Government Skills AUSTRALIA

The Industry Skills Council for
Government and Community Safety

PROPOSED NATIONAL CERTIFICATION FRAMEWORK 2012

Operators within Drinking Water Treatment Systems

This work has been undertaken by Government Skills Australia on behalf of the National Water Commission.

Australian Government

National Water Commission

Contents

Introduction

The *Proposed National Certification Framework 2012: Operators within Drinking Water Treatment Systems* (the Certification Framework*)* is underpinned by the need to ensure consumers are provided with safe drinking water.

It provides an assurance to regulators, communities and consumers that operators are competent to manage drinking water quality, as well as being capable of identifying and responding to water quality risks and incidents. The framework introduces a minimum level of competency for *Certified Operators* across all states and territories by aligning skills, knowledge and competency requirements to national Vocational Education and Training (VET) standards. Further, the Certification Framework ensures there is a requirement for on-going maintenance/development of skills and knowledge.

> The actions of *operators* that treat drinking water have a direct impact on water quality and consequently may impact on the public health risk to communities and consumers.

Extensive research and consultation has informed the development of this framework including national, international and industry-wide strategies involving workshops in each state and territory. These workshops were attended by public health and water quality regulators, private and public sector water enterprises, peak industry bodies, as well as a range of associated industries.

Purpose

The Certification Framework provides a set of nationally consistent criteria that defines and recognises the minimum level of competency and capability required of operators who treat and/or sample drinking water for human consumption to ensure that it is safe.

Scope

The Certification Framework is intended for use by all Australian owners and/or operators of systems that provide drinking water for human consumption. Variables considered in the certification framework design include:

- Industry structures (major urban utilities, corporations, local government authorities, public and private entities, small, regional and remote, wholesale, retail and contractors);
- Employment structures (from full time treatment operators to part-time/multi-disciplined workers);
- Differing and changing legislative conditions across states and territories; and
- Local risks to drinking water quality (physical, microbial, chemical and radiological).

The Certification Framework applies only to the operators of treatment processes; or where no treatment process exists, to those that monitor, sample and/or test drinking water in compliance with public health/water quality regulatory requirements. It does not apply to professionals or para-professionals (such as engineers or chemists), non-operational supervisors, administrative workers, managers or senior executives.

An operator will perform any or all of the following:

- Control
- Optimise
- Sample
- Monitor
- Report

It is not intended for use by the bottled water industry or where water of a higher quality is required for applications in medical or industrial industries. Similarly, it is not applicable to private residences where water is sourced and/or treated onsite for domestic consumption.

The competency and capability of operators is just one component that ultimately ensures that drinking water is safe. Other issues that affect the safety of drinking water include:

- The condition and management of a raw water source
- Investment in infrastructure such as treatment facilities, secondary points of disinfection and the reticulation network.
- The actions of other workers in the water sector.

This framework is not intended to drive investment in infrastructure (e.g. treatment facilities or distribution networks) or the planning and construction of raw water sources, but to recognise the important role that competent and capable operators play in the provision of safe drinking water.

The Australian Drinking Water Guidelines

The Australian Drinking Water Guidelines (ADWG) provides an interrelated set of standards to assure safe drinking water through a preventive risk management approach. It is designed as *'a robust system [that] must include mechanisms or fail-safes to accommodate inevitable human errors without allowing major failures to occur'*. Further, the ADWG recognises that safe drinking water will only be assured by managing all risks from 'catchment to tap'. (Australian Government, 2011)

Please refer to the National Health and Medical Research Council (NHMRC) website for the latest version of the Australian Drinking Water Guidelines.

The Certification Framework does not seek to replicate any component of the ADWG. Instead, it draws key aspects from it to assist *Drinking Water Suppliers* to define the competency and capability requirements of operators. Figure 1 below provides advice as to the alignment of this certification framework and the ADWG.

12 Elements of the Australian Drinking Water Guidelines

Element	Title	Certification Linkage
1	Commitment to drinking water quality management	Parts 2, 4, 5 & 6
2	Assessment of the drinking water supply system	Part 2
3	Preventive measures for drinking water quality management	Parts 4, 5 & 6
4	Operational procedures and process control	Parts 2 & 4
5	Verification of drinking water quality	Part 4
6	Management of Incidents and emergencies	Part 5
7	Employee awareness and training	Parts 4, 5, 6 & 8
8	Community involvement and awareness	
9	Research and development	Part 6
10	Documentation and reporting	Part 8
11	Evaluation and audit	
12	Review and continual improvement	Part 2

Figure 1- Alignment of the Certification Framework to the ADWG

Regulatory Conditions

Any statement or condition made in this framework does not over-ride the local regulatory requirements placed upon a *Drinking Water Supplier*.

Applying the Certification Framework

The criteria identified in this Certification Framework are a minimum only. The criteria provides for specific competency and capability requirements that align directly to the tasks performed. *Drinking Water Suppliers* are strongly encouraged to exceed the minimum standards identified in the Certification Framework wherever possible.

Mandatory Application

Jurisdictional regulatory arrangements will require regulated *Drinking Water Suppliers* to participate in this framework as a component of any obligation to manage risk to public health.

Features of the Framework

Certification is based on the requirement of a drinking water treatment operator to:

- Achieve the necessary competencies specified in the National Water Training Package (NWP07 and future revised versions) for operating, controlling or optimising water treatment processes and/or monitoring, sampling and reporting water quality;
- Demonstrate capability within the workplace through industry experience; and
- Continue to develop knowledge and skills, as well as maintain currency of industry experience.

The complexity of each *Drinking Water Treatment System* forms the basis for determining the competency and capability required of the certified operator. The complexity of each Drinking Water Treatment System will be measured through an approved process endorsed by the relevant state and territory regulator. This allows for regulators to use established reporting in alignment with the ADWG risk management guidelines (such as Drinking Water Quality Risk Management Plans) and the flexibility to negotiate with *Drinking Water Suppliers* on a needs basis.

National Competency Standards

By adopting national competency standards under the Vocational Education and Training (VET) framework the skills and knowledge of a *Certified Operator* will be portable. This also provides rigorous training and assessment through the regulation and auditing of Registered Training Organisations (RTOs).

Qualifications or Statements of Attainment will identify competencies issued through an RTO and are recognised as achievement of competency in the Certification Framework. *Drinking Water Suppliers* will notice that competency standards change over time. Where there are any concerns about the currency of a *Certified Operator's* competency, the *Drinking Water Supplier* is advised to liaise directly with the *Certifying Body* or their preferred RTO.

Management and Maintenance of the Framework

The Framework is designed to be managed and maintained by an independent third party entity in accordance with the direction set from consultation with industry stakeholders, including regulators. The *Certification Body* will be responsible for the development of software and supporting systems to record and report details as listed in Part Nine – Management of the Framework.

Note: Due to the potential conflict of interest that may arise, RTOs or affiliates*, *Drinking Water Suppliers* and state/territory regulators are precluded from taking on the role as a certifying body.

*An RTO affiliate is an organisation that has entered into a partnership arrangement to delivery nationally recognised training or is a member of an RTO Board of Governance.

Review and Continuous Improvement

The water industry is being subjected to increasing levels of change as a result of:

- Changing local legislative requirements,
- Reform in the sector nationally and at local levels; and
- Increasing development and adoption of new technologies.
- Changing workforce demographics, creating the need to manage attraction, retention and knowledge management issues.

The owner of this Certification Framework will initiate and facilitate periodic review of the Framework to ensure competency, capability and development standards defined in this document remain valid and appropriate to the industry and align to the elements of the ADWG.

Structure

The Certification Framework fits into the highly complex, multi-faceted water industry. In isolation, it provides minimum standards that *Certified Operators* will need to attain to ensure they can competently carry out drinking water treatment tasks.

In a larger context, the framework forms just one driver in an industry underpinned by a commitment to training, research, innovation and regulation. Table 1 below depicts the complex layers of state/territory and commonwealth water quality management:

Commonwealth	State/Territory	Local	Industry
Policy • National Water Commission • National Health and Medical Research Council • Standing Council on Environment and Water (SCEW) **Guidelines/Standards** • Australian Drinking Water Guidelines (ADWG) • National Water Industry Training Package NWP07	**Regulatory** • Water Licensing (extraction) • Approvals • Public Health • Drinking Water Quality Management • Best Practice Guidelines • Fluoridation • OH&S • Environmental • Reporting • Office of Water (or equivalent) • Economic Regulator	**Regulatory** • Local approvals • Inspections **Guidelines/Standards** • Customer contracts • Defined levels of service • Local Standards	**Guidelines/Standards** • Best Practice Guidelines • AS/NZS quality standards **Peak Bodies/ Associations** • Water Services Association of Australian (WSAA) • Australian Water Association (AWA) • Government Skills Australia (GSA) • Industry Training Advisory Bodies (ITABs) • NSW Water Directorate • QLD Water Directorate • VicWater • Water Industry Operators Association of Australia (WIOA) • National Centre of Excellence in Desalination **Employee Associations** • ASU

Table 1 - Drivers and Guidance for Water Quality Management in Australia

Functionally, this framework applies to one component of the total water sector, as represented in Figure 1 below:

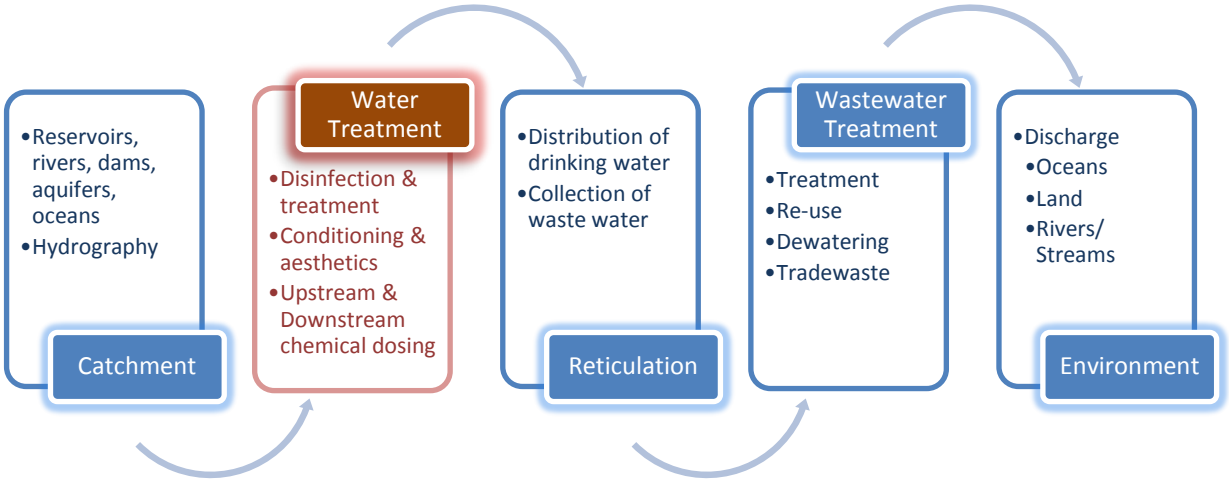

Figure 2 - Components of the Water Sector

The Certification Framework may be expanded to other sectors within the Water Industry upon successful implementation of this framework within the drinking water treatment sector.

Certification Process

Figure 3 following provides an overview of the processes that underpins this framework:

