



Australian Government

Department of Education, Employment and Workplace Relations

NWP07 Water Training Package

Release: 3.0

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Modification History

Version modification history

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

Version	Release date	Comments
3	30 April 2012	<p>The following 3 new units will be included in the Certificate II and III in Water Operations to meet specific standards gaps:</p> <p>NWP279 Demonstrate knowledge of the risk management principles of the Australian drinking water guidelines NWP369 Monitor, operate and control lagoon processes NWP370 Perform water industry calculations</p> <p>The following new units will be included as elective in the existing NWP50107 Diploma of Water Operations:</p> <p>NWP552 Apply mathematical solutions to engineering problems NWP553 Apply scientific principles to engineering problems NWP554 Apply surveying computations to civil engineering projects NWP555 Apply construction principles to civil engineering works NWP556 Apply environmental solutions to engineering projects NWP557 Apply surveying for civil engineering projects NWP558 Use computer aided drafting systems NWP559 Apply principles of mechanics to engineering problems NWP560 Apply principles of strength of materials to engineering problems</p> <p>The following units will be included in the new NWP60112 Advanced Diploma of Water Engineering Design:</p> <p>NWP601 Design a water reticulation scheme NWP602 Design gravity sewerage systems NWP603 Design pressure sewerage systems NWP604 Manage the construction of pipeline systems NWP605 Plan sewerage reticulation systems NWP606 Plan water reticulation systems NWP607 Manage drinking water quality information NWP608 Design sewerage pumping station systems NWP609 Manage assets in a water utility NWP610 Apply statistical methods for quality control and reliability</p> <p>3 updated imported units of competency:</p>

Version	Release date	Comments
		BSBWOR301B Organise personal work priorities and development Organise personal work priorities and development BSBWOR404B Develop work priorities AHCLPW306A Undertake sampling and testing of water
2	23 December 2010	<p>NWP10107 Certificate I in Water Sustainability is updated to NWP10110 Certificate I in Water Sustainability. Review of the Certificate I in Water Sustainability resulting in minor changes to requirements for assessment appropriate for delivery in schools. New versions of core and elective units: NWP101B Investigate sustainable water cycle management, NWP102B Design a basic water system model, NWP103B Demonstrate care and safe practices, NWP104B Sample and test water sources and quality and NWP105B Draw and use simple maps, plans and drawings. Unless specified, following changes apply only to elective units.</p> <p>Two new units have been developed for water meter installation in the Certificate III in Water Operations: NWP302A Install meters for non-potable, non-urban water supplies, and NWP304A Maintain meters for non-potable, non-urban water supplies.</p> <p>NWP325B Conduct and report on dam safety inspection and basic monitoring replaced by three new units for dam safety monitoring in the Certificate III in Water Operations; NWP326A Conduct and report dam safety instrumentation monitoring, NWP327A Inspect and report on concrete dam safety and NWP328A Inspect and report on embankment dams safety.</p> <p>The units NWP334B, NWP335B, NWP336B and NWP337B have been combined in a new unit NWP303A Monitor and control maintenance of water and wastewater system assets.</p> <p>Certificate III in Water Operations includes two updated versions of imported core unit of competency: BSBWOR301A Organise personal work priorities and development, and BSBOHS303B Contribute to OHS hazard identification and risk assessment.</p> <p>New unit for hydrography in the Certificate IV in Water Operations:</p> <p>NWP420A Install, operate and maintain hydrologic instruments and equipment</p> <p>NWP438A Measure and process hydrometric stream discharge data in flood conditions replaced by NWP421A Collect, measure and process hydrologic stream discharge</p>

Version	Release date	Comments
		<p>gauging</p> <p>NWP437A Analyse data and produce hydrometric reports incorporated into NWP421A.</p> <p>NWP426B Coordinate and monitor the operation of potable water systems replaced by NWP403A Investigate and plan the optimisation of potable water distribution systems.</p> <p>NWP410B Coordinate and monitor asset constructions and maintenance has an updated version: NWP410C Coordinate and monitor asset construction and maintenance.</p> <p>Replacement of two large units in water and wastewater treatment in Certificate IV in Water Operations:</p> <p>NWP435B Coordinate and monitor the optimisation of water treatment processes</p> <p>NWP436B Coordinate and monitor the optimisation of wastewater treatment processes with smaller units to allow greater flexibility:</p> <p>NWP404A Apply principles of chemistry to water systems and processes</p> <p>NWP406A Investigate and plan the optimisation of granular media filtration processes</p> <p>NWP407A Investigate and plan the optimisation of dissolved air flotation processes</p> <p>NWP408A Investigate and plan the optimisation of sedimentation and clarification processes</p> <p>NWP409A Investigate and plan to optimise the operation of chemical addition processes</p> <p>NWP411A Select treatment requirements for waterborne microorganisms</p> <p>NWP412A Investigate and plan the optimisation of activated sludge processes</p> <p>NWP413A Investigate and plan the optimisation of anaerobic treatment processes</p> <p>NWP414A Select strategies to control microbial impact on wastewater treatment processes</p> <p>New elective unit: NWP432A Contribute to the continuous improvement of quality systems.</p> <p>Additional imported units have been added to the Certificate IV in Water Operations:</p> <p>RTD3507A Undertake sampling and testing of water</p> <p>MEM30027A Prepare basic programs for programmable logic controllers</p> <p>MSACMT461A Facilitate SCADA systems in a manufacturing team or work area</p> <p>NWP219A Work safely in confined spaces has been included as an elective at Certificate IV in Water Operations.</p>

Version	Release date	Comments
		<p>Units for hydrography have been added to the Diploma of Water Operations:</p> <p>NWP504A Collect and manage hydrometric station survey data</p> <p>NWP508A Apply principles of hydraulics to pipe and channel flows</p> <p>NWP509A Collect, verify and report hydrometric time series data</p> <p>NWP510A Develop and maintain ratings</p> <p>Imported units have been updated to new codes in reviewed parent Training Package. These include core units in Certificate III and Certificate IV.</p> <p>This version completes the addition of Greenskills to selected units of competency.</p>
1.1	July 2010	ISC Upgrade to incorporate wording for flexible packaging policy into 20 High Use qualifications. NWP20107 and NWP30107 slight changes to cover accredited courses as source for imported electives.
1	12 March 2008	NWP10101 has been replaced by NWP10107 Certificate I in Water Sustainability designed to be delivered in schools. A new qualification, NWP70107 Vocational Graduate Certificate in Water Industry Leadership has been added. The requirement in NWP01 that certificate qualifications had prerequisites of the preceding qualification has been removed.
1	20 May 2002	Primary release, based on revision of UTW98 Water Industry Training Package.

Imprint

NWP07 Water Training Package

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Disclaimer

This work is the result of wide consultations with Australian industry participants. It is a collaborative view and may omit factors which could be pertinent in particular cases.

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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 3 – 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 Government Skills Australia www.governmentskills.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 Package's national code (which remains the same during its period of endorsement).

Explanation of the review date

The review date (shown on the title page and in the footer of each page) indicates when the Training Package is expected to be reviewed 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.

