



Australian Government

Department of Education, Employment and Workplace Relations

NWP07 Water Training Package

Release: 2.0

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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
2	23 December 2010	<p>NWP10107 Certificate I in Water Sustainability is updated to NWP10110 Certificate I in Water Sustainability.</p> <p>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</p>

Version	Release date	Comments
		<p>Collect, measure and process hydrologic stream discharge 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</p>

Version	Release date	Comments
		<p>Operations.</p> <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>
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.

Preliminary information

Preliminary information

Important note to users

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

Check the version number before commencing training or assessment

This Training Package is Version 2.0. 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).

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

Version	Release date	Comments
2	23 December 2010	<p>NWP10107 Certificate I in Water Sustainability is updated to NWP10110 Certificate I in Water Sustainability.</p> <p>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</p>

Version	Release date	Comments
		<p>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: 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. 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</p>

Version	Release date	Comments
		<p>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> <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>
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	20 May 2002	Primary release, based on revision of UTW98 Water Industry Training Package.

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
NWP70107	Vocational Graduate Certificate in Water Industry Leadership

Units of competency in NWP07 Water Training Package

Note: There are no prerequisites for any units of competency contained in the NWP07 qualifications.

Water industry units of competency

Unit code	Unit 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

Unit code	Unit title
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

Unit code	Unit title
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

Unit code	Unit title
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
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

Unit code	Unit title
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

Unit code	Unit title
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
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

Unit code	Unit title
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

Unit code	Unit title
	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
NWP526A	Evaluate, implement and monitor high-risk trade waste discharge approvals

Unit code	Unit title
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
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

Unit code	Unit title
NWP706A	Review and evaluate water and wastewater sustainability objectives
NWP707A	Analyse and review water treatment plant technology

Imported units of competency

Unit code	Unit title
RIICCM205A	Carry out manual excavation
RIICCM210A	Install trench support
BSBLED101A	Plan skills development
BSBWOR204A	Use business technology
BSBITU201A	Produce simple word processed documents
BSBITU202A	Create and use spread sheets
BSBWOR301A	Organise personal work priorities and development
BSBWOR404A	Develop work priorities
BSBMGT402A	Implement operational plan
BSBMGT515A	Manage operational plan
BSBFIM501A	Manage budgets and financial plans
BSBOHS303B	Contribute to OHS hazard identification and risk assessment
BSBWOR301A	Organise personal work priorities and development
LGACOM405B	Implement and monitor the organisation's OHS policies, procedures and programs within the work group
LGAWORK404A	Manage a civil works project
LGAWORK405A	Plan and supervise roadworks
LGAWORK406A	Supervise concrete works
LGAWORK501A	Prepare preliminary design for operational works

Unit code	Unit title
LGAWORK502A	Prepare detailed works project documentation
LGAWORK503A	Undertake project investigation
CPPSIS4002A	Store and retrieve spatial data
CPPSIS5002A	Capture new spatial data
CPPSIS5010A	Collate and interpret spatial data
MEM30027A	Prepare basic programs for programmable logic controllers
MSACMT461A	Facilitate SCADA systems in a manufacturing team or work area
PSPPROC414A	Manage contracts
PSPPROC506A	Plan to manage contracts
PSPSOHS501A	Participate in the coordination and maintenance of a systematic approach to managing OHS
RTD3507A	Undertake sampling and testing of water

Summary of mapping of units of competency

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
NWP101A		E	NWP101B	Investigate sustainable water cycle management	Reviewed and updated
NWP102A		E	NWP102B	Design a basic water system model	Reviewed and updated
NWP103A		E	NWP103B	Demonstrate care and safe practices	Reviewed and updated

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
NWP104A		E	NWP104B	Sample and test water sources and quality	Reviewed and updated
NWP105A		E	NWP105B	Draw and use simple maps, plans and drawings	Reviewed and updated
			NWP302A	Install meters for non-potable, non-urban water supplies	New unit
			NWP304A	Maintain meters for non-potable, non-urban water supplies	New unit
			NWP326A	Conduct and report dam safety instrumentation monitoring	New unit
			NWP327A	Inspect and report on concrete dam safety	New unit
			NWP328A	Inspect and report on embankment dams safety	New unit
NWP334B		E	NWP303A	Monitor and control maintenance of water and	New unit/ Multi-unit equivalence with the

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
				wastewater system assets	combination of NWP335B, NWP336B and NWP337B
NWP335B		E	NWP303A	Monitor and control maintenance of water and wastewater system assets	New unit/ Multi-unit equivalence with the combination of NWP334B, NWP336B and NWP337B
NWP336B		E	NWP303A	Monitor and control maintenance of water and wastewater system assets	New unit/ Multi-unit equivalence with the combination of NWP334B, NWP355B and NWP337B
NWP337B		E	NWP303A	Monitor and control maintenance of water and wastewater system assets	New unit/ Multi-unit equivalence with the combination of NWP334B, NWP335B and NWP336B
			NWP420A	Install, operate and maintain hydrologic instruments and equipment	New unit
NWP438A	Measure and process hydrometric stream	E	NWP421A	Collect, measure and process hydrologic	New unit based on NWP438A

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
	discharge data in flood conditions			stream discharge gauging	
NWP437A	Analyse data and produce hydrometric reports				Deleted. Contents addressed in new units NWP504A, NWP508A and NWP510A
NWP426B	Coordinate and monitor the operation of potable water systems	E	NWP403A	Investigate and plan the optimisation of potable water distribution systems	New unit based on NWP426B
NWP435B	Coordinate and monitor the optimisation of water treatment processes				Deleted
NWP436B	Coordinate and monitor the optimisation of wastewater treatment processes				Deleted
			NWP404A	Apply principles of chemistry to water systems and processes	New unit. Replaces components of non-equivalent unit NWP435B

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
			NWP406A	Investigate and plan the optimisation of granular media filtration processes	New unit. Replaces components of non-equivalent unit NWP435B
			NWP407A	Investigate and plan the optimisation of dissolved air floatation processes	New unit. Replaces components of non-equivalent unit NWP435B
			NWP408A	Investigate and plan the optimisation of sedimentation and clarification processes	New unit. Replaces components of non-equivalent unit NWP435B
			NWP409A	Investigate and plan to optimise the operation of chemical addition processes	New unit. Replaces components of non-equivalent unit NWP435B
NWP410B		E	NWP410C	Coordinate and monitor asset construction and maintenance	Updated and equivalent
			NWP411A	Select treatment requirements for waterborne microorganism	New unit. Replaces components of non-equivalent unit NWP435B

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
				s	
			NWP412A	Investigate and plan the optimisation of activated sludge processes	New unit. Replaces components of non-equivalent unit NWP436B
			NWP413A	Investigate and plan the optimisation of anaerobic treatment processes	New unit. Replaces components of non-equivalent unit NWP436B
			NWP414A	Select strategies to control microbial impact on wastewater treatment processes	New unit. Replaces components of non-equivalent unit NWP436B
			NWP432A	Contribute to the continuous improvement of quality systems	New unit
			NWP504A	Collect and manage hydrometric station survey data	New unit
			NWP508A	Apply principles of hydraulics to pipe and	New unit

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
				channel flows	
			NWP509A	Collect, verify and report hydrometric time series data	New unit
			NWP510A	Develop and maintain ratings	New unit
Imported units of competency					
BCCM2005B		E	RIICCM205A	Carry out manual excavation	Updated imported unit from RII09
BCCM2010B		E	RIICCM210A	Install trench support	Updated imported unit from RII09
BSBCMN104A		E	BSBLED101A	Plans skills development	Updated imported unit from BSB07
BSBCMN205A		E	BSBWOR204A	Use business technology	Updated imported unit from BSB07
BSBCMN213A		E	BSBITU201A	Produce simple word processed documents	Updated imported unit from BSB07
BSBCMN214A	Create and use simple spreadsheets	E	BSBITU202A	Create and use spreadsheets	Updated imported unit from BSB07
BSBFLM405B		E	BSBMGT402A	Implement operational plan	Updated imported unit from BSB07

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
BSBFLM505 B		E	BSBMGT515 A	Manage operational plan	Updated imported unit from BSB07
BSBFLM513 A		E	BSBFIM501 A	Manage budgets and financial plans	Updated imported unit from BSB07
BSBOHS303 A		E	BSBOHS303 B	Contribute to OHS hazard identification and risk assessment	Updated core imported unit from BSB07
BSBCMN30 2A		E	BSBWOR301 A	Organise personal work priorities and development	Updated core imported unit from BSB07
BSBCMN40 2A		E	BSBWOR404 A	Develop work priorities	Updated imported unit from BSB07
			MEM30027A	Prepare basic programs for programmable logic controllers	New imported unit
			MSACMT46 1A	Facilitate SCADA systems in a manufacturing team or work area	New imported unit
PSPPROC41 0A		E	PSPPROC41 4A	Manage contracts	Updated imported unit from PSP04
PSPPROC50		E	PSPPROC50	Plan to manage	Updated imported unit

Summary Mapping of NWP07 Version 1.1 to NWP07 Version 2 Units of Competency					
N = Not Equivalent E = Equivalent					
Version 1.1 Code	Version 1.1 Title	N/E	Version 2 Code	Version 2 Title	Comments
2A			6A	contracts	from PSP04
			RTD3507A	Undertake sampling and testing of water	New imported unit

Summary mapping of qualifications

Version 1.1 code	Version 1.1 title	N/E	Version 2 code	Version 2 title	Comments
NWP10107	Certificate I in Water Sustainability	E	NWP10110	Certificate I in Water Sustainability	New versions of core and elective units to reflect implementation in schools.

Explanation of the review date

The review date (shown on the title 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.

Overview of Training Packages

Overview of Training Packages

What is a Training Package?

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

Each Training Package:

- provides a consistent and reliable set of components for 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 Training Framework?

The National Training Framework is made up of the nationally agreed quality arrangements for the vocational education and training sector, the Australian Quality Training Framework (AQTF), and Training Packages 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 learners can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification, without completing a formal training program.

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?

