A	Assist diamond core drilling	RIINHB208B	Assist diamond core c...
RIINHB301A	Set up and prepare for drilling operations	RIINHB301A	Set up and prepare fo... operations
RIINHB304A	Conduct air drilling	RIINHB304B	Conduct air drilling
RIINHB307A	Conduct conventional core drilling	RIINHB307B	Conduct conventional... drilling
RIINHB321A	Construct single aquifer production bores	RIINHB325A	Construct and comple... single aquifer product... bores
RIINHB412A	Supervise the construction of geothermal wells	RIINHB412B	Construct geothermal...

Employability Skills

Unit component	Example of embedded Employability Skill
Unit Title	RIIMEX201A Suppress dust in open cut environment
Unit Descriptor	This unit covers suppressing of dust in an open cut environment in the coal and metalliferous mining and extractive industries. It includes applying dust suppressant and minimising dust creation
Element	1) Apply dust suppressant

Unit component	Example of embedded Employability Skill
Unit Title	RIIMEX201A Suppress dust in open cut environment
Performance Criteria	1.1 Access, interpret and apply compliance documentation relevant to suppressing of dust in an open cut environment 1.2 Receive, interpret and clarify shift changeover details 1.3 Select appropriate dust suppression method according to site conditions 1.4 Distribute dust suppressant in appropriate pattern according to road type 1.5 Adjust dust suppression activities according to schedule and weather conditions 1.6 Identify, address and report environmental issues 1.7 Communicate with other personnel using approved communication methods 1.8 Adhere to emergency procedures to ensure safety of personnel, plant and equipment
Range Statement	**Relevant compliance documentation** may include: • legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Required Skills and Knowledge	**Required Skills** Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to suppress dust in open cut environment: • apply legislative, organisation and site requirements and procedures • make decisions • direct and signal • clean equipment • maintain equipment • operate equipment • follow instructions • identify hazards

SkillsDMC

Unit component	Example of embedded Employability Skill
Unit Title	RIIMEX201A Suppress dust in open cut environment
	• interpret plans, reports, maps, specifications • maintain records • follow safe work practices • troubleshoot • wear protective equipment **Required Knowledge** Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to suppress dust in open cut environment: • emergency procedures • environmental aspects • equipment processes, technical capability and limitations • equipment safety requirements • geological and technical data (rock formation) • maintenance procedures • mine operation system • OHS procedures • plan terminology • site procedures (operational and maintenance) • site safety requirements • sprinkler operation • water truck operation
Evidence Guide	**Critical aspects for assessment and evidence required to demonstrate competency in this unit** The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for suppressing of dust in open cut environment • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the suppressing of dust in open cut environment • working with others to suppress dust in open cut

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Unit component	Example of embedded Employability Skill
Unit Title	RIIMEX201A Suppress dust in open cut environment
	environment that meets all of the required outcomes • consistent timely suppressing of dust in open cut environment that safely, effectively and efficiently meets the required outcomes

SkillsDMC

Qualifications Pathways

The following pathways charts are provided to show the types of pathways into and from qualifications that are possible with this Training Package.
For more information about qualifications and pathways contact SkillsDMC (Resources and Infrastructure Industry Skills Council) (http://www.skillsdmc.com.au).

Skill Sets in this Training Package

Definition
Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.
Wording on Statements of Attainment
Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.
Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording "these competencies meet [insert skill set title or identified industry area] need" on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment. http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

Skill Set Leading Hand
Skill Set Rouseabout Off Shore Oil and Gas
Skill Set Site Health and Safety Coordinator
Skill Set Mine Surveying
Skill Set Surface Shotfiring
Skill Set Underground Shotfiring - Coal
Skill Set Underground Shotfiring - Metalliferous
Skill Set Supervision of Indigenous Employees

Summary of AQF Qualifications in this Training Package

Qualification Code	Title
RII10109	Certificate I in Resources and Infrastructure Operations

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RII20109	Certificate II in Resources and Infrastructure Work Preparation
RII20209	Certificate II in Surface Extraction Operations
RII20309	Certificate II in Underground Coal Mining
RII20409	Certificate II in Underground Metalliferous Mining
RII20509	Certificate II in Resource Processing
RII20609	Certificate II in Mining/Field Exploration Operations
RII20709	Certificate II in Civil Construction
RII20809	Certificate II in Bituminous Surfacing
RII20909	Certificate II in Drilling Operations
RII21009	Certificate II in Drilling Oil/Gas (Off shore)
RII21109	Certificate II in Drilling Oil/Gas (On shore)
RII30111	Certificate III in Surface Extraction Operations
RII30209	Certificate III in Underground Coal Operations
RII30311	Certificate III in Underground Metalliferous Mining
RII30411	Certificate III in Resource Processing
RII30509	Certificate III in Mining Exploration
RII30611	Certificate III in Small Mining Operations
RII30709	Certificate III in Mine Emergency Response and Rescue
RII30809	Certificate III in Civil Construction Plant Operations
RII30909	Certificate III in Civil Construction
RII31009	Certificate III in Bituminous Surfacing
RII31109	Certificate III in Bridge Construction and Maintenance
RII31209	Certificate III in Civil Foundations
RII31309	Certificate III in Pipe Laying

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Qualification Code	Title
RII10109	Certificate I in Resources and Infrastructure Operations

RII31409	Certificate III in Road Construction and Maintenance
RII31509	Certificate III in Road Marking
RII31609	Certificate III in Trenchless Technology
RII31709	Certificate III in Tunnel Construction
RII31809	Certificate III in Drilling Operations
RII31909	Certificate III in Drilling Oil/Gas (Off shore)
RII32009	Certificate III in Drilling Oil/Gas (On shore)
RII32109	Certificate III in Timber Bridge Construction and Maintenance
RII40109	Certificate IV in Surface Extraction Operations
RII40209	Certificate IV in Surface Coal Mining (Open Cut Examiner)
RII40311	Certificate IV in Metalliferous Mining Operations (Underground)
RII40411	Certificate IV in Underground Coal Operations
RII40509	Certificate IV in Resource Processing
RII40609	Certificate IV in Civil Construction Operations
RII40709	Certificate IV in Civil Construction Supervision
RII40809	Certificate IV in Civil Construction Design
RII40909	Certificate IV in Drilling Operations
RII41009	Certificate IV in Drilling Oil/Gas (Off shore)
RII41109	Certificate IV in Drilling Oil/Gas (On shore)
RII50109	Diploma of Surface Operation Management

Qualification Code	Title
RII10109	Certificate I in Resources and Infrastructure Operations

RII50209	Diploma of Underground Metalliferous Mining Management
RII50309	Diploma of Minerals Processing
RII50409	Diploma of Civil Construction Management
RII50509	Diploma of Civil Construction Design
RII50609	Diploma of Drilling Operations
RII50709	Diploma of Drilling Oil/Gas (Off shore)
RII50809	Diploma of Drilling Oil/Gas (On shore)
RII50909	Diploma of Underground Coal Mining Management
RII60109	Advanced Diploma of Metalliferous Mining
RII60209	Advanced Diploma of Extractive Industries Management
RII60309	Advanced Diploma of Underground Coal Mining Management
RII60409	Advanced Diploma of Drilling Management
RII60509	Advanced Diploma of Civil Construction Design
RII60609	Advanced Diploma of Civil Construction
RII60709	Advanced Diploma of Surface Coal Mining Management

Overview

What is a Training Package?