Version modification history

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3	30 April 2012	<p>The following 3 new units will be included in the Certificate II and III in Water Operations to meet specific standards gaps:</p> <p>NWP279 Demonstrate knowledge of the risk management principles of the Australian drinking water guidelines</p> <p>NWP369 Monitor, operate and control lagoon processes</p> <p>NWP370 Perform water industry calculations</p> <p>The following new units will be included as elective in the existing NWP50107 Diploma of Water Operations:</p> <p>NWP552 Apply mathematical solutions to engineering problems</p> <p>NWP553 Apply scientific principles to engineering problems</p> <p>NWP554 Apply surveying computations to civil engineering projects</p> <p>NWP555 Apply construction principles to civil engineering works</p> <p>NWP556 Apply environmental solutions to engineering projects</p> <p>NWP557 Apply surveying for civil engineering projects</p> <p>NWP558 Use computer aided drafting systems</p> <p>NWP559 Apply principles of mechanics to engineering problems</p> <p>NWP560 Apply principles of strength of materials to engineering problems</p> <p>The following units will be included in the new NWP60112 Advanced Diploma of Water Engineering Design:</p> <p>NWP601 Design a water reticulation scheme</p> <p>NWP602 Design gravity sewerage systems</p> <p>NWP603 Design pressure sewerage systems</p> <p>NWP604 Manage the construction of pipeline systems</p> <p>NWP605 Plan sewerage reticulation systems</p> <p>NWP606 Plan water reticulation systems</p> <p>NWP607 Manage drinking water quality information</p> <p>NWP608 Design sewerage pumping station systems</p> <p>NWP609 Manage assets in a water utility</p>

		<p>NWP610 Apply statistical methods for quality control and reliability 3 updated imported units of competency: BSBWOR301B Organise personal work priorities and development Organise personal work priorities and development BSBWOR404B Develop work priorities AHCLPW306A Undertake sampling and testing of water</p>
2	23 December 2010	<p>NWP10107 Certificate I in Water Sustainability is updated to NWP10110 Certificate I in Water Sustainability. Review of the Certificate I in Water Sustainability resulting in minor changes to requirements for assessment appropriate for delivery in schools. New versions of core and elective units: NWP101B Investigate sustainable water cycle management, NWP102B Design a basic water system model, NWP103B Demonstrate care and safe practices, NWP104B Sample and test water sources and quality and NWP105B Draw and use simple maps, plans and drawings. Unless specified, following changes apply only to elective units. Two new units have been developed for water meter installation in the Certificate III in Water Operations: NWP302A Install meters for non-potable, non-urban water supplies, and NWP304A Maintain meters for non-potable, non-urban water supplies. NWP325B Conduct and report on dam safety inspection and basic monitoring replaced by three new units for dam safety monitoring in the Certificate III in Water Operations; NWP326A Conduct and report dam safety instrumentation monitoring, NWP327A Inspect and report on concrete dam safety and NWP328A Inspect and report on embankment dams safety. The units NWP334B, NWP335B, NWP336B and NWP337B have been combined in a new unit NWP303A Monitor and control maintenance of water and wastewater system assets. Certificate III in Water Operations includes two updated versions of imported core unit of competency: BSBWOR301A Organise personal work priorities and development, and BSBOHS303B Contribute to OHS hazard identification and risk assessment. New unit for hydrography in the Certificate IV in Water Operations: NWP420A Install, operate and maintain hydrologic instruments and equipment NWP438A Measure and process hydrometric stream discharge data in flood conditions replaced by NWP421A Collect, measure and process hydrologic stream discharge gauging NWP437A Analyse data and produce hydrometric reports incorporated into NWP421A. NWP426B Coordinate and monitor the operation of potable water systems replaced by NWP403A Investigate and plan the optimisation of potable water distribution systems. NWP410B Coordinate and monitor asset constructions and maintenance has an updated version: NWP410C Coordinate and monitor asset construction and maintenance.</p>

Replacement of two large units in water and wastewater treatment in Certificate IV in Water Operations:

NWP435B Coordinate and monitor the optimisation of water treatment processes

NWP436B Coordinate and monitor the optimisation of wastewater treatment processes

with smaller units to allow greater flexibility:

NWP404A Apply principles of chemistry to water systems and processes

NWP406A Investigate and plan the optimisation of granular media filtration processes

NWP407A Investigate and plan the optimisation of dissolved air flotation processes

NWP408A Investigate and plan the optimisation of sedimentation and clarification processes

NWP409A Investigate and plan to optimise the operation of chemical addition processes

NWP411A Select treatment requirements for waterborne microorganisms

NWP412A Investigate and plan the optimisation of activated sludge processes

NWP413A Investigate and plan the optimisation of anaerobic treatment processes

NWP414A Select strategies to control microbial impact on wastewater treatment processes

New elective unit: NWP432A Contribute to the continuous improvement of quality systems.

Additional imported units have been added to the Certificate IV in Water Operations:

RTD3507A Undertake sampling and testing of water

MEM30027A Prepare basic programs for programmable logic controllers

MSACMT461A Facilitate SCADA systems in a manufacturing team or work area

NWP219A Work safely in confined spaces has been included as an elective at Certificate IV in Water Operations.

Units for hydrography have been added to the Diploma of Water Operations:

NWP504A Collect and manage hydrometric station survey data

NWP508A Apply principles of hydraulics to pipe and channel flows

NWP509A Collect, verify and report hydrometric time series data

NWP510A Develop and maintain ratings

Imported units have been updated to new codes in reviewed parent Training Package. These include core units in Certificate III and Certificate IV.

This version completes the addition of Greenskills to selected units of competency.

1.1	July 2010	ISC Upgrade to incorporate wording for flexible packaging policy into 20 High Use qualifications. NWP20107 and NWP30107 slight changes to cover accredited courses as source for imported electives.
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- 1 12 March 2008 NWP10101 has been replaced by NWP10107 Certificate I in Water Sustainability designed to be delivered in schools.
A new qualification, NWP70107 Vocational Graduate Certificate in Water Industry Leadership has been added.
The requirement in NWP01 that certificate qualifications had prerequisites of the preceding qualification has been removed.

Summary of AQF qualifications in NWP07 Water Training Package

Code	Title
NWP10110	Certificate I in Water Sustainability
NWP20107	Certificate II in Water Operations
NWP30107	Certificate III in Water Operations
NWP40107	Certificate IV in Water Operations
NWP50107	Diploma of Water Operations
NWP60112	Advanced Diploma of Water Engineering Design
NWP70107	Vocational Graduate Certificate of Water Industry Leadership

Summary of Units of Competency in NWP07 Water Training Package and their Pre-Requisite Requirements

NOTE: There are no prerequisite requirements for any units of competency contained in the NWP07 training package.

Code	Title
NWP101B	Investigate sustainable water cycle management
NWP102B	Design a basic water system model
NWP103B	Demonstrate care and safe practices
NWP104B	Sample and test water sources and quality
NWP105B	Draw and use simple maps, plans and drawings
NWP201B	Follow defined OHS procedures and regulatory requirements
NWP202B	Apply environmental and licensing procedures
NWP203B	Plan and organise personal work activities
NWP207A	Work effectively in the water industry

NWP208A	Perform basic wastewater tests
NWP209B	Use maps, plans, drawings and specifications
NWP210B	Perform basic water quality tests
NWP211B	Use computerised systems
NWP213B	Monitor and operate irrigation and domestic delivery systems
NWP215B	Install and replace basic volumetric metering equipment
NWP216B	Install basic metering equipment and flow control devices for irrigation systems
NWP218B	Perform and record sampling
NWP219A	Work safely in confined spaces
NWP220B	Collect and control drainage run-off
NWP221A	Operate basic flow control and regulating devices in water or wastewater treatment network systems
NWP222A	Operate basic flow control and regulating devices in irrigation systems
NWP223A	Install basic metering equipment, flow control and regulating devices
NWP226B	Prepare and restore work site
NWP227B	Control vegetation on a site
NWP229B	Repair minor structures
NWP230B	Maintain and repair irrigation channels and drains
NWP231B	Maintain and repair drainage assets
NWP232B	Operate water reticulation and distribution system
NWP233B	Construct and install water distribution assets
NWP234B	Locate, identify and protect utility services
NWP239B	Identify and apply water entitlements and delivery processes
NWP240B	Inspect and report catchment and surrounding areas
NWP241B	Inspect and maintain basic dams and water storages
NWP242B	Monitor and report water extraction

NWP243B	Operate bore fields and groundwater source systems
NWP244B	Maintain and repair bulkwater assets
NWP245B	Maintain tanks and water storage assets
NWP246B	Inspect and maintain public facilities
NWP247A	Maintain catchment and surrounding areas
NWP250B	Construct and install wastewater pipelines
NWP251B	Construct open earthen channels or drains
NWP252B	Construct and install irrigation delivery and stormwater drainage assets
NWP253B	Install and repair water services
NWP254B	Repair or insert water distribution assets
NWP255B	Maintain and repair wastewater collection assets
NWP256B	Monitor and report water distribution systems
NWP257B	Maintain and repair wastewater collection systems
NWP258B	Monitor and operate bulkwater transfer systems
NWP259B	Operate, monitor and maintain pump stations
NWP260A	Monitor and report water treatment processes
NWP261A	Operate and maintain water treatment plant and equipment
NWP262A	Monitor and report wastewater treatment processes
NWP263A	Operate and maintain wastewater treatment plant and equipment
NWP264B	Monitor, operate and report wastewater pre-treatment processes
NWP268B	Monitor, operate and report chlorine disinfection systems
NWP270B	Monitor, operate and report basic anaerobic processes
NWP271B	Monitor, operate and report sedimentation processes
NWP272B	Monitor, operate and report wastewater lagoon processes
NWP273A	Monitor, operate and report ultraviolet irradiation disinfection systems
NWP274A	Monitor, operate and report ozone treatment systems

NWP275A	Monitor, operate and report chlorine dioxide systems
NWP276A	Monitor, operate and report fluoridation systems
NWP277A	Work safely with liquefied chlorine gas
NWP278A	Perform blue green algae sampling
NWP279	Demonstrate knowledge of the risk management principles of the Australian drinking water guidelines
NWP300B	Provide and promote customer service
NWP301B	Implement, monitor and coordinate environmental procedures
NWP302A	Install meters for non-potable, non-urban water supplies
NWP303A	Monitor and control maintenance of water and wastewater system assets
NWP304A	Maintain meter for non-potable, non-urban water supplies
NWP305B	Monitor and conduct maintenance of complex flow-control and metering devices
NWP308B	Test and commission wastewater collection systems
NWP309B	Test and commission water distribution systems
NWP310B	Monitor and operate water distribution systems
NWP311B	Monitor and operate wastewater collection and transfer systems
NWP315B	Investigate and report breaches of water industry legislation
NWP316B	Monitor and schedule water deliveries
NWP317B	Control water quality in distribution systems
NWP318A	Monitor and operate gated spillways
NWP319A	Monitor and control dam operations
NWP320B	Monitor and implement dam maintenance
NWP321B	Inspect and operate groundwater regulation
NWP322B	Inspect and operate surface water systems
NWP323B	Monitor and coordinate catchment operations
NWP324B	Inspect and report river regulation operations

NWP326A	Conduct and report dam safety instrumentation monitoring
NWP327A	Inspect and report on concrete dam safety
NWP328A	Inspect and report on embankment dam safety
NWP330B	Establish positions of underground utilities using locating devices
NWP331B	Inspect conduit and report on condition and features
NWP332B	Monitor, operate and control drainage operations
NWP333B	Monitor and control rural water distribution operations
NWP338B	Perform odour and infiltration investigations
NWP339B	Perform leak detection
NWP340A	Measure and process hydrometric stream discharge data using wading gaugings
NWP342A	Commission, decommission and monitor hydrometric sites, stations and facilities
NWP345B	Monitor, operate and control water treatment processes
NWP346B	Monitor, operate and control wastewater treatment processes
NWP347B	Monitor, operate and control coagulation and flocculation processes
NWP348B	Monitor, operate and control sedimentation and clarification processes
NWP349B	Monitor, operate and control incineration processes
NWP350B	Monitor, operate and control aerobic bioreactor processes
NWP351B	Monitor, operate and control activated sludge processes
NWP352B	Monitor, operate and control dissolved air flotation processes
NWP353B	Monitor, operate and control anaerobic bioreactor processes
NWP354B	Monitor, operate and control granular media filtration processes
NWP355B	Monitor, operate and control membrane filtration processes
NWP356B	Monitor, operate and control ion exchange processes
NWP357B	Monitor, operate and control reverse osmosis and nano filtration processes
NWP359B	Monitor, operate and control nutrient removal processes
NWP360B	Monitor, operate and control dewatering processes

NWP361B	Monitor, operate and control gas scrubber treatment processes
NWP362B	Monitor, operate and control reclaimed water irrigation
NWP363B	Monitor performance and control maintenance of treatment plant assets
NWP364B	Perform laboratory testing
NWP365A	Identify and confirm blue green algae outbreaks
NWP366A	Monitor, operate and control chloramination disinfection processes
NWP367A	Monitor, operate and control activated carbon adsorption processes
NWP368A	Respond to blue green algae incidents
NWP369	Monitor, operate and control lagoon processes
NWP370	Perform water industry calculations
NWP401B	Coordinate and monitor the application of environmental plans and procedures
NWP403A	Investigate and plan the optimisation of potable water distribution systems
NWP404A	Apply principles of chemistry to water systems and processes
NWP406A	Investigate and plan the optimisation of granular media filtration processes
NWP407A	Investigate and plan the optimisation of dissolved air flotation processes
NWP408A	Investigate and plan the optimisation of sedimentation and clarification processes
NWP409A	Investigate and plan to optimise the operation of chemical addition processes
NWP410C	Coordinate and monitor asset construction and maintenance
NWP411A	Select treatment requirements for waterborne microorganisms
NWP412A	Investigate and plan the optimisation of activated sludge processes
NWP413A	Investigate and plan the optimisation of anaerobic treatment processes
NWP414A	Select strategies to control microbial impact on wastewater treatment processes
NWP415B	Coordinate and monitor surface water systems
NWP416B	Coordinate and monitor water storage catchment activities
NWP417B	Coordinate and monitor groundwater system usage
NWP418B	Coordinate and monitor bulkwater system operations