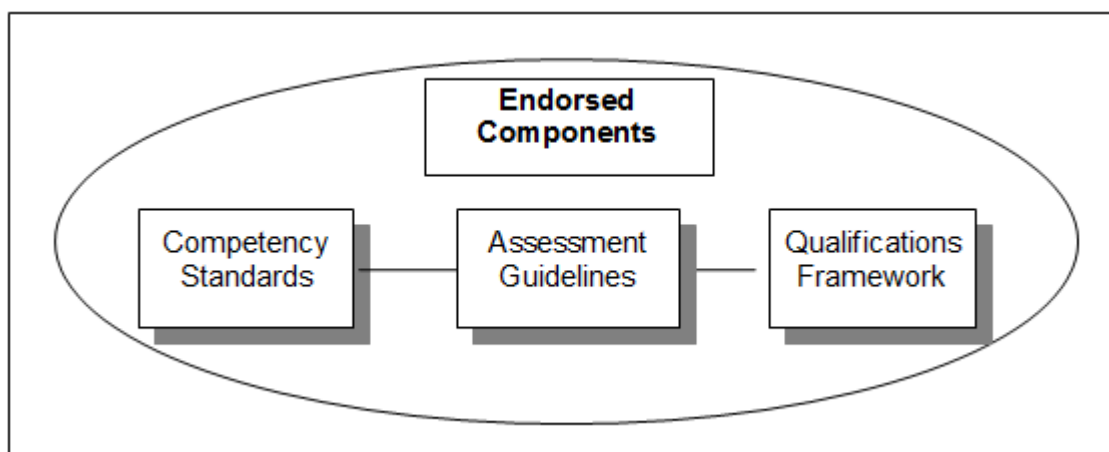
Training and assessment using Training Packages must be conducted by a registered training organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO as specified in the AQTF *Standards for Registered Training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

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 *Standards for Registered Training Organisations*. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

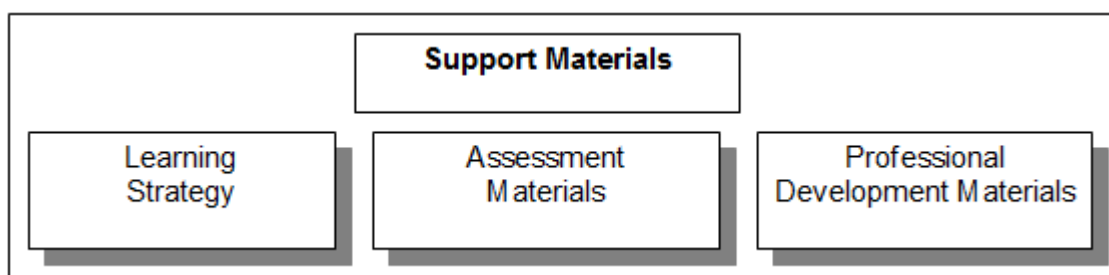
Qualifications Framework

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 the nationally recognised qualifications issued.

Training Package support materials

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

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



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

Where such materials have been quality assured through a process of 'noting' by the NQC, they display the following official logo.



Noted support materials are listed on the National Training Information Service (NTIS), together with a detailed description and information on the type of product and its availability (www.ntis.gov.au).

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

Training Package, qualification and unit of competency codes

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

Training Package codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example NWP07. 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, e.g. NWP20107. The first three letters identify the Training Package; the first number identifies the qualification level (noting that Arabic numbers are not used in qualification titles themselves); 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. The 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.

A typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, e.g. NWP260A. 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. The 'A' in the example above indicates that this is the original unit of competency. An incremented version identifier usually 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. 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 to the Training Package's broad industry coverage.

Qualification titles

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

- firstly, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma or Advanced Diploma
- this is followed by the words 'in' for Certificates I to IV and 'of' for Diploma and Advanced Diploma
- then the industry descriptor follows, for example, Water Operations
- while the last element of this sequence is not applicable to this Training Package as it does not have streams, if applicable, the occupational or functional stream follows in brackets, for example (Computer Systems).

Unit of competency titles

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

For example:

- NWP208A Perform basic wastewater tests
- BSBWOR204A Use business technology.

Introduction to NWP07 Water Training Package

Introduction to NWP07 Water Training Package

NWP07 Water Training Package supports and provides training pathways for a diverse range of people working in water organisations across the nation.

The development of NWP07 has been conducted with high levels of involvement and support from the water industry. The project team responsible for the technical production of the Training Package has received a significant amount of advice and input and, importantly, has had open access to industry enterprises, associations and key stakeholders.

The qualifications and units of competency have been, throughout the project, subject to ongoing refinement and will be subject to further review as part of a process of continuous improvement in order to reflect the changing nature and skill development needs of the industry.

The NWP07 Water Training Package review project was overseen and led by a committee comprising:

- John Harris, Chair, GSA Director, Wannon Region Water Authority
- Chris Davis, Australian Water Association
- Ross Young, Water Services Association of Australia
- David Roberts, Goulburn Murray Water
- Wayne Morling, Water Corporation
- Peter Bernich, SA Water Corporation
- Stephen Wilson, Water Industry Training Centre
- George Wall, Water Industry Operators Association
- Kim Peterson, TAFE NSW
- Tracie Regan, SunWater
- Elizabeth Owers, Department of Further Education Employment, Science and Technology (SA)
- Kathi Eland, Department of Education Science and Training (DEST)
- Nicholas Crosling, Government Skills Australia Industry Skills Council.

Others have also played a significant role and their input is also acknowledged with thanks. Members of the Water Industry Advisory Committee who were not represented on the project steering committee were:

- Paul O'Brien, Vic Water
- Brad Flanagan, Queensland Utilities and Services ITAB
- John Flett, Goulburn Murray Water
- Carl Peterson, NSW Local Government Water Directorate
- Kevin O'Brien, Northern Territory Power and Water
- Don Mackay, Open Learning Institute
- Lynn Hallam, Hobart Water
- Steve Weatherstone, NSW VTE ITAB.