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

Each Training Package:

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

• enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies

• encourages the development and delivery of flexible training which suits individual and industry requirements

• encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

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

How are Training Packages developed?

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

How do Training Packages encourage flexibility?

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

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

Who can deliver and assess using Training Packages?

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

Training Package Components

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

Training Package Endorsed Components

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

Competency Standards

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

Assessment Guidelines

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

Qualifications Framework

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

Training Package Support Materials

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

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

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

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

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

Training Package, Qualification and Unit of Competency Codes

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

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example RII09. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example RII10109. Qualification codes are developed as follows:

• the first three letters identify the Training Package;

• the first number identifies the qualification level (noting that, in the qualification titles themselves, arabic numbers are **not** used);

• the next two numbers identify the position in the sequence of the qualification at that level; and

• the last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications as they identify the year in which those particular qualifications were endorsed.)

Unit of Competency Codes

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

• a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in RIIBEF202A;

• the first three characters signify the Training Package - RII09 - in the above example and up to eight characters, relating to an industry sector, function or skill area, follow;

• the last character is always a letter and identifies the unit of competency version. An "A" at the end of the code indicates that this is the original unit of competency. "B", or another incremented version identifier means that minor changes have been made. Typically this would mean that wording has changed in the range statement or evidence guide, providing clearer intent; and

• where changes are made that alter the outcome, a new code is assigned and the title is changed.

Training Package, Qualification and Unit of Competency Titles

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

Training Package Titles

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

Qualification Titles

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

• first, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma, Advanced Diploma, Vocational Graduate Certificate, or Vocational Graduate Diploma;

• this is followed by the words "in" for Certificates I to IV, and "of" for Diploma, Advanced Diploma, Vocational Graduate Certificate and Vocational Graduate Diploma;

• then, the industry descriptor, for example Telecommunications; and

• then, if applicable, the occupational or functional stream in brackets, for example (Computer Systems).
For example:
•   RII10109 Certificate I in Resources and Infrastructure Operations
Unit of Competency Titles
Each unit of competency title is unique. Unit of competency titles describe the competency outcome concisely, and are written in sentence case.
For example:
•   RIIBEF201B Plan and organise work

Qualifications Framework

The Australian Qualifications Framework
What is the Australian Qualifications Framework?
A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the AQF Implementation Handbook.
http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.
Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.
Qualifications
Training Packages can incorporate the following eight AQF qualifications.
• Certificate I in ...
• Certificate II in ...
• Certificate III in ...
• Certificate IV in ...
• Diploma of ...
• Advanced Diploma of ...
• Vocational Graduate Certificate of ...
• Vocational Graduate Diploma of ...
Graduate Certificates and Graduate Diplomas can also be awarded in the vocational education and training sector under certain conditions see the *AQF Implementation Handbook* for details.
On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration.*
Statement of Attainment
A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration.*

Under the AQTF 2010, RTOs must recognise the achievement of competencies as recorded on a qualification testamur or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

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

Certificate I

Characteristics of Learning Outcomes

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

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

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:
• demonstrate knowledge by recall in a narrow range of areas;
• demonstrate basic practical skills, such as the use of relevant tools;
• perform a sequence of routine tasks given clear direction
• receive and pass on messages/information.

Certificate II

Characteristics of Learning Outcomes

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

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

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

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:
• demonstrate basic operational knowledge in a moderate range of areas;
• apply a defined range of skills;
• apply known solutions to a limited range of predictable problems;
• perform a range of tasks where choice between a limited range of options is required;
• assess and record information from varied sources;
• take limited responsibility for own outputs in work and learning.

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the section of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team co-ordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

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

Certificate IV

Characteristics of Learning Outcomes

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

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

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

Diploma

Characteristics of Learning Outcomes

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

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

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

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

Distinguishing Features of Learning Outcomes

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

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

Advanced Diploma

Characteristics of Learning Outcomes

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

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

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

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

Distinguishing Features of Learning Outcomes

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

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

Vocational Graduate Certificate

Characteristics of competencies or learning outcomes

• The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
• Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.

• Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

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

Distinguishing features of learning outcomes

• Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.

• Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.

• Generate and evaluate ideas through the analysis of information and concepts at an abstract level.

• Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.

• Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

Vocational Graduate Diploma

Characteristics of competencies or learning outcomes

• The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.

• Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.

• Further specialisation within a systematic and coherent body of knowledge.

• Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.

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

Distinguishing features of learning outcomes

• Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.

• Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.

• Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.

• Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.

• Demonstrate full responsibility and accountability for personal outputs.

• Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.

Assessment Guidelines

Introduction

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These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the *Australian Quality Training Framework (AQTF) Essential Standards for Initial and Continuing Registration*. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing/registration requirements; and assessment pathways.

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

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

Assessment must be carried out in accordance with the:

• benchmarks for assessment
• specific industry requirements
• principles of assessment
• rules of evidence
• assessment requirements set out in the AQTF

Benchmarks for Assessment

The endorsed units of competency in this Training Package are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

Principles of Assessment

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

• Validity
• Reliability
• Flexibility
• Fairness
• Sufficiency

These principles must be addressed in the:

Design, establishment and management of the assessment system for this training package
Development of assessment tools,
And the conduct of assessment

Validity

Assessment is valid when the process is sound and assesses what it claims to assess. Validity requires that:

(a)	assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance

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

Reliability

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

Flexibility

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

Fairness

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

Sufficiency

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

Rules of Evidence

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

Valid

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

Sufficient

SkillsDMC

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

Current

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

Authentic

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

Assessment Requirements of the Australian Quality Training Framework

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 *Essential Standards for Registration.*

The AQTF 2010 *Essential Standards for Initial and Continuing Registration* can be downloaded from <www.training.com.au>.

The following points summarise the assessment requirements.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering Body in accordance with the AQTF The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration.

Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*, Standard 1.

Assessor Competency Requirements

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

Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Assessment Strategies

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

National Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Access and Equity and Client Outcomes

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Monitoring Assessments

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

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Issuing AQF Qualifications and Statements of Attainment

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

Advice on occupational and licensing requirements or assessment specific to the units of competency and qualifications being submitted for endorsement

This section provides information on licensing/registration requirements for this Training Package, with the following important disclaimer.

Licensing and registration requirements that apply to the resources and infrastructure industry and other specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package, and DEEWR, consider that the licensing/registration requirements described in this section apply to RTOs, assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and DEEWR cannot guarantee that the list is definitive or accurate at the time of reading; the information in this section is provided in good faith on that basis.

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

Australian Capital Territory (ACT) www.ors.act.gov.au/WorkCover/WebPages/WorkSafe/ohs.htm	WorkCover/WorkSafe ACT
New South Wales (NSW) www.workcover.nsw.gov.au	WorkCover New South Wales
Northern Territory (NT) www.worksafe.nt.gov.au/	NT WorkSafe
Queensland (QLD) http://www.justice.qld.gov.au/	Fair and Safe Work
South Australia (SA)	SafeWork SA

www.safework.sa.gov.au	
Tasmania (TAS) www.wst.tas.gov.au	Workplace Standards Tasmania
Victoria (VIC) www.worksafe.vic.gov.au	WorkSafe Victoria
Western Australia (WA) http://www.commerce.wa.gov.au/WorkSafe/	Department of Commerce (Worksafe Division)
National http://safeworkaustralia.gov.au/Pages/default.aspx	Australian Safety Compensation Council

Requirements for Assessors

In order to conduct assessment for statutory licensing or other industry registration requirements, assessors must meet the requirements outlined in the following chart, in addition to the AQTF requirements.