NWP419B	Coordinate and monitor river system usage
NWP420A	Install, operate and maintain hydrologic instruments and equipment
NWP421A	Collect, measure and process hydrometric stream discharge gauging
NWP425B	Coordinate and monitor the operation of irrigation delivery systems
NWP427B	Coordinate and monitor the operation of drainage systems
NWP428B	Coordinate and monitor the operation of wastewater collection systems
NWP429B	Coordinate, implement and report trade waste monitoring procedures
NWP430A	Evaluate, implement and monitor standard low-risk trade waste discharge approvals
NWP431A	Investigate, rectify and report on trade waste incidents
NWP432A	Contribute to the continuous improvement of quality systems
NWP440A	Supervise conduit inspection and reporting
NWP504A	Collect and manage hydrometric station survey data
NWP505B	Implement and monitor environmental management policies, plans, procedures and programs
NWP508A	Apply principle of hydraulics to pipe and channel flow
NWP509A	Collect, verify and report hydrometric time series data
NWP510A	Develop and maintain ratings
NWP511B	Manage large dam safety surveillance
NWP512B	Implement and manage catchment management plan
NWP513B	Develop and review catchment management plan
NWP514B	Implement and manage groundwater management plan
NWP515B	Develop and review groundwater management plan
NWP516B	Implement and manage surface water management plan
NWP517B	Develop and review surface water management plan
NWP518B	Prepare and report on data related to flood mitigation
NWP519B	Develop and report flood mitigation

NWP520A	Contribute to hydrometric planning and water resource management
NWP525B	Implement and manage asset construction and maintenance
NWP527B	Conduct commissioning and post-commissioning activities
NWP528B	Implement and manage trade waste management policies and plans
NWP529B	Develop and modify trade waste management policies and plans
NWP530B	Implement and manage the operation and maintenance of irrigation delivery systems
NWP531B	Develop and review irrigation system management plan
NWP532B	Implement and manage potable water system management plan
NWP533B	Develop and review potable water system management plan
NWP534B	Implement and manage drainage system management plan
NWP535B	Develop and review drainage system management plan
NWP536B	Implement and manage wastewater collection management plan
NWP537B	Develop and review wastewater collection management plan
NWP545B	Implement and manage water treatment processes monitoring program
NWP546B	Develop and review water treatment processes management plan
NWP547B	Implement and manage wastewater treatment processes monitoring program
NWP548B	Develop and review wastewater treatment management plan
NWP551A	Evaluate, implement and monitor high-risk trade waste discharge approvals
NWP552	Apply mathematical solutions to engineering problems
NWP553	Apply scientific principles to engineering problems
NWP554	Apply surveying computations to civil engineering projects
NWP555	Apply construction principles to civil engineering works
NWP556	Apply environmental solutions to engineering projects
NWP557	Apply surveying for civil engineering projects
NWP558	Use computer aided drafting systems
NWP559	Apply principles of mechanics to engineering problems

NWP560	Apply principles of strength of materials to engineering problems
NWP601	Design a water reticulation scheme
NWP602	Design gravity sewerage systems
NWP603	Design pressure sewerage systems
NWP604	Manage the construction of pipeline systems
NWP605	Plan sewerage reticulation systems
NWP606	Plan water reticulation systems
NWP607	Manage drinking water quality information
NWP608	Design sewerage pumping station systems
NWP609	Manage assets in a water utility
NWP610	Apply statistical methods for quality control and reliability
NWP701A	Contribute to the development of a complex water organisation
NWP702A	Apply water industry legislation, codes and standards
NWP703A	Lead water planning processes
NWP704A	Lead a project development
NWP705A	Provide leadership in hydrometric network planning and water resource management
NWP706A	Review and evaluate water and wastewater sustainability objectives
NWP707A	Analyse and review water treatment plant technology

Imported Units of Competency in NWP07 Water Training Package

Code	Title	Origin
AHCLPW306A	Undertake sampling and testing of water	AHC10
BSBFIM501A	Manage budgets and financial plans	BSB07
BSBITU201A	Produce simple word processed documents	BSB07
BSBITU202A	Create and use spread sheets	BSB07

BSBLED101A	Plan skills development	BSB07
BSBMGT402A	Implement operational plan	BSB07
BSBMGT515A	Manage operational plan	BSB07
BSBOHS303B	Contribute to OHS hazard identification and risk assessment	BSB07
BSBSUS201A	Participate in environmentally sustainable work practices	BSB07
BSBSUS301A	Implement and monitor environmentally sustainable work practices	BSB07
BSBWOR204A	Use business technology	BSB07
BSBWOR301B	Organise personal work priorities and development	BSB07
BSBWOR404B	Develop work priorities	BSB07
CPPSIS4002A	Store and retrieve spatial data	CPP07
CPPSIS5002A	Capture new spatial data	CPP07
CPPSIS5010A	Collate and interpret spatial data	CPP07
LGACOM405B	Implement and monitor the organisation's OHS policies, procedures and programs within the work group	LGA04
LGAWORK404A	Manage a civil works project	LGA04
LGAWORK405A	Plan and supervise roadworks	LGA04
LGAWORK406A	Supervise concrete works	LGA04
LGAWORK501A	Prepare preliminary design for operational works	LGA04
LGAWORK502A	Prepare detailed works project documentation	LGA04
LGAWORK503A	Undertake project investigation	LGA04
MEM30024A	Participate in Quality Assurance Techniques	MEM05

MEM30027A	Prepare basic programs for programmable logic controllers	MEM05
MSACMT461A	Facilitate SCADA systems in a manufacturing team or work area	MSA07
MSACMT671A	Develop and manage sustainable environmental practices	MSA07
PSPOHS602A	Manage workplace safety	PSP04
PSPPROC414A	Manage contracts	PSP04
PSPPROC506A	Plan to manage contracts	PSP04
PSPSOHS501A	Participate in the coordination and maintenance of a systematic approach to managing OHS	PSP04
RIICCM205A	Carry out manual excavation	RII09
RIICCM210A	Install trench support	RII09

Summary Mapping of NWP07 Version 3 Water Training Package to NWP07 Version 2 Water Training Package

Code	Relates to	Nature of Relationship
NWP279 Demonstrate knowledge of the risk management principles of the Australian drinking water guidelines		New unit
NWP369 Monitor, operate and control lagoon processes		New unit
NNWP370 Perform water industry calculations		New unit
NWP552 Apply mathematical solutions to engineering problems		New unit
NWP553 Apply scientific principles to engineering problems		New unit

Code	Relates to	Nature of Relationship
NWP554 Apply surveying computations to civil engineering projects		New unit
NWP555 Apply construction principles to civil engineering works		New unit
NWP556 Apply environmental solutions to engineering projects		New unit
NWP557 Apply surveying for civil engineering projects		New unit
NWP558 Use computer aided drafting systems		New unit
NWP559 Apply principles of mechanics to engineering problems		New unit
NWP560 Apply principles of strength of materials to engineering problems		New unit
NNWP601 Design a water reticulation system		New unit
NWP602 Design gravity sewerage systems		New unit
NWP603 Design pressure sewerage systems		New unit
NWP604 Manage the construction of pipeline systems		New unit
NWP605 Plan sewerage reticulation systems		New unit
NWP606 Plan water reticulation systems		New unit
NWP607 Manage drinking		

Code	Relates to	Nature of Relationship
water quality information		
NWP608 Design sewerage pumping station systems		New unit
NWP609 Manage assets in a water utility		New unit
NWP610 Apply statistical methods for quality control and reliability		
Imported Units of Competency		
BSBWOR301B Organise personal dork priorities and development	BSBWOR301A	Updated unit from BSB07. Equivalent.
BSBWOR404B Develop work priorities	BSBWOR404A	Updated unit from BSB07. Equivalent.
AHCLPW306A Undertake sampling and testing of water	RTD3507A	Updated unit from AHC10. Equivalent.