Members of the project's specialist Industry Advisory Groups (IAGs) for the sectors of water treatment, wastewater treatment, hydrography, water catchment and dams, water supply distribution, wastewater collection and trade waste.

The development team would especially like to thank the following individuals within the following advisory groups for their contribution to the project.

Trade Waste IAG:

David Hewett, Water Corporation
Cameron Jackson, Brisbane Water
Don Jackson, Power and Water
Stephen Murphy, Sydney Water
Peter Donlon, Water Services Association of Australia

Hydrography IAG:

Neil Harper, OTEN
Peter Cations, Thiess Environmental Services
Greg May, WA Department of Environment
Mic Clayton, Australian Hydrographers Association

Catchment/Dams IAG:

Norm Himsley, NSW Dams Safety Committee
Paul Heinrichs, Department of Energy, Utilities and Sustainability
Paul O'Brien, Vic Water and Victorian Dams Reference Committee
Wayne Morling, Water Corporation

The contribution of a number of water industry peak bodies should also be acknowledged for having advised their membership of ongoing project outcomes and provided avenues for consultation and feedback. These bodies include:

- Water Industry Operators Association
- Water Services Association of Australia
- Australian Water Association
- Water Directorate of Queensland
- Water Directorate of NSW
- Australian Hydrographers Association.
-

The project team would also like to thank the various water authorities who have so generously given of their time and venues to convene national workshops and conduct workplace functional analysis. In particular, we would like to thank:

- SA Water
- Water Corporation
- Sydney Water
- Hobart Water
- ActewAGL
- Central Highlands Water
- Gippsland Water
-

Special thanks go to Tracie Regan of SunWater who developed the dedicated Water Training Package Review Group hosted on the EdNA Groups website (www.groups.edna.edu.au). With over 25,000 hits recorded on this website, it has enabled industry to have ongoing input throughout the life of the project.

Government Skills Australia would like to thank the committee and the project team for their hard work and support in this long and complex project.

Qualifications Framework

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, 3rd Edition 2002*. You can download it from the Australian Qualifications Framework Advisory Board (AQFAB) website (www.aqf.edu.au) or obtain a hard copy by contacting AQFAB on phone 03 9639 1606 or by emailing AQFAB on aqfab@curriculum.edu.au

The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training 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 six AQF qualifications.

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

Graduate Certificates and Graduate Diplomas can also be awarded in the VET sector under certain conditions – see the *AQF Implementation Handbook* for details.

On completion of the requirements defined in the Training Package, a registered training organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the Australian Quality Training Framework (AQTF) *Standards for Registered Training Organisations*, particularly Standard 10.

Statement of Attainment

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

Under the *Standards for Registered Training Organisations*, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. 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 to apply 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 covers selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

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

Applications may involve some responsibility for others. Participation in teams, including group or team coordination may be involved.

Distinguishing features of learning outcomes

Do the competencies enable an individual with this qualification to:

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

Certificate IV**Characteristics of learning outcomes**

Breadth, depth and complexity of knowledge and competencies covering 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 provide some leadership and guidance to others in the application and planning of the skills.

Applications involve responsibility for and limited organisation of others.

Distinguishing features of learning outcomes

Do the competencies enable an individual with this qualification to:

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

Diploma

Characteristics of learning outcomes

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

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

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

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

Distinguishing features of learning outcomes

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

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

Advanced Diploma

Characteristics of learning outcomes

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

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.

Employability skills

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:¹

¹ Personal attributes that contribute to employability were also identified in the report but are not part of the Employability Skills Framework

- 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.

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
Teamwork that contributes to productive working relationships and outcomes	<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
Problem solving that contributes to productive outcomes	<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
Initiative and enterprise that contribute to innovative outcomes	<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

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.
Planning and organising that contribute to long and short-term strategic planning	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
Self-management that contributes to employee satisfaction and growth	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
Learning that contributes to ongoing improvement and expansion in employee and company operations and outcomes	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
Technology that contributes to the effective carrying out of tasks	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

Qualification pathways

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.