License/Registration	Jurisdiction	Contact
Plant Operation		Refer to appropriate authority in listing above
Boom Type Elevating Work Platform (boom length 11m or more)	ACT, NSW, QLD, SA, TAS, VIC, WA	
Forklift Truck	ACT, NSW, QLD, SA, TAS, VIC, WA	
Front End Loader	ACT, NSW, QLD, SA	
Front End Loader/Backhoe	ACT, NSW, QLD, SA, TAS, VIC, WA	
Front End Loader (Skid Steer type)	ACT, NSW, QLD, SA, TAS, VIC, WA	
Excavator	ACT, NSW, QLD, SA, TAS, VIC, WA	

Order Picking Forklift Truck	ACT, NSW	
Dragline Operation	ACT, SA	
Dozer	QLD, SA	
Grader	QLD	
Industrial Truck (Forklift) Operation	NT	
Roller	QLD	
Scraper	QLD	
Telescopic Handler Requirement will be determined by the attachment fitted to the telescopic handler and whether it is a slewing or non-slewing machine	SA	
Tilt Top Construction Crane Operation	WA	
Tower Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Derrick Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Portal Boom Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Bridge and Gantry Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Vehicle Loading Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Non-slewing Mobile Crane Operation	NT, QLD, SA, TAS, VIC, WA	
Slewing Mobile Crane Operation (up to 20 tonne)	NT, QLD, SA, TAS, VIC, WA	
Slewing Mobile Crane	NT, QLD, SA, TAS, VIC,	

Operation (up to 60 tonne)	WA	
Slewing Mobile Crane Operation (up to 100 tonne)	NT, QLD, SA, TAS, VIC, WA	
Slewing Mobile Crane Operation (Open)	NT, QLD, SA, TAS, VIC, WA	
Hoist Operation(Cantilever Platform)	NSW, NT, TAS, VIC	
Hoist Operation (Personnel and Materials)	SA, NSW, NT, TAS, VIC	
Concrete Placing Boom Operation	NSW, NT, TAS, WA	
Self Erecting Tower Crane	QLD, TAS, VIC	
Rigging and Scaffolding		
Basic Scaffolding	NT, QLD, SA, TAS, VIC, WA	
Intermediate Scaffolding	NT, QLD, SA, TAS, VIC, WA	
Advanced Scaffolding	NT, QLD, SA, TAS, VIC, WA	
Dogging	NT, QLD, SA, TAS, VIC, WA	
Basic Rigging	NT, QLD, SA, TAS, VIC, WA	
Intermediate Rigging	NT, QLD, SA, TAS, VIC, WA	
Advanced Rigging	NT, QLD, SA, TAS, VIC, WA	
Pressure Systems		
Basic Boiler Operation	NT, WA, TAS, VIC	

Intermediate Boiler Operation	NT, WA, TAS, VIC	
Advanced Boiler Operation	NT, WA, TAS, VIC	
Turbine Operation	NT, WA, TAS, VIC	
Reciprocating Steam Engine Operation	NT, WA, TAS, VIC	
Shotfiring and Blasting		
	ACT	WorkCover/WorkSafe ACT www.ors.act.gov.au/WorkCover/WebPages/WorkSafe/ohs.htm
	NSW	Department of Minerals and Petroleum www.minerals.nsw.gov.au
	NT	NT Worksafe www.worksafe.nt.gov.au
	QLD	Department of Mines and Energy www.dme.qld.gov.au
	SA	SafeWork SA www.safework.sa.gov.au
	TAS	Workplace Standards Tasmania www.wst.tas.gov.au
	VIC	Department of Primary Industries (Earth Resources Development Division) http://new.dpi.vic.gov.au/earth-resources
	WA	Department of Mines and Petroleum http://www.dmp.wa.gov.au/
Shotfirer	ACT, NSW, NT. QLD, SA, TAS, WA	

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Blaster	ACT, NSW, NT. QLD, SA, TAS, WA	
Agricultural/Seismic/ Small Scale Blasting	QLD	
Quarrying/Opencut Mining/Construction	QLD	
Tunnelling and Underground Mining	QLD	
A Licence to Use (for Oil Wells)	QLD	
Drivers Licence **Requirement as per vehicle in use**		
	ACT	Road Transport Authority http://www.rego.act.gov.au/
	NSW	Road and Traffic Authority NSW www.rta.nsw.gov.au
	NT	Northern Territory Transport Group http://www.nt.gov.au/transport/
	QLD	Queensland Transport www.transport.qld.gov.au
	SA	Transport SA www.transport.sa.gov.au
	TAS	Department of Infrastructure Energy and Resources www.transport.tas.gov.au/licence_information
	VIC	VicRoads www.vicroads.vic.gov.au
	WA	Department of Transport www.dpi.wa.gov.au/licensing
Explosives Driver (only	WA	Department of Mines and

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applicable for drivers for a prime contractor who hold an explosive transport licence)		Petroleum http://www.dmp.wa.gov.au/
Carry Explosives		SafeWork SA http://www.safework.sa.gov.au/
High Risk Work		
A License to Perform High Risk Work	TAS	Workplace Standards Tasmania www.wst.tas.gov.au
High Risk Work (HRW)	WA	Department of Commerce (Worksafe Division) http://www.commerce.wa.gov.au/WorkSafe/
Confined Space Entry	National	Refer Plant Operation for State Contacts
Asbestos Removalist	National	Refer Plant Operation for State Contacts
Elevating Work Platform Operation	National	Refer Plant Operation for State Contacts
Traffic Management		
	SA	Transport SA www.transport.sa.gov.au
	TAS	Department of Infrastructure, Energy and Resources www.dier.tas.gov.au
	WA	Main Roads WA http://www.mainroads.wa.gov.au/Pages/Welcome.aspx
Traffic Management	TAS, SA	
Basic Traffic Controller	WA	
Advanced Traffic Controller	WA	

Workzone Traffic Management	SA	
Basic Worksite Traffic Management	WA	
Worksite Traffic Management	WA	
Advanced Worksite Traffic Management	WA	
Traffic Controller	WA	
Sector Specific - Mining		
Open Cut Examiners	QLD	Department of Mines and Energy www.dme.qld.gov.au
Deputy's Certificate of Competency (also known as Mine Deputies or ERZ Controller)	QLD	
Second Class Mine Manager's Certificate of Competency (Underground Coal Mine)	QLD	
First Class Mine Manager's Certificate of Competency (Underground Coal Mine)	QLD	
First Class Mine Manager's Certificate of Competency (Underground Metalliferous Mines)	QLD	
Quarrying/Opencut Mining/Construction	QLD	
Tunnelling and Underground Mining	QLD	
A Licence to Use (for Oil	QLD	