Summary mapping of qualifications in NWP07 Version 3 Water Training Package to NWP 07 Version 2 Water Training Package.

Code	Relates to	Comments
NWP60112 Advanced Diploma of Water Engineering Design		New qualification.

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 people's skills, and may also have optional support materials
- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

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

How are Training Packages developed?

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

How do Training Packages encourage flexibility?

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

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

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

Who can deliver and assess using Training Packages?

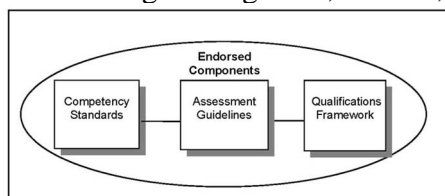
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2010.

Training Package Components

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

Training Package Endorsed Components

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



Competency Standards

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

Assessment Guidelines

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

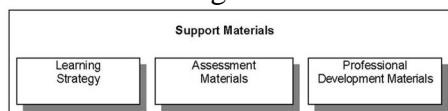
Qualifications Framework

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

Training Package Support Materials

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

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



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

Training Package, Qualification and Unit of Competency Codes

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

Training Package Codes

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

Qualification Codes

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

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

Unit of Competency Codes

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

- a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in NWP201B
- the first three characters signify the Training Package – NWP07 Water Training Package – 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: NWP20107 Certificate II in Water 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: NWP208A Perform basic wastewater tests

Introduction to the NWP07 Water Training Package

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 ...

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)/course(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 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 selection of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team 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.

Qualifications and Packaging Rules

The qualifications in this Training Package have been developed to support experienced industry practitioners and new entrants seeking to commence or develop a career within the water industry.

The principal operational qualifications have been developed with small generic core units and a wide range of elective units to reflect the very diverse nature of work roles in the water industry. The industry has supported the concept of a single generic qualification at each AQF level instead of a range of specialist qualifications. Where the selection of elective units of competency has led to competency in a specialised area of operation, RTOs delivering the Training Package have supported the noting of specialisations on Certificates of Attainment.

Industry specialisations

All certificates in endorsed Training Packages can be customised to suit industry needs and RTOs are encouraged to develop and use industry specialisations (often called ‘streams’) relevant to their market and customers that are consistent with the packaging rules of NWP07. Because of the generic nature of other qualifications, industry specialisations are mainly relevant for Certificates II and III, although may be applied to other qualifications.

Suggested specialisations

The following list is a suggestion of possible specialisations that may be appropriate to the water industry. RTOs have the authority to develop and use additional specialisations which comply with the packaging rules.

Specialisation names that may be used are:

- Water Treatment
- Wastewater Treatment
- Water Supply Distribution (Network)
- Wastewater Collection
- Trade Waste
- Catchment Operations
- Irrigation
- Dams Safety
- Dams Operations and Source Protection
- River Groundwater Diversions and Licensing
- Construction and Maintenance
- Hydrometric Monitoring.

Developing an industry specialisation

An RTO may develop an industry specialisation relevant to their market and clientele. The RTO should consult with its industry partners to determine which units of competency are relevant to include within the industry specialisation.

The requirements for the industry specialisation must be consistent with the packaging rules for NWP07. An industry specialisation should include a range of units that focus more on the industry specialisation than a generic qualification.

An industry specialisation may import units from another endorsed Training Package, provided the importation is within the rules of importation detailed in the packaging rules of the associated NWP07 qualification. For example a Certificate III ‘Hydrometric Monitoring’ industry specialisation may import the maximum allowable three units from PML04 Laboratory Operations Training Package.

It should be noted that a qualification with an industry specialisation does not change the title of the qualification, although RTOs may choose to record the specialisation. The AQTF requirements must be complied with and the qualification or Statement of Attainment should clearly specify the units of competency achieved and where appropriate, the specialisation.

As an example, an RTO may choose to promote, deliver and award the:

Certificate ### in Water Industry Operations

OR may choose to promote, deliver and award a:

Certificate ### in Water Industry Operations (Hydrometric Monitoring)

Both will be consistent with NWP07 packaging rules and an RTO may choose to offer either or both according to market need.

NWP07 users are referred to the companion Training Package User Guide which provides guidance on the packaging of electives to meet specialisations for the principal operational occupations.

Australian Apprenticeships (including Traineeships and School-based Apprenticeships)

Australian Apprenticeships are declared in each State or Territory according to the particular processes of the jurisdiction and requirements identified by industry in the State or Territory. Declarations for particular qualifications as either Traineeships or Apprenticeships are made accordingly and therefore the same qualification may be classified differently between jurisdictions.

At the time of publishing, most jurisdictions have identified at least the following qualifications as linked to declared vocations:

- NWP20107 Certificate II in Water Operations
- NWP30107 Certificate III in Water Operations
- NWP40107 Certificate IV in Water Operations

VET in Schools

Vocational Education and Training in Schools are programs undertaken by school students as part of the senior secondary certificate that provide credit towards a nationally recognised VET qualification within the Australian Qualifications Framework. The training that students receive reflects specific industry competency standards and is delivered by a Registered Training Organisation or a school in partnership with a Registered Training Organisation. A key success of VET in Schools is the integration of vocational options within the traditionally academic studies at the senior secondary school level. VET in Schools programs allow Year 11 and 12 students to:

- develop industry specific skills;
- gain nationally recognised Vocational Education and Training qualifications and units of competency while still completing their senior secondary school qualification;
- develop employability skills and an understanding of the world of work, and;
- gain an understanding of the world of work which is valuable experience to assist with planning and pursuing their career pathways.

In the NWP12 Water Training Package, units from the NWP10110 Certificate I in Water Sustainability are suitable for VET in schools programs.

Employability skills

Employability skills replacing key competency information from 2006

In May 2005, the approach to incorporate employability skills within Training Package qualifications and units of competency was endorsed. As a result, from 2006 employability skills will progressively replace key competency information in Training Packages.

Background to employability skills

Employability skills are also sometimes referred to as generic skills, capabilities or key competencies. The employability skills discussed here build on the Mayer Committee's Key Competencies, which were developed in 1992 and attempted to describe generic competencies for effective participation in work.

The Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI), produced the *Employability Skills for the Future* report in 2002 in consultation with other peak employer bodies and with funding provided by the Department of Education, Science and Training (DEST) and the Australian National Training Authority (ANTA). Officially released by Dr Nelson (Minister for Education, Science and Training) on 23 May 2002, copies of the report are available from the DEST website at: www.dest.gov.au/archive/ty/publications/employability_skills/index.htm.

The report indicated that business and industry now require a broader range of skills than the Mayer Key Competencies Framework and featured an Employability Skills Framework identifying eight employability skills:

- communication
- teamwork
- problem solving
- initiative and enterprise
- planning and organising
- self-management
- learning
- technology.

The report demonstrated how employability skills can be further described for particular occupational and industry contexts by sets of facets. The facets listed in the report are the aspects of the employability skills that the sample of employers surveyed identified as being important work skills. These facets were seen by employers as being dependent both in their nature and priority on an enterprise's business activity.

Employability Skills Framework

The following table contains the employability skills facets identified in the report *Employability Skills for the Future*.

Skill	Facets Aspects of the skill that employers identify as important. The nature and application of these facets will vary depending on industry and job type.
Communication that contributes to productive and harmonious relations across employees and customers	<ul style="list-style-type: none"> • listening and understanding • speaking clearly and directly • writing to the needs of the audience • negotiating responsively • reading independently • empathising • using numeracy effectively • understanding the needs of internal and external customers • persuading effectively • establishing and using networks • being assertive • sharing information • speaking and writing in languages other than English

<p>Teamwork that contributes to productive working relationships and outcomes</p>	<ul style="list-style-type: none"> • working across different ages irrespective of gender, race, religion or political persuasion • working as an individual and as a member of a team • knowing how to define a role as part of the team • applying teamwork to a range of situations e.g. futures planning and crisis problem solving • identifying the strengths of team members • coaching and mentoring skills, including giving feedback
<p>Problem solving that contributes to productive outcomes</p>	<ul style="list-style-type: none"> • developing creative, innovative and practical solutions • showing independence and initiative in identifying and solving problems • solving problems in teams • applying a range of strategies to problem solving • using mathematics, including budgeting and financial management to solve problems • applying problem-solving strategies across a range of areas • testing assumptions, taking into account the context of data and circumstances • resolving customer concerns in relation to complex project issues
<p>Initiative and enterprise that contribute to innovative outcomes</p>	<ul style="list-style-type: none"> • adapting to new situations • developing a strategic, creative and long-term vision • being creative • identifying opportunities • translating ideas into action • generating a range of options • initiating innovative solutions
<p>Planning and organising that contribute to long and short-term strategic planning</p>	<ul style="list-style-type: none"> • managing time and priorities – setting time lines, coordinating tasks for self and with others • being resourceful • taking initiative and making decisions • adapting resource allocations to cope with contingencies • establishing clear project goals and deliverables • allocating people and other resources to tasks • planning the use of resources, including time management • participating in continuous improvement and planning processes • developing a vision and a proactive plan to accompany it • predicting – weighing up risk, evaluating alternatives and applying evaluation criteria • collecting, analysing and organising information • understanding basic business systems and their relationships

<p>Self-management that contributes to employee satisfaction and growth</p>	<ul style="list-style-type: none"> • having a personal vision and goals • evaluating and monitoring own performance • having knowledge and confidence in own ideas and visions • articulating own ideas and visions • taking responsibility
<p>Learning that contributes to ongoing improvement and expansion in employee and company operations and outcomes</p>	<ul style="list-style-type: none"> • managing own learning • contributing to the learning community at the workplace • using a range of mediums to learn – mentoring, peer support and networking, IT and courses • applying learning to technical issues (e.g. learning about products) and people issues (e.g. interpersonal and cultural aspects of work) • having enthusiasm for ongoing learning • being willing to learn in any setting – on and off the job • being open to new ideas and techniques • being prepared to invest time and effort in learning new skills • acknowledging the need to learn in order to accommodate change
<p>Technology that contributes to the effective carrying out of tasks</p>	<ul style="list-style-type: none"> • having a range of basic IT skills • applying IT as a management tool • using IT to organise data • being willing to learn new IT skills • having the OHS knowledge to apply technology • having the appropriate physical capacity

Employability Skills Summary

An Employability Skills Summary exists for each qualification. Summaries provide a lens through which to view employability skills at the qualification level and capture the key aspects or facets of the employability skills that are important to the job roles covered by the qualification. Summaries are designed to assist trainers and assessors to identify and include important industry application of employability skills in learning and assessment strategies. The following is important information for trainers and assessors about Employability Skills Summaries.

- Employability Skills Summaries provide examples of how each skill is applicable to the job roles covered by the qualification.
- Employability Skills Summaries contain general information about industry context which is further explained as measurable outcomes of performance in the units of competency in each qualification.
- The detail in each Employability Skills Summary will vary depending on the range of job roles covered by the qualification in question.
- Employability Skills Summaries are not exhaustive lists of qualification requirements or checklists of performance (which are separate assessment tools that should be designed by trainers and assessors after analysis at the unit level).
- Employability Skills Summaries contain information that may also assist in building learners' understanding of industry and workplace expectations.

Qualification 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 www.governmentskills.com.au
<http://www.governmentskills.com.au>

The qualifications described above have been designed to maximise flexibility and respond to a significant range of career pathways and needs.

Government Skills Australia, the water industry and its peak associations have developed, and will continue to develop, valuable career and career-pathway advice which should also be used by RTOs and candidates when designing qualification packaging and selecting qualification pathways.