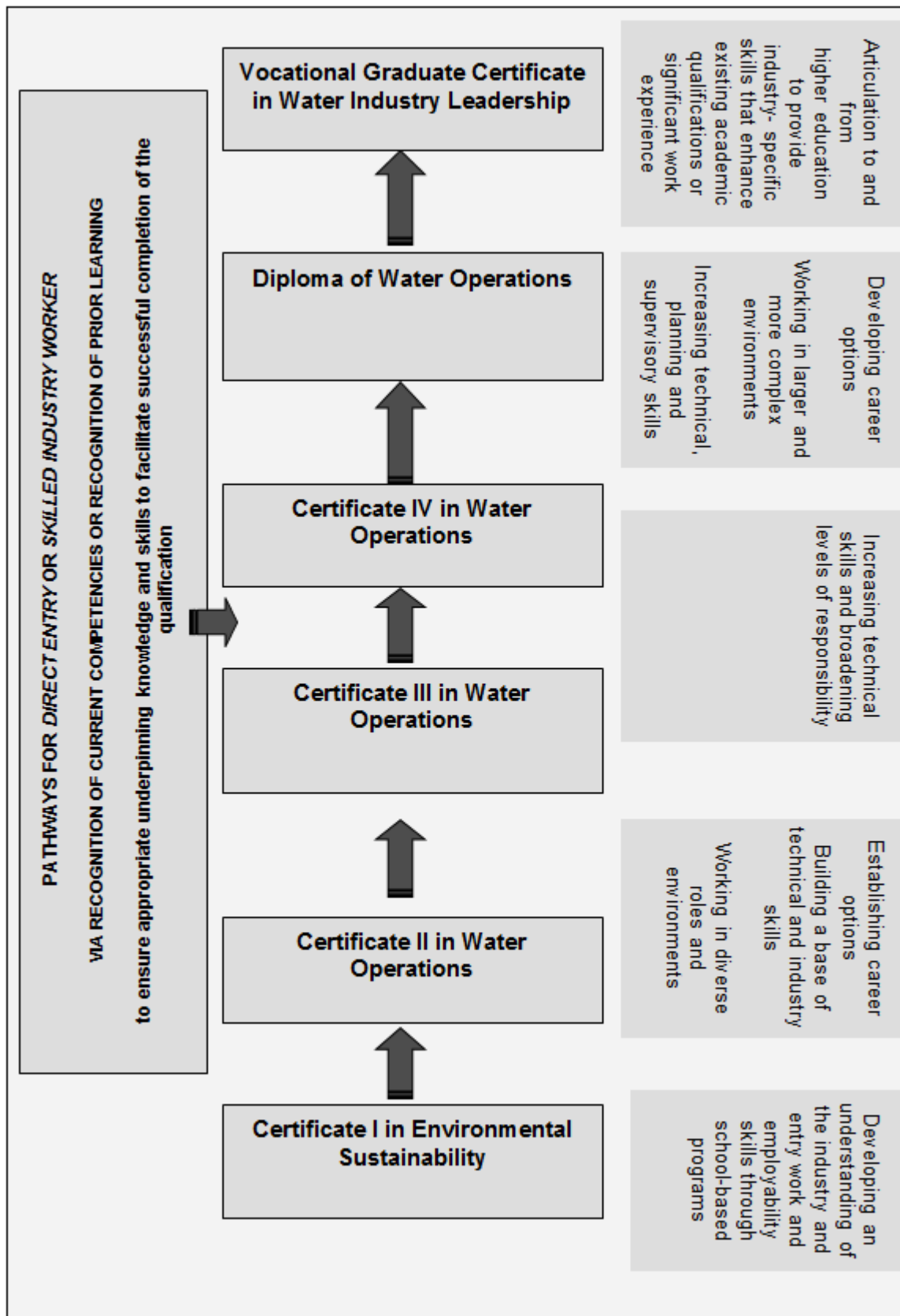
This industry advice is designed to assist candidates to make appropriate choices about the qualifications they can undertake to maximise their career choices, and to alert them to any industry accreditation or recognition requirements. Industry career and career-pathway advice is also valuable in explaining 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	www.dest.gov.au/sectors/career_development

Training – career development site	/default.htm
Department of Education, Science and Training – Job Guide	http://jobguide.dest.gov.au/
Australian Apprenticeships Training Information Service	www.nacinfo.com.au

State and Territory Training Authorities and state Industry Training Advisory Bodies will also have valuable career and career-pathway information.



Assessment Guidelines

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) *Standards for Registered Training Organisations*. 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 or registration requirements and assessment pathways.

Benchmarks for assessment

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

In the areas of work covered by this Training Package, the endorsed units of competency 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).

Australian Quality Training Framework assessment requirements

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training (VET) sector must meet the requirements of the AQTF as expressed in the *Standards for Registered Training Organisations*. The *Standards for Registered Training Organisations* can be downloaded from the Department of Education, Science and Technology (DEST) website at www.dest.gov.au or can be obtained in hard copy from DEST. The following points summarise the assessment requirements under the AQTF.

Registration of training organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a state or territory registering/course accrediting body in accordance with the *Standards for Registered Training Organisations*. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration. See Section 1 of the *Standards for Registered Training Organisations*.

Quality training and assessment

Each RTO must have systems in place to plan for and provide quality training and assessment across all its operations. See Standard 1 of the *Standards for Registered Training Organisations*.

Assessor competency requirements

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

Assessment requirements

The RTO's assessments must meet the requirements of the endorsed components of Training Packages within its scope of registration. See Standard 8 of the *Standards for Registered Training Organisations*.

Assessment strategies

Each RTO must identify, negotiate, plan and implement appropriate learning and assessment strategies to meet the needs of each of its clients. See Standard 9 of the *Standards for Registered Training Organisations*.

Mutual recognition

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

Access and equity and client services

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

Partnership arrangements

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

Recording assessment outcomes

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

Issuing AQF qualifications and Statements of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the *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 where the individual is assessed as competent against fewer units of competency than required for an AQF qualification. See Standard 10 and Section 2 of the *Standards for Registered Training Organisations*.