Wells)		
SRS Licence (Security Risk Substances)	WA	Dangerous Goods Safety (Security Risk Substances) Regulations 2007 for risk substances http://www.austlii.edu.au/au /legis/wa/consol_reg/dgsrsr2 007628/
National Police Check	WA	Required for SRS Licence http://www.police.wa.gov.a u/Ourservices/Policechecksc ertificates/NationalPoliceCe rtificates/tabid/1339/Default .aspx
Sector Specific – Civil Construction		
Green Card	SA, NSW	CITB www.citb.org.au
White Card	SA, WA, NSW	SafeWork SA www.transport.sa.gov.au also Blue Card QLD only and Red Card WA only
Sector Specific - Drilling		
National Water Well Drillers' Licence	National	Australian Drilling Industry Training Committee (Examining Body) http://www.aditc.com.au/
	NSW	Office of Water http://www.water.nsw.gov.a u/Water-licensing/About-licences/Driller-s-licences/Driller-s-licences/default.aspx
	NT	Department of Natural Resources, the Arts and Sport www.nreta.nt.gov.au
	QLD	Department of Environment and Resource Management: http://www.derm.qld.gov.au

		/
	SA	Department for Water http://www.waterforgood.sa.gov.au/
	TAS	Department of Primary Industries, Parks, Water and Environment http://www.dpiw.tas.gov.au/
	Vic	Department of Sustainability and Environment www.dse.vic.gov.au
	WA	Australian Drilling Industry Association www.adia.com.au

- These requirements may be met through a range of methods. Further information is available through the contacts provided for each State and Territory.

- The High Risk units which result in the related OHS licence are following units

CPCCLBM3001A	License to operate a concrete placing boom
CPCCLDG3001A	License to perform dogging
CPCCLHS3001A	License to operate a personnel and materials hoist
CPCCLHS3002A	License to operate a materials hoist
CPCCLRG3001A	License to perform rigging – basic level
CPCCLRG3002A	License to perform rigging – intermediate level
CPCCLRG4001A	License to perform rigging – advanced level
CPCCLSF2001A	License to erect, alter and dismantle scaffolding – basic level
CPCCLSF3001A	License to erect, alter and dismantle scaffolding – intermediate level
CPCCLSF4001A	License to erect, alter and dismantle scaffolding – advanced level
CPCCLTC4001A	License to operate a tower crane

CPCCLTC4002A	License to operate a self-erecting tower crane
TLILIC1208A	Licence to operate a vehicle loading crane (capacity ten metre tonnes and above)
TLILIC408A	Licence to operate a derrick crane
TLILIC708A	Licence to operate a portal boom crane
TLILIC808A	Licence to operate a slewing mobile crane (up to 20 tonnes)
TLILIC908A	Licence to operate a slewing mobile crane (up to 60 tonnes)
TLILIC1008A	Licence to operate a slewing mobile crane (up to 100 tonnes)
TLILIC1108A	Licence to operate a slewing mobile crane (over 100 tonnes)
TLILIC308A	Licence to operate a bridge and gantry crane
TLILIC608A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)
TLILIC508A	Licence to operate a boom type elevating work platform (boom length 11 metres or more)
TLILIC108A	Licence to operate a forklift truck
TLILIC208A	Licence to operate an order picking forklift truck

- The Mining Regulations vary from State to State. While some of the qualifications and units of competency are associated with statutory positions, none of the qualifications result in a Statutory Ticket – this is issued by the State Mining Regulator. All participants/employees are advised to check with their employer and regulator in their State/Territory.

Further Information on Requirements for Assessors

In addition to the National Quality Council's Training and Assessment Competencies to be held by Trainers and Assessors (as noted in the AQTF Essential Standards for Registration) it is industry's preferred approach that assessors also meet the following requirements:

- Demonstrate current knowledge and experience of the industry, industry practices, and the job or role against which performance is being assessed. This may be demonstrated through evidence of actual workplace experience within the last two years or one or more of the following:
  - attendance at professional development/training and education activities focusing on good practice in the relevant industry competencies
  - participation in professional/industry networks

- Demonstrate current knowledge and skill in assessing against this Training Package in a range of contexts. This may be demonstrated through at least one of the following:

  - familiarity with the Units of Competency in this Training Package to be used by the learner as a basis of assessment
  - recent planning, conduct and review of assessment and/or workplace training activities in a relevant industry context
  - participation in moderation/validation processes
  - attendance at professional development activities focused on assessment and/or workplace training

- Demonstrate the necessary interpersonal and communication skills required in the assessment process. This may be demonstrated through evidence of one or more of the following:

  - attendance at professional development and/or training activities focused on effective communication in assessment and/or workplace training contexts
  - knowledge of language, literacy and numeracy issues in the context of assessment and workplace training
  - recent assessment and/or workplace training activities

This Training Package provides a range of options for meeting the assessor requirements. Assessments in the Resources and Infrastructure industries can be undertaken in a variety of contexts by individual assessors, partnerships involving assessors and technical experts, and teams of assessors.

All RTOs must consult with responsible industry personnel to determine the appropriateness of the assessor for on-the-job assessments at a work site. This is particularly important for mining sites. Specific criteria may exist for assessors who are assessing an employee/candidate for a qualification which is a requirement for the issue of a statutory licence to practice, e.g. Shotfirer. In such instances, the RTO must clarify the specific criteria as this requirement may vary between States and/or Territories depending on legislative requirements. (Refer to Requirements for Assessors). The case studies provided show how the requirement to use qualified assessors can be met.

Partnership Arrangements

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Under the AQTF, RTOs may enter into partnerships with non-registered organisations, such as schools, industry organisations and enterprises, for delivery and assessment within the RTO's scope of registration.

Where this is done, the RTO must have a formal agreement with the organisation that provides the training and/or assessment under its name. The agreement must specify how all parties will discharge their responsibilities for ensuring the quality of the training and/or assessment conducted on its behalf, including the qualification requirements for delivery and assessment.

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

The following case studies provide examples of partnership arrangements Resources and Infrastructure enterprises have formed with RTOs.

Case Study 1. Partnership to Deliver Training and Assessment

A mine site developed a partnership arrangement with an RTO where the RTO provides off-the-job training and assessment and the enterprise will provide on-the-job training and workplace evidence that support an employee's achievement of units of competency.

The RTO trainer/assessor and the enterprise trainer identify the required units of competency and agree on the assessment tools to be used both on-and off-the-job. The RTO provides classroom based training and assessment that ensures the employee has the required underpinning knowledge for the selected units of competency. The enterprise provides on-the-job training and the workplace supervisor/coach or trainer assists the employees to gather the required evidence to support their achievement of the units of competency. This evidence includes pre-operational check sheets, inspection checklists, safety device testing and operational production reporting documentation for individual operators. The RTO assessor uses the workplace evidence in conjunction with the off-the-job assessments to determine the operator's competency and eligibility for a Statement of Attainment or Certificate level qualification.

Case Study 2. Partnership for Assessment Only

A mine site has entered into a partnership arrangement with an RTO for the RTO to provide an on-the-job assessment only service using qualified assessors. All training is provided on-the-job by the mine.

The mine trainer and the RTO agree on the training outcomes required to achieve the units of competency and the assessment tools to be used. The RTO also provides the mine trainer with the RTO assessors' CVs and gains agreement as to their suitability for on-the-job assessment.