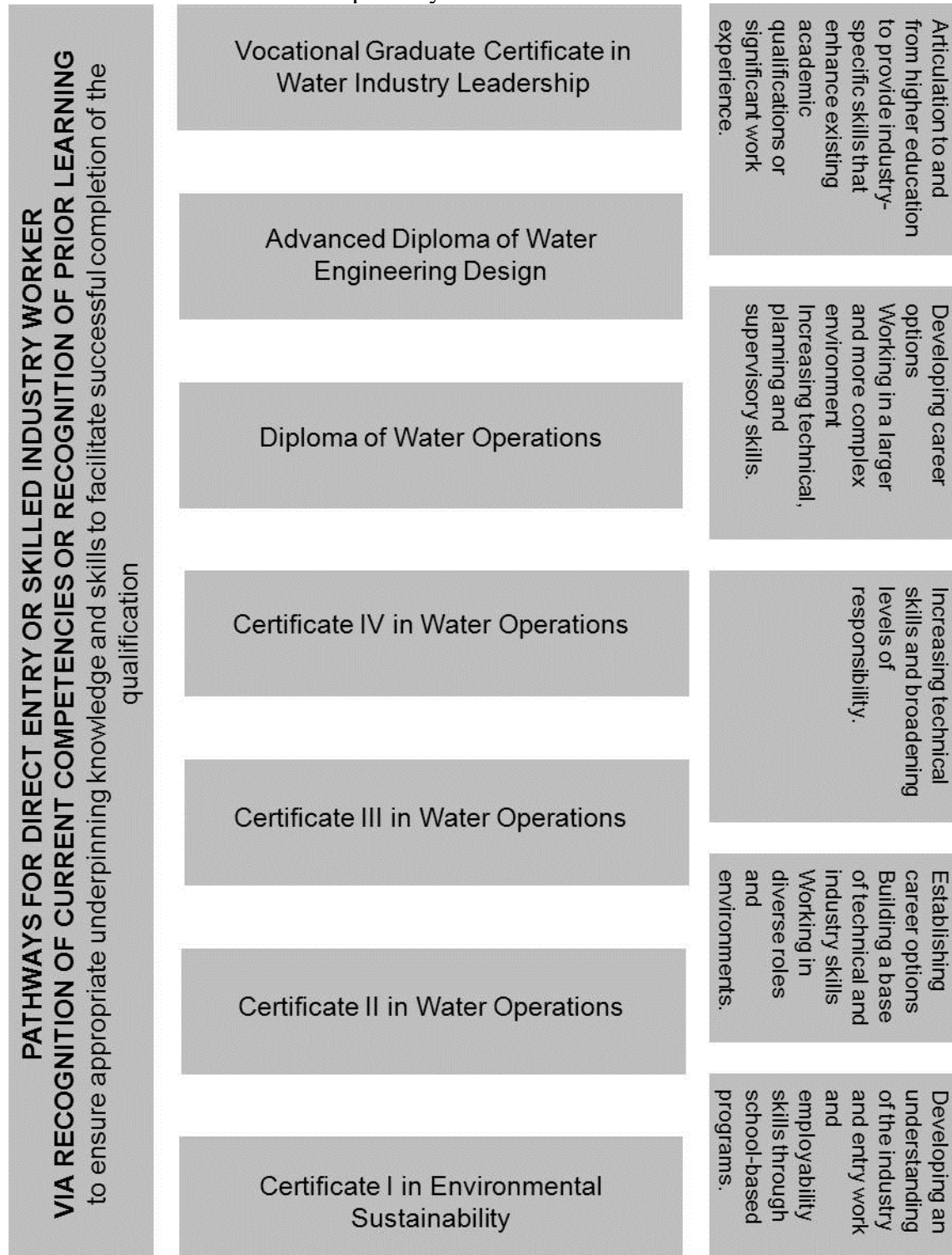
This industry advice is designed to assist candidates to make appropriate choices about the qualifications they can undertake to maximise their career choices, and to alert them to any industry accreditation or recognition requirements. Industry career and career-pathway advice is also valuable in explaining the opportunities that are available in various States and Territories for articulation between the VET sector and higher education qualifications. Candidates have the opportunity to seek articulation into a range of higher education qualifications and are provided with entry (including advanced standing or recognition of prior learning), depending on the individual higher education provider requirements and the experience of the candidate.

Career pathway and industry accreditation information will change over time and RTOs should contact Government Skills Australia or local industry groups or check the following websites for up-to-date advice:

Government Skills Australia	www.governmentskills.com.au
Department of Education, Science and Training – career development site	www.dest.gov.au/sectors/career_development/default.htm
Department of Education, Science and Training – Job Guide	http://jobguide.dest.gov.au/

Australian Apprenticeships Training Information Service	www.nacinfo.com.au
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State and Territory Training Authorities and state Industry Training Advisory Bodies will also have valuable career and career-pathway information.



Skill Sets

Definition

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

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 Sets in this Training Package

This section provides information on Skill Sets within this Training Package, with the following important disclaimer: Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.

Where this section is blank, nationally recognised Skill Sets have yet to be identified in this industry.

Assessment Guidelines

Introduction

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 and 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
- 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
- (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

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 and assessment must be competent for the functions they perform. See the 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 Statement of Attainment

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

Licensing/Registration Requirements

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

The developers of this Training Package consider that no licensing or registration requirements apply to RTOs, assessors or candidates with respect to this Training Package. Contact the relevant State or Territory Department(s) to check if there are any licensing or registration requirements with which you must comply. For further information on this topic contact www.governmentskills.com.au <http://www.governmentskills.com.au>.

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 www.governmentskills.com.au <http://www.governmentskills.com.au>.

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.

LICENCE/REGISTRATION	JURISDICTION	REQUIREMENTS

These requirements may be met through

Pathways

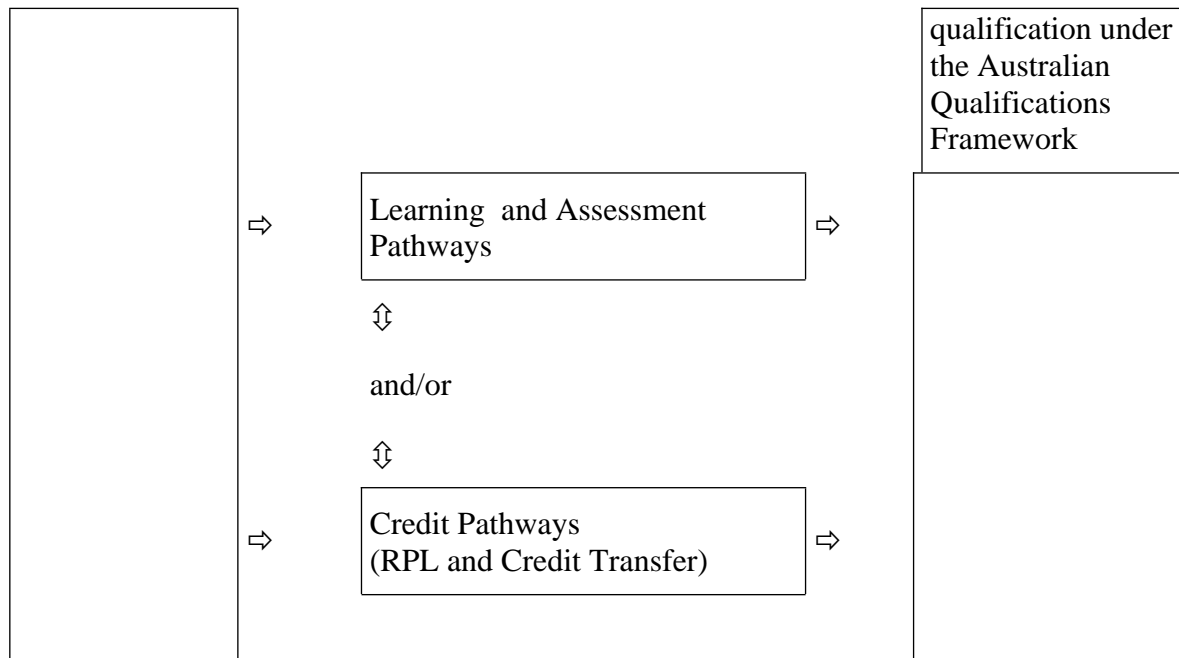
The competencies in this Training Package may be attained in a number of ways including through:

- 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, or a recognition pathway, or a combination of the two as illustrated in the following diagram.

Units of
Competency

Statement of
Attainment and/or



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, the AQTF and, where relevant, the Australian Qualifications Framework.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with 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.

Competencies already held by individuals can be formally assessed against the units of 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 are conducted 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 to develop their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence.