Licensing or registration requirements

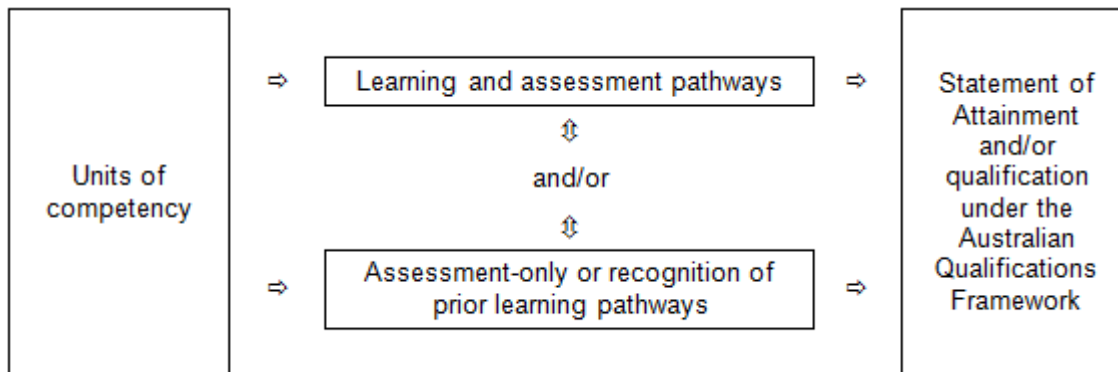
While some functions performed by people working in the water industry, such as the use of some plant and equipment, are regulated or licensed in some or all of the States and Territories, generally the water industry does not have water-specific licensed occupations. It is important that RTOs and candidates make themselves familiar with the licensing and registration arrangements that apply in their jurisdiction.

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
- any combination of the above.

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



Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired. Assessment, by any pathway, must comply with the assessment requirements set out in the *Standards for Registered Training Organisations*.

Learning and assessment pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at any time 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 and 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.

Assessment-only or recognition of prior learning pathway

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 achieved.

In an assessment-only or 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, such as in the compilation of portfolios; or may be directed by the assessor, such as through observation of workplace performance and skills application, and oral or written assessment. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of Standard 8.2 of the *Standards for Registered Training Organisations* 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 and work samples. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies.

In judging evidence, the assessor must ensure that the evidence 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)
- 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).

The assessment-only or recognition of prior learning pathway is likely to be most appropriate in the following scenarios:

- candidates enrolling in qualifications who want RPL or recognition of current competencies
- existing workers
- individuals with overseas qualifications
- recent migrants with established work histories
- people returning to the workplace
- people with disabilities or injuries requiring a change in career.

Combination of pathways

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 mandatory competencies for assessors and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Assessor competencies

The *Standards for Registered Training Organisations* specify mandatory competency requirements for assessors. For information, Standard 7.3 and 7.4 of the *Standards for Registered Training Organisations* follows:

- 7.3 **a** The RTO must ensure assessments are conducted by a person who has:
- i the following competencies from the Training and Assessment Training Package or is able to demonstrate equivalent competencies:
- a TAAASS401A Plan and organise assessment
 - b TAAASS402A Assess competence
 - c TAAASS404A Participate in assessment validation

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

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

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 are benchmarked or mapped against the current version of the relevant unit of competency. This can be done by checking that the materials are listed on the National Training Information Service website (www.ntis.gov.au). Materials on the list have been noted by the National Quality Council as meeting its quality criteria for Training Package support materials.

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 as required under 9.2i of the *Standards for Registered Training Organisations* meet the assessment requirements expressed in the *Standards for Registered Training Organisations*, particularly Standards 8 and 9.

A key reference for assessors developing assessment tools is TAA04 Training and Assessment Training Package and the unit of competency TAAASS403A *Develop assessment tools*.

Conducting assessment

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

Mandatory assessment requirements

Assessments must meet the criteria set out in Standard 8 from the *Standards for Registered Training Organisations*. For information, Standard 8 of the *Standards for Registered Training Organisations* is reproduced below.

8. RTO Assessments

The RTO's assessments meet the requirements of the endorsed components of Training Packages and the outcomes specified in accredited courses within the scope of its registration.

8.1 The RTO must ensure that assessments (including RPL):

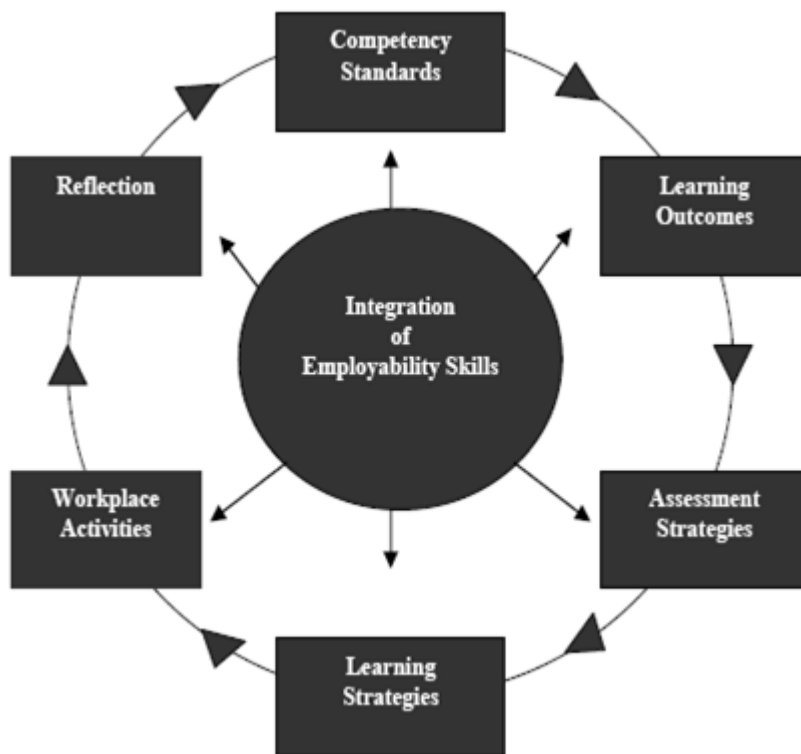
- i. comply with the Assessment Guidelines included in the applicable nationally endorsed Training Packages or the assessment requirements specified in accredited courses;
- ii. lead to the issuing of a statement of attainment or qualification under the AQF when a person is assessed as competent against nationally endorsed unit(s) of competency in the applicable Training Package or modules specified in the applicable accredited course;
- iii. are valid, reliable, fair and flexible;
- iv. provide for applicants to be informed of the context and purpose of the assessment and the assessment process;
- v. where relevant, focus on the application of knowledge and skill to the standard of performance required in the workplace and cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills;
- vi. involve the evaluation of sufficient evidence to enable judgements to be made about whether competency has been attained;
- vii. provide for feedback to the applicant about the outcomes of the assessment process and guidance on future options in relation to those outcomes;
- viii. are equitable for all persons, taking account of individual needs relevant to the assessment; and
- ix. provide for reassessment on appeal.