When the employees have completed their on-site training, the RTO is informed and a suitable time arranged for the assessments. The RTO assessor conducts the assessments using the agreed assessment tools as well as ensuring safe workplace and assessment conditions, complying with permit/access and ensuring minimal interruption to mine operations. The RTO awards Statements of Attainment and/or qualifications to the successful employees.

Case Study 3. Partnership for All On-the-Job Training and Assessment by the Mine

A mine has entered into a partnership agreement with an RTO for the RTO to recognise the mine assessments and issue successful employees with Statements of Attainment or qualifications. The agreement between the mine and the RTO clearly sets out the roles and responsibilities of both parties. In particular the mine will use qualified assessors and the RTO will monitor the assessment process and outcomes, a requirement under the AQTF. The communication arrangements between the parties are also documented.

The RTO works with mine personnel to document the assessment process, the range of evidence to be collected and record keeping requirements and to confirm the assessor qualifications. A procedure for validating the assessment strategies and tools is agreed and documented. The RTO visits the mine and validates the assessment process, strategies and tools and recommends any action for improvement.

The mine completes all training and assessments using the agreed assessment strategies and tools and informed the RTO of the outcomes. The RTO awards the Statements of Attainment or qualification to successful applicants. Under the AQTF the RTO annually conducts an audit of the assessment process and tools to ensure validity, reliability, fairness and flexibility and recommends any action to improve consistency.

Case Study 4. An Individual Assessor Conducts the Assessment

A mining company has entered into an agreement with an RTO for the RTO to conduct workplace assessments for employees to gain national qualifications. The mining company has agreed to use the RTO assessor who satisfies the Training Package requirements and guidelines for the relevant assessor competencies.

The RTO assessor was formally a mine operator with some 15 years experience in the industry. The RTO assessor has been assessed and gained Statements of Attainment in the units of competency that they will be assessing.

The assessor conducts the workplace assessments under the national AQTF principles, Training Package requirements and RTO policies, procedures and practices. As well, the RTO assessor meets mine site requirements for ensuring a safe workplace and assessment conditions, complying with permit/access and ensuring minimal interruption to mine operations.

Case Study 5. An Assessor Works with a Technical Expert to Conduct the Assessment

A mining company has its own internal training systems. For quality reasons the company maintains a small group of highly experienced mine operators who are operator/trainers, who have been nominated by the mine manager, and who have undertaken internal training and on-the-job competency assessment using the company resources for several years.

The RTO assessor satisfies the Training Package requirements and guidelines for the relevant assessor competencies. However the assessor does not possess the operational competencies or technical knowledge of mining operations. Together the RTO assessor and the company operator/trainers undertake a review of the company assessments and modify the materials and process to meet the national competency requirements.

They then 'trial' the new assessments with operator/trainers. During the trial they provide the company operators/trainers with Statements of Attainment and/or qualifications for the units of competency which they will be assessing as a technical expert with the RTO. After the 'trial' the RTO assessor and the mining company technical expert (operator/trainer) facilitate on-the-job assessments to meet the company, individual operator and competency/Training Package requirements.

Agreed assessment practices include a requirement that the company technical experts only assess operators who are not on their roster and who have been trained by other operator/trainers.

Case Study 6. An Assessor Works with the Workplace Supervisor in Collecting Evidence for Valid Assessments

A mining company has developed a partnership arrangement with an RTO that includes the workplace supervisor assisting in agreed assessment and reporting practices. A workplace supervisor/team leader from the trainee's roster is required to assist in providing anecdotal and job record evidence of satisfactory performance over a period of time as evidence that will contribute towards the assessment outcomes. The workplace supervisors/team leaders do not hold national assessor competencies in operations but are deemed competent by the RTO. The RTO is also negotiating with the mining company for the workplace supervisor/team leader to gain the relevant assessment units of competency.

The workplace supervisor/team leader is able to provide recent evidence of competence, including pre-operational checks, inspection checklists, safety device testing and operational production reporting documentation for individual operators. The workplace supervisor/team leader is able to provide oral evidence against the competency requirements of communication and problem solving.

This evidence informs the overall assessment and eliminates, in some instances, the necessity for an operator to repeat, by demonstration, competency assessment tasks.

Case Study 7. A Team Assessment

The Training Department in a mining enterprise has mapped the enterprise specific work activities and outcomes for team leaders against the national competency standards for the Certificate IV Extractive Industries qualification. An evidence guide was developed directly linked to workplace performance. This evidence guide specified workplace documentation and site specific activities that could be used as evidence in a portfolio for assessment.

An assessment guide and a mentor (usually a one up manager) are provided to assist a team leader prepare for assessment. Working through the assessment guide the team leader identifies sufficient existing evidence and implements site improvements where required. When sufficient evidence has been established for one or more workplace activities the team leader requests an assessment.

The assessment is undertaken by a qualified assessor, who satisfies the Training Package requirements and guidelines for the relevant assessor competencies, and a senior specialist manager.

Evidence for the assessment is drawn from a range of sources, including the portfolio of evidence and the team leader's team members. If the assessment identifies some areas where further training or development activities should occur, an action plan is drawn up which is agreed to by the team leader and their manager.

Subsequent assessments, and re-assessments if necessary, cover the units of competency required for a Certificate IV. A final review of all completed assessments is conducted by a senior management team and the national training adviser before a qualification is issued. This process requires the candidate for assessment to be actually working on a site and challenges the notion of people learning in a classroom. The assessment process can be resource intensive and some managers are challenged by the need for demonstrated continuous improvement in site performance and providing greater autonomy to supervisors and team leaders.

The enterprise has found advantages in that linking the training and assessment to the work site drives continuous improvement in site performance. The manager is engaged as a stakeholder and the action plans ensure that required training and mentoring actually happens.

Case Study 8. An RPL Process

A mining company, registered as an RTO, wished to use RPL/RCC to recognise employee knowledge and skills against the national competency standards. Many of the employees had been employed at other mines where they had gained licences and participated in training programs and so felt that they need not participate in any further assessment. The mining company put in place a structured process for RPL/RCC, which met the Training Package requirements. The steps in the process included:

Step 1: Assisting the employee to gather all existing documentation of skills

Mining company assessors discussed the process with the employees and identified the units of competency/qualifications they wished to gain. The employees were encouraged to gather all relevant documentation from previous work roles, training and assessment and recognition of current skills that related to the selected units of competency. This included such documents as a CV, any relevant work history, results of previous training, work duties, copies of licences gained, Tool Boxes etc.
This documentation provided the assessor with an excellent snapshot of the competencies the employee should be able to gain.

Step 2: Ensuring the desired competencies are current
The assessor explained to the employees that each mine has different standards and ways of recording training outcomes. Some of the training recognition and licences were more than 5 years old. To ensure their current employer maintained their Duty of Care and the mine standards, there was a need for a formal process to ensure the competencies sought were current, that there was sufficient evidence and that the knowledge and skills met the requirements of the national units of competency and qualifications. Although there was some negativity towards having to be re-assessed in some circumstances, the employees agreed when their work history was to be used as part of the evidence for the assessment.
It was found that the assessment process although rigorous was very quick as the assessor had the work history, recent in-house training outcomes, supervisor comments and workplace records to form part of the evidence.