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

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 judgements 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 their own assessment tools, assessors must ensure that the tools:

- are benchmarked against the relevant unit or units of competency;
- are reviewed as part of the validation of assessment strategies required under the AQTF; and
- meet the assessment requirements expressed in the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

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

Language, Literacy and Numeracy

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

Conducting Assessment

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

Mandatory Assessment Requirements

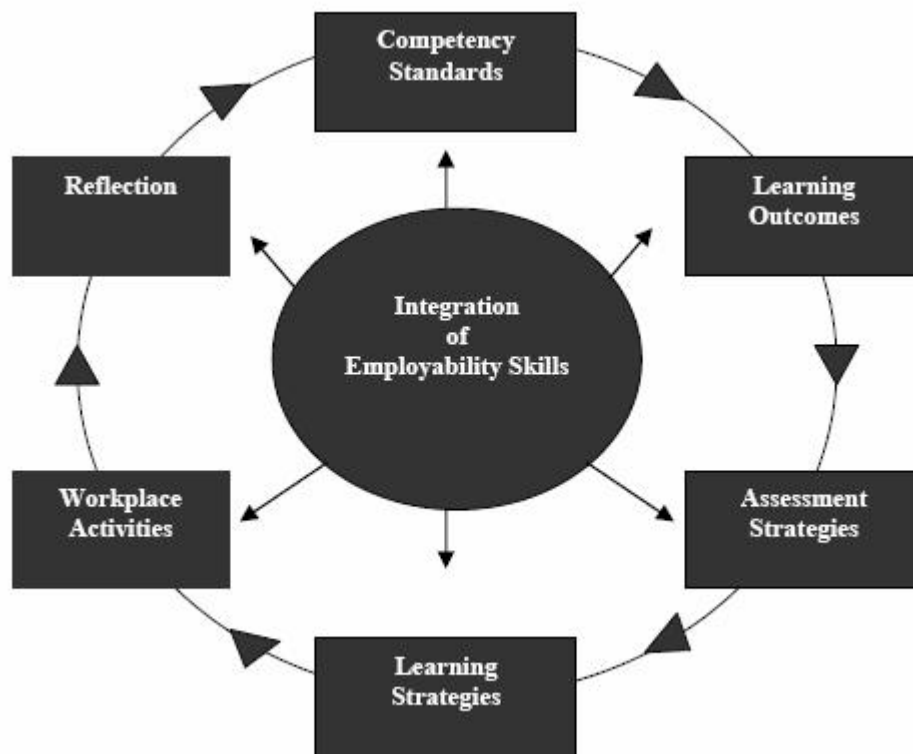
Assessments must meet the criteria set out in the AQTF 2010 *Essential Standards for Initial and Continuing Registration*. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 *Essential Standards for Initial and Continuing Registration* are as follows:

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

- 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
- 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 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 Government Skills Australia's Training Packages go to the GSA website at www.governmentskills.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>.

Further Sources of Information

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.

Contacts

Industry Skills Council:
GovernmentSkills Australia
Level 11, 147 Pirie St, Adelaide SA 5000
PO Box 347 Rundle Mall, SA 5000
Ph: +61 8 8100 7400
Fax: +61 8 8232 7444
Email: admin@governmentskills.com.au
Web: www.governmentskills.com.au

Technical and Vocational Education and
Training (TVET) Australia Limited
Level 21, 390 St Kilda Road, Melbourne
VIC 3150
PO Box 12211, A'Beckett Street Post Office,
Melbourne, Victoria, 8006
Ph: +61 3 9832 8100
Fax: +61 3 9832 8198
Email: sales@tvetaustralia.com.au
Web: www.tvetaustralia.com.au

For information on the TAE10 Training and
Education Training Package contact:
Innovation & Business Skills Australia
Telephone: (03) 9815 7000
Facsimile: (03) 9815 7001
Email: virtual@ibsa.org.au
Web: www.ibsa.org.au

General Resources

*AQF Implementation Handbook, Fourth Edition 2007. Australian Qualifications Framework
Advisory Board, 2002* <www.aqf.edu.au>

*Australian Quality Training Framework (AQTF) and AQTF 2010 Users' Guide to the
Essential Standards for Registration –*
<http://www.training.com.au/pages/menuitem5cbe14d51b49dd34b225261017a62dbc.aspx>

For general information and resources go to <http://www.training.com.au/>

The National Register is an electronic database providing comprehensive information about
RTOs, Training Packages and accredited courses - <www.ntis.gov.au>

The Training Package Development Handbook site provides National Quality Council policy
for the development of Training Packages. The site also provides guidance material for the
application of that policy, and other useful information and links.

<http://www.deewr.gov.au/Skills/Overview/Policy/TPDH/Pages/main.aspx>

Assessment Resources

Registered training organisations (RTOs) are at the forefront of vocational education and
training (VET) in Australia. They translate the needs of industry into relevant, quality, client-
focussed training and assessment.

RTOs should strive for innovation in VET teaching and learning practices and develop highly
flexible approaches to assessment which take cognisance of specific needs of learners, in
order to improve delivery and outcomes of training.

Resources can be purchased or accessed from:

- TVET Australia – provides an integrated service to enable users of the national training system to identify and acquire training materials, identify copyright requirements and enter licenses for use of that material consistent with the scope and direction of the NQC.

<http://www.productservices.tvetaustralia.com.au/>

- Government Skills Australia - www.governmentskills.com.au
<http://www.governmentskills.com.au>
-

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

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

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

Components of Units of Competency

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

Unit Title

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

Unit Descriptor

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

Employability Skills

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

Pre-requisite Units (optional)

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

Application of the Unit

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

Competency Field (Optional)

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

Sector (optional)

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

Elements of Competency

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

Performance Criteria

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

Required Skills and Knowledge

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

Range Statement

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

Evidence Guide

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

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

Employability Skills in Units of Competency

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

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

How Employability Skills relate to the Key Competencies

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

Employability Skills 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.

Sample unit of competency components showing Employability Skills

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

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

Unit Title	Give formal presentations and take part in meetings (Communication)
Unit Descriptor	This unit covers the skills and knowledge required to promote the use and implementation of innovative work practices to effect change. (Initiative and enterprise)
Element	Proactively resolve issues. (problem solving)
Performance Criteria	Information is organised in a format suitable for analysis and dissemination in accordance with organisational requirements. (Planning and organising)
Range Statement	Software applications may include email, internet, word processing, spreadsheet, database or accounting packages. (technology)
Required Skills and Knowledge	<p>Modify activities depending on differing workplace contexts, risk situations and environments. (Learning)</p> <p>Work collaboratively with others during a fire emergency. (teamwork)</p> <p>Instructions, procedures and other information relevant the maintenance of vessel and port security. (Communication)</p>
Evidence Guide	<p>Evidence of having worked constructively with a wide range of community groups and stakeholders to solve problems and adapt or design new solutions to meet identified needs in crime prevention. In particular, evidence must be obtained on the ability to:</p> <ul style="list-style-type: none"> • assess response options to identified crime-prevention needs and determine the optimal action to be implemented • in consultation with relevant others, design an initiative to address identified issues. (Initiative and enterprise).

Employability Skills Summaries and units of competency

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