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

- b The RTO must have an RPL process that:
 - i. is structured to minimise the time and cost to applicants; and
 - ii. provides adequate information, support and opportunities for participants to engage in the RPL process.

Delivery and assessment of employability skills

Employability skills are integral to workplace competency and, as such, must be considered in the design, customisation, delivery and assessment of VET programs in an integrated and holistic way, as represented diagrammatically below.



Training providers must analyse the employability skills information contained in units of competency in order to design valid and reliable learning and assessment strategies. This analysis includes:

reviewing unit(s) of competency to determine how each relevant employability skill is found and applied within the unit

analysing the Employability Skills Summary for the qualification in which the unit(s) is/are packaged to help clarify relevant industry/workplace contexts with regard to the application of employability skills at that qualification level

designing learning and assessment activities that address the employability skills requirements.

Employability skills in context

Candidates undertaking the qualifications in this Training Package are diverse in nature, varying from students undertaking VET in Schools programs through to people involved in other forms of pre-employment or early-employment programs or operational staff in a wide range of water applications and resource management. As a result of this diversity, the Employability Skills Summary Tables will be representative of the water industry in general and will vary in relation to specific job roles.

The flexibility and broad scope of qualifications are reflected in the extensive list of elective units of competency. Learning and assessment strategies for each qualification should be based on the requirements identified in units of competency that meet the packaging guidelines, without additional requirements for the facets of employability skills.

Employability Skills Summaries of qualifications capture what might be typical of each qualification but will be influenced by the selection of electives.

Access and equity

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

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

Further sources of information

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

Contacts

Government Skills Australia
Level 2, 47-49 Waymouth Street,
Adelaide SA Australia 5000
Tel: 08 8410 3455
Fax: 08 8410 2842
Web: www.governmentskills.com.au
Email: info@governmentskills.com.au

TVET Australia Ltd
Level 21, 390 St Kilda Road
Melbourne VIC 3004
PO Box 12211
MELBOURNE VIC 8006
Tel: 03 9832 8100
Fax: 03 9832 8199
Web: www.atpl.net.au
Email: sales@atpl.net.au

Innovation and Business Skills Australia
Level 2, Building B, 192 Burwood Road
HAWTHORN VIC 3122
Telephone: (03) 9815 7000
Facsimile: (03) 9815 7001
Web: www.ibsa.org.au
Email: admin@bsitab.org

General resources

Refer to <http://antapubs.dest.gov.au/publications/search.asp> to locate the following ANTA publications.

AQF Implementation Handbook, Third Edition. Australian Qualifications Framework Advisory Board, 2002, www.aqf.edu.au

Australian Quality Training Framework (AQTF) – for general information go to:
www.dest.gov.au/sectors

Australian Quality Training Framework (AQTF) – for resources and information go to:
www.dest.gov.au

Australian Quality Training Framework *Standards for Registered Training*

Organisations, Australian National Training Authority, Melbourne, 2005. Available in hard copy from State and Territory Training Authorities or can be downloaded from www.dest.gov.au

TAA04 Training and Assessment Training Package. This is available from the Innovation and Business Skills Australia (IBSA) Industry Skills Council and can be viewed, and components downloaded, from the National Training Information Service (NTIS)

National Training Information Service, an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses – www.ntis.gov.au

Style Guide for Training Package Support Materials, Australian National Training Authority, Melbourne, 2003. Can be downloaded from the ANTA page at www.dest.gov.au

Assessment resources

Training Package Assessment Guides — a range of resources to assist RTOs in developing Training Package assessment materials developed by ANTA with funding from the Department of Education, Training and Youth Affairs. It is made up of 10 separate titles, as described at the ANTA publications page of www.dest.gov.au. Go to www.resourcegenerator.gov.au/loadpage.asp?TPAG.htm

Printed and/or CD ROM versions of the Guides can be purchased from Australian Training Products (ATP). The resource includes the following guides:

1. Training Package Assessment Materials Kit
2. Assessing Competencies in Higher Qualifications
3. Recognition Resource
4. Kit to Support Assessor Training
5. Candidate's Kit: Guide to Assessment in New Apprenticeships
6. Assessment Approaches for Small Workplaces
7. Assessment Using Partnership Arrangements
8. Strategies for Ensuring Consistency in Assessment
9. Networking for Assessors
10. Quality Assurance Guide for Assessment

An additional guide *Delivery and Assessment Strategies* has been developed to complement these resources.

Assessment tool design and conducting assessment

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

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

Manufacturing Learning Australia 2000, *Assessment Solutions*, Australian Training Products, Melbourne

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

Assessor training

Australian Committee on Training Curriculum (ACTRAC) 1994, *Assessor training program – learning materials*, Australian Training Products, Melbourne

Australian National Training Authority, *A Guide for Professional Development*, ANTA, Brisbane

Australian Training Products Ltd *Assessment and Workplace Training, Training Package – Toolbox*, ATPL Melbourne

Green, M, et al. 1997, *Key competencies professional development Package*, Department for Education and Children's Services, South Australia

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

Assessment system design and management

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

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

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

Access and equity resources

Regularly check DEST publications for supporting resources (including ANTA publications): http://www.dest.gov.au/sectors/training_skills/publications_resources

Working with Diversity

AQTF supporting resources (in DEST Publications catalogue)

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

Working with Diversity: A Guide to Equity and the AQTF

Working with Diversity: Quality Training for People with a Disability

Working with Diversity: Quality Training for Indigenous Australians

Flexible learning resources

Search for access and equity, disability, diversity, indigenous, rural and remote (www.flexiblelearning.net.au)

Legislation

Racial Discrimination Act 1975 <http://scaleplus.law.gov.au/html/pasteact/0/47/top.htm>

Disability Discrimination Act 1992 (DDA)

<http://scaleplus.law.gov.au/html/pasteact/0/311/top.htm>

Human Rights and Equal Opportunity Commission <http://www.hreoc.gov.au>

Equal Opportunity in the Workplace Agency (EOWA). <http://www.eowa.gov.au/>

Language and literacy

Adult literacy: <http://www.dest.gov.au/literacynet/>

Indigenous

Partners in a Learning Culture National Strategy and Blueprint for Implementation

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

Australian Indigenous Training Advisory Council (AITAC)

http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/vent/aitac.htm

Indigenous Education Online <http://indigo.dest.gov.au/>

Australian Government Indigenous portal www.indigenous.gov.au

Indigenous Education Consultative Bodies (IECB): contact state and territory training authorities, or telephone 1800 800 821, or go to

http://www.dest.gov.au/sectors/indigenous_education/organisation_contacts

Disability

Australian Disability Training Advisory Council (ADTAC)

http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/vent/adtac.htm

Australian Disability Clearinghouse on Education and Training (**ADCET**)

www.adcet.edu.au

Disability employment agencies: contact state and territory offices of Department of Family and Community Services for details of local disability employment agencies, or go to <http://www.facs.gov.au/internet/facsinternet.nsf/disabilities/services-cdes.htm>

Bridging Pathways. National strategy for increasing opportunities for people with a disability in VET

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

Women

Women: Shaping Our Future

<http://antapubs.dest.gov.au/publications/publication.asp?qsID=607>

Competency Standards

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 focusing 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 to reflect local outcomes required. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.

Any contextualisation of units of competency in this endorsed Training Package must be within the bounds of the following advice. In contextualising units of competency, RTOs: must not remove or add to the number and content of elements and performance criteria may add specific industry terminology to performance criteria where this does not distort or narrow the competency outcomes may make amendments and additions to the range statement as long as such changes do not diminish the breadth of application of the competency and reduce its portability may add detail to the evidence guide in areas such as the critical aspects of evidence or resources and infrastructure required where these expand the breadth of the competency but do not limit its use.

Components of units of competency

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

Unit title

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

Unit descriptor

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

Employability Skills statement

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

Prerequisite units (optional)

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

Application of the unit

This subsection 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, specialization 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 RTO and assessor about how the described competency may be demonstrated. The evidence guide does this by providing a range of evidence for the assessor to make determinations, and by providing the assessment context.

The evidence guide describes:

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

relationships with the assessment of any other units of competency

suitable methodologies for conducting assessment including the potential for workplace simulation

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

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

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.

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

Unit descriptor	This unit covers the skills and knowledge required to promote the use and implementation of innovative work practices to effect change. (initiative and enterprise)
Element	Proactively resolve issues. (problem solving)
Performance criteria	Information is organised in a format suitable for analysis and dissemination in accordance with organisational requirements. (planning and organising)
Range statement	Software applications may include email, internet, word processing, spreadsheet, database or accounting packages. (technology)
Required skills and knowledge	Modify activities depending on differing workplace contexts, risk situations and environments. (learning) Work collaboratively with others during an emergency. (teamwork) Instructions, procedures and other information relevant to the maintenance of assets and security. (communication)
Evidence guide	Evidence of having worked constructively with a wide range of customers, suppliers and stakeholders to solve problems and adapt or design new solutions to meet identified needs in customer services. In particular, evidence must be obtained on the ability to: <ul style="list-style-type: none"> • assess response options to identified customer needs and determine the optimal action to be implemented (problem solving) • in consultation with relevant others, design an initiative to address identified issues. (initiative and enterprise).