Step 3: Formalising the outcomes
Many employees were surprised and pleased with the assessment outcomes. Others found that as they had not used the skill for some time they were a little rusty and required some update training. The employer provided the training as part of the agreed arrangement. Employees were awarded Statements of Attainment or qualifications against the national Training Package and were proud of their recognition.

Step 4: Formalising the RPL/RCC process in the work processes
The RPL/RCC activity opened up communication lines and ensured greater consultation with individuals and groups. When looking to gain RPL/RCC it was easy to look at the occupational health and safety issues as well as technical knowledge and skills. The whole RPL/RCC and assessment process became blended into work processes rather than looking at it as a separate event which disrupted the work routine.

The mining company found that there had been a change in the culture in the workplace and productivity improved.

The assessment design will be required to incorporate features which will ensure adequate evidence is gathered for each of the components identified below:

Underpinning knowledge

It will be difficult, and often impossible, to gather sufficient evidence of the required essential knowledge by means of direct observation alone. It will be necessary to include some form of questioning, which may, or may not, be concurrent with direct observation. Questioning should not rely on written communication to any greater degree than is otherwise required by the unit of competency. The use of diagrams and sketching, demonstration and description along with third party evidence should be allowable within the assessment of essential knowledge.

Routine skills
Sufficient evidence of competent performance of routine skills may be obtained by direct observation. However, observation on more than one occasion would be required if direct observation is the sole evidence gathering method used as the observation needs to include performance of the skills under a range of all normal and some abnormal conditions. As multiple direct observations are often impractical, other evidence gathering tools (such as supervisor and other third party reports) should be included to gather evidence of consistent performance under a range of conditions. The emphasis is on evidence of competent performance rather than on direct observation, and this may come from drill logs, work colleagues and other sources.

Refer to Contacts or skillsdmc@skillsdmc.com.au for detail of industry assessment tools which may be used either directly or as models to develop customised tools. Workplaces or RTOs may also wish to develop their own specific assessment tools to complement the national tools or as an alternative to the national tools.

Non-routine skills
By their nature the non-routine skills are unlikely to be able to be assessed adequately by direct observation. These skills include problem solving and emergency response and it would be inappropriate to set up a situation, or to wait for a situation to occur, which would allow for direct observation.

In most cases, the use of third party evidence, such as from supervisors and other work colleagues will be the most practical form of evidence for non-routine skills. This implies that a person will not be deemed competent in these non-routine skills until they have had a range of experience which will allow them to have accumulated evidence of their ability to handle non-routine situations.

In some situations, such as emergency response, some appropriate form of simulation (e.g. a fire drill) may be the best form of gathering sufficient, appropriate evidence of competence. Case studies may be appropriate in some circumstances to increase the evidence available. Simulation/case studies may also be used for safety and cost effectiveness reasons.

Where the appropriate choice between these is restricted, this will be stated in the unit of competency. Generally, where:

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- physical skills are significant (e.g. emergency procedures), then a simulation may be the preferred method (this may require coordination with a regular 'safety drill')
- cognitive skills are significant (e.g. problem solving) then a case study may be the preferred method

It is recommended that at least two different methods of gathering evidence be used in any assessment. Methods of gathering evidence for an assessment may include:

- direct observation
- demonstration on the job
- third party reports e.g. peer/team leader/3600 review
- questioning – written, verbal
- workplace documents – logs, reports etc
- scenarios/case studies
- projects
- simulation, routine drills
- interview

The ability to demonstrate performance at the level of a unit of competency as a whole is the key criteria in any assessment process.

Requirements for Candidates

Individuals being assessed under statutory licensing and industry registration systems must comply with training and experience requirements additional to the minimum requirements identified in this Training Package.

Requirements for RTOs

Resources and Infrastructure industry members have identified their expectations in relation to the roles and responsibilities of RTOs delivering and assessing against the units of competency and the qualifications in this package. The RTOs are expected to:

- ensure the quality of the delivery and assessment
- ensure trainers have relevant industry experience and maintain industry currency
- ensure these Assessment Guidelines are used as the basis for assessing against the units of competency and qualifications in this Training Package
- provide comprehensive and accessible advice to employers and learners on their responsibilities and rights
- ensure assessors have the appropriate qualifications and experience as set out in these Assessment Guidelines
- ensure appropriate processes for industry involvement in consultation and validation of assessment

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In addition to requirements specified in the Essential Standards for Registration, units of competency from the Resources and Infrastructure Training Package should, wherever possible, be assessed in a work environment. Where this is not possible, assessment may occur in a simulated environment.

A simulated work environment may be required for the following reasons:

- the workplace may not use the relevant skill, equipment or process
- conducting assessments may be disruptive or interfere with work requirements, for example, there may be ethical, privacy or confidentiality issues to consider
- it may not be appropriate to apply the skills in the workplace due to potential risks such as those to health and safety or equipment being damaged

In order to be a valid and reliable venue from which to assess a competency, the simulation must closely resemble a real work environment; the range of activities that occur must reflect real work experience.

When a simulated work environment is being set up, it is crucial that the assessor is thoroughly familiar with the competency standard being assessed, as well as experienced in the current circumstances of the work. The assessor will need to consider whether a simulation or an assessment environment has been adequately set up and might ask the following questions. Are there opportunities to:

- test the full range of equipment?
- use up-to-date equipment and software?
- reflect times and deadlines?
- show the complexity of dealing with multiple tasks?
- involve prioritising among competing tasks?
- deal with customers, including difficult ones?
- work with others in a team?
- communicate with diverse groups?
- find, discuss and test solutions to problems?
- explore Occupational Health and Safety issues?
- answer practically oriented, applied knowledge questions?
- show the level of written and verbal expression sufficient for, but not exceeding, the work requirements?

Assessment of competency requires the collection of evidence and this should be conducted over a period of time (at the workplace and/or a simulated work environment) to ensure that the demonstration of competency is valid and reliable. The individual being assessed should be aware that collection of evidence needs to be ongoing and they, therefore, need to be part of the planning, conduct and review of the assessment process.

Supporting Integrated Training Delivery and Assessment

As a general principle, the Resources and Infrastructure industries support the integration of units of competency for assessment, where practical. An integrated approach reflects real work practices in that it brings together a number of units of competency. For example, an employee working on a work site would complete a number of interrelated functions and Occupational, Health and Safety tasks at the same time, not simply one task at a time. An integrated assessment activity would be designed to collect evidence for a number of units together rather than designing one assessment activity for each individual element of the relevant performance criteria.

Where both training and assessment are required, industry supports an approach which provides for off-the-job training combined with assessment of the application of skills and knowledge in a real work situation.

The Resources and Infrastructure Training Package defines off-the-job assessment as that which occurs away from the normal operation of the business including, for example, assessment which may occur in the workplace but not under normal industry working conditions. The industry considers it important for candidates to have the opportunity to develop competency in structured learning programs, which includes assessing in the workplace whenever possible.

The Resources and Infrastructure Training Package defines on-the-job assessment as that assessment which occurs in the workplace as part of the normal operation of the business.

Where an integrated competency assessment approach is implemented it is expected that several integrated competency assessments would be necessary to cover the breadth and complexity of the qualification, from Certificate I to Advanced Diploma.

The context of the assessment, the role of the candidate and the complexity of the task will influence how many units of competency are to be integrated.

Ways of Minimising the Cost of the Assessment Process

RTOs should, where possible, find ways to minimise the cost and inconvenience caused by assessment activities. For example:

- check candidate's readiness for assessment before proceeding
- use performance of actual work activities as sources of evidence
- arrange for demonstrations of competence in the most appropriate place
- make the assessment only as precise and/or complex as necessary at the candidate's level of qualification and occupational area
- separate evidence gathering from judgement, and assign evidence gathering to less expensive personnel (including candidates themselves)
- design assessment events so that the candidate can have prior knowledge of the requirements and can be actively involved in evidence gathering
- use holistic assessment scenarios which build on secondary evidence such as a record book, trainer's report or workplace report
- limit the number of times a single competency or similar competencies are assessed
- monitor progress as part of normal responsibilities, rather than relying on assessment events
- provide self appraisal tools for candidates
- assess more than one competency at a time

Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2007 *Essential Standards for Registration*, Standard 1. SkillsDMC strongly recommends the implementation of a systems approach in implementing training and assessment. This will incorporate an enterprise and individual training needs analysis, training and assessment (as required), issuance of accreditation as applicable and support to fulfil relevant licensing requirements, evaluation and review.

The Skills Maximiser and Future Workforce Planner have been developed in consultation with industry to support the systems approach to training. Contact skillsdmc@skillsdmc.com.au for further information. RTOs not utilising the tools available through the Industry Skills Council are advised to ensure that their own planning tools reflect, at the least, an equivalent degree of planning and recognition of the application of competence as it is demonstrated in the workplace.

Assessment of competency will be in accordance with the relevant industry sector and state legislation applying in each State and Territory. This will include:

- Duty of care requirements
- Occupational Health and Safety Acts and Regulations
- Environmental Protection Acts and Regulations
- Heritage Protection Acts and Regulations
- Petroleum Acts and Regulations

In certain circumstances other legislation/regulations will also be relevant including:

- Mining Acts and Regulations
- Submerged Lands Acts and Regulations
- Dangerous Goods Regulations
- Water Drilling Licensing requirements

Where units of competency have been imported from another Training Package (i.e. the unit code does NOT have the 'RII' prefix), the RTO responsible for the assessment should check the assessment guidelines covering those units of competency in their source Training Package.

Assessment considerations

Some sections of the industry operate in remote areas which are not conducive to multiple visits from assessors. The competency however requires a consistent performance which may not be assessable by a single site visit. The assessment design may therefore need to include other evidence such as:

- third party report
- range of documentation completed by the candidate (such as drill logs)
- statement of curricular activities verified by the supervisor
- evidence of training undertaken and course outline details

which can be collected/viewed by the assessor to aid in the judgement of consistent performance to the required standard.

Assessing using a formal assessment team in the one place at the one time is often not practical and so the assessor will frequently need to rely on evidence provided by supervisors, other work colleagues, written records and documentation to assist in making the judgement of competency.

Interviews, questioning of the candidate and formal answers to written or oral tests customised and documented by the assessor or RTO may be gathered as evidence for judging competency subject to audit by the RTO issuing the qualification or statement of attainment. Units of competency have generally been written with a focus on a workplace assessment environment.

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Mining Regulatory Authority Website details

NSW Department of Department of Minerals and Petroleum www.minerals.nsw.gov.au

Queensland Department of Environment and Resource Management
http://www.derm.qld.gov.au/

Tasmanian Department of Infrastructure, Energy and Resources, www.mrt.tas.gov.au

Victorian Department of Primary Industries www.dpi.vic.gov.au

Northern Territory Department of Resources – Minerals and Energy
http://www.nt.gov.au/d/Minerals_Energy/

Western Australian Department of Mines and Petroleum http://www.dmp.wa.gov.au/

South Australian Department of Primary Industries and Resources www.pir.sa.gov.au

Waterwell Regulatory Authority details

Australian Drilling Industry Training Committee Ltd www.aditc.com.au (examining body)

NSW Office of Water http://www.water.nsw.gov.au/Home/default.aspx

NT Department of Natural Resources, Environment, the Arts and Sport www.nreta.nt.gov.au

QLD Department of Environment and Resource Management: http://www.derm.qld.gov.au/

SA Department for Water http://www.waterforgood.sa.gov.au/

TAS Department of Primary Industries, Parks, Water and Environment www.dpiw.tas.gov.au

VIC Department of Sustainability and Environment www.dse.vic.gov.au

Australian Drilling Industry Association www.adia.com.au

Energy Regulatory Authority details (relevant for Coal Seam Gas drilling and Oil/Gas drilling)

NSW Department of Minerals and Petroleum www.minerals.nsw.gov.au

NSW Office of Water http://www.water.nsw.gov.au/Home/default.aspx

National Offshore Petroleum Standards Authority www.nopsa.gov.au

QLD Department of Environment and Resource Management: http://www.derm.qld.gov.au/

SA Department Primary Industries and Resources www.pir.sa.gov.au

VIC Department of Primary Industries - Energy www.dpi.vic.gov.au

WA Department of Mines and Petroleum http://www.dmp.wa.gov.au/

Department of Resources - Minerals and Energy www.minerals.nt.gov.au

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Pathways

The competencies in this Training Package may be attained in a number of ways including through:
- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two as illustrated in the following diagram.

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

Assessment, by any pathway, must comply with the assessment requirements set out in the Assessment Guidelines of the Training Package, and the AQTF, 2 where relevant, the Australian Qualifications Framework.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

Credit Pathways

Credit is the value assigned for the recognition of equivalence in content between different types of learning and/or qualifications which reduces the volume of learning required to achieve a qualification.

Credit arrangements must be offered by all RTOs that offer Training Package qualifications. Each RTO must have a systematic institutional approach with clear, accessible and transparent policies and procedures.

competency in this Training Package, and should be recognised regardless of how, when or where they were acquired, provided that the learning is relevant to the unit of competency outcomes.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.

The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.

The recognition of prior learning pathway is appropriate for candidates who have previously attained skills and knowledge and who, when enrolling in qualifications, seek to shorten the duration of their training and either continue or commence working. This may include the following groups of people:

existing workers;

individuals with overseas qualifications;

recent migrants with established work histories;

people returning to the workplace; and

people with disabilities or injuries requiring a change in career.

As with all assessment, RPL assessment should be undertaken by academic or teaching staff with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures.

Assessment methods used for RPL should provide a range of ways for individuals to demonstrate that they have met the required outcomes and can be granted credit. These might include:

questioning (oral or written)

consideration of a portfolio and review of contents

consideration of third party reports and/or other documentation such as documentation such as articles, reports, project material, papers, testimonials or other products prepared by the RPL applicant that relate to the learning outcomes of the relevant qualification component

mapping of learning outcomes from prior formal or non-formal learning to the relevant qualification components

observation of performance, and

participation in structured assessment activities the individual would normally be required to undertake if they were enrolled in the qualification component/s.

In a Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of the AQTF must be met.

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

authentic (the candidate"s own work);

valid (directly related to the current version of the relevant endorsed unit of competency);

reliable (shows that the candidate consistently meets the endorsed unit of competency);

current (reflects the candidate"s current capacity to perform the aspect of the work covered by the endorsed unit of competency); and

sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

Credit Transfer

Credit transfer is a process which provides learners with agreed and consistent credit outcomes based on equivalences in content between matched qualifications.

This process involves education institutions:

mapping, comparing and evaluating the extent to which the defined learning outcomes and assessment requirements of the individual components of one qualification are equivalent to the learning outcomes and assessment requirements of the individual components of another qualification

making an educational judgment of the credit outcomes to be assigned between the matched components of the two qualifications

setting out the agreed credit outcomes in a documented arrangement or agreement, and publicising the arrangement/agreement and credit available.

Combination of Pathways

Credit may be awarded on the basis of a combination of credit transfer plus an individual RPL assessment for additional learning. Once credit has been awarded on the basis of RPL, subsequent credit transfer based on these learning outcomes should not include revisiting the RPL assessment but should be based on credit transfer or articulation or other arrangements between providers.

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

Assessor Requirements

This section identifies the specific requirements on the vocational competence and experience for assessors, to ensure that they meet the needs of industry and their obligations under AQTF, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Assessor Competencies

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 *Essential Standards for Registration* follows:

1.4		Training and assessment is delivered by trainers and assessors who:
	a)	have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
	b)	have the relevant vocational competencies at least to the level being delivered or assessed, and
	c)	can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and
	d)	continue developing their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence. * See AQTF 2010 *Users" Guide to the Essential Standards for Registration*

		Appendix 2

Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgments about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these relate to the current version of the relevant unit of competency. The current unit of competency can be checked on the National Register <www.ntis.gov.au>.

Developing Assessment Tools

When developing assessment tools, assessors must ensure that they:

• are benchmarked against the relevant unit or units of competency

• are reviewed as part of the continuous improvement of assessment strategies as required under Standard 1 of the AQTF 2007

• meet the assessment requirements expressed in Standard 1 of the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

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

Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations.

Conducting Assessment

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

Mandatory Assessment Requirements

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

1.5		Assessment, including Recognition of Prior Learning:
	a)	meets the requirements of the relevant Training Package or accredited course,
	b)	is conducted in accordance with the principles of assessment and the rules of evidence, and
	c)	meets workplace and, where relevant, regulatory requirements.
	d)	is systematically validated.

Assessment of Employability Skills

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

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

• reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit

• analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome

• designing training and assessment to address Employability Skills   requirements.

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

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

For more information on Employability Skills in SkillsDMC (Resources and Infrastructure Industry Skills Council) Training Packages go to the SkillsDMC (Resources and Infrastructure Industry Skills Council) website at http://www.skillsdmc.com.au.

Employability Skills are reported on each qualification using the following statement on the qualification testamur: "A summary of the Employability Skills developed through this qualification can be downloaded from http://employabilityskills.training.com.au "

Access and Equity

An individual"s access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package: training and assessment must be bias-free.

Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia"s VET clients and Australia"s current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia"s economic development and social and cultural life.

Reasonable adjustments

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

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

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

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

The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. *Go to* http://www.deewr.gov.au/tpdh/Pages/home.aspx.

Competency Standards

What is competency?

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

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

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

Contextualisation of Units of Competency by RTOs

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

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

• must not remove or add to the number and content of elements and performance criteria
• may add specific industry terminology to performance criteria where this does not distort or narrow the competency outcomes
• may make amendments and additions to the range statement as long as such changes do not diminish the breadth of application of the competency and reduce its portability, and/or
• may add detail to the evidence guide in areas such as the critical aspects of evidence or resources and infrastructure required where these expand the breadth of the competency but do not limit its use.

Components of Units of Competency

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

Unit Title

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

Unit Descriptor

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

Employability Skills statement

A standard Employability Skills statement appears in each unit of competency. This statement directs trainers and assessors to consider the information contained in the Employability Skills Summary in which the unit of competency is packaged.

Prerequisite Units (optional)

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

Application of the Unit

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

Competency Field (Optional)

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

Sector (optional)

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

Elements of Competency

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

Performance Criteria

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

Required Skills and Knowledge

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

Range Statement

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

Evidence Guide

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

• conditions under which competency must be assessed including variables such as the assessment environment or necessary equipment

• relationships with the assessment of any other units of competency

• suitable methodologies for conducting assessment including the potential for workplace simulation

• resource implications, for example access to particular equipment, infrastructure or situations

• how consistency in performance can be assessed over time, various contexts and with a range of evidence, and expectations at the AQF qualification level involved

Employability Skills in units of competency

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

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

How Employability Skills relate to the Key Competencies

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

Employability Skills	**Mayer Key Competencies**
Communication	Communicating ideas and information
Teamwork	Working with others and in teams
Problem solving	Solving problems Using mathematical ideas and techniques
Initiative and enterprise	
Planning and organising	Collecting, analysing and organising information

	Planning and organising activities
Self-management	
Learning	
Technology	Using technology

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

Explicitly embedding Employability Skills in units of competency

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

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

• embedded in units of competency as part of the other performance requirements that make up the competency as a whole

• explicitly described within units of competency to enable Training Packages users to identify accurately the performance requirements of each unit with regards to Employability Skills.

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

The following table contains examples of embedded Employability Skills for each component of a unit of competency. Please note that in the examples below the bracketed skills are provided only for clarification and will not be present in units of competency within this Training Package.

Example Employability Skills unit

Unit component	**Example of embedded Employability Skill**
Unit Title	RIIMEX201A Suppress dust in open cut environment
Unit Descriptor	This unit covers suppressing of dust in an open cut environment in the coal and metalliferous mining and extractive industries. It includes applying dust suppressant and minimising dust creation
Element	1 Apply dust suppressant
Performance Criteria	1 Access, interpret and apply *compliance documentation* relevant to suppressing of dust in an open cut environment 2 Receive, interpret and clarify shift changeover

	details 3 Select appropriate ***dust suppression*** method according to site conditions 4 Distribute dust suppressant in appropriate pattern according to road type 5 Adjust dust suppression activities according to schedule and weather conditions 6 Identify, address and report ***environmental issues*** 7 Communicate with other personnel using approved communication methods 8 Adhere to emergency procedures to ensure safety of personnel, plant and equipment
Range Statement	**Relevant compliance documentation** may include: • legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Required Skills and Knowledge	**Required Skills** Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to suppress dust in open cut environment: • apply legislative, organisation and site requirements and procedures • make decisions • direct and signal • clean equipment • maintain equipment • operate equipment • follow instructions • identify hazards

	• interpret plans, reports, maps, specifications • maintain records • follow safe work practices • troubleshoot • wear protective equipment **Required Knowledge** Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to suppress dust in open cut environment: • emergency procedures • environmental aspects • equipment processes, technical capability and limitations
	• equipment safety requirements • geological and technical data (rock formation) • maintenance procedures • mine operation system • OHS procedures • plan terminology • site procedures (operational and maintenance) • site safety requirements • sprinkler operation • water truck operation
Evidence Guide	**Critical aspects for assessment and evidence required to demonstrate competency in this unit** The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for suppressing of dust in open cut environment • implementation of requirements, procedures and techniques for the safe, effective and efficient

	completion of the suppressing of dust in open cut environment • working with others to suppress dust in open cut environment that meets all of the required outcomes • consistent timely suppressing of dust in open cut environment that safely, effectively and efficiently meets the required outcomes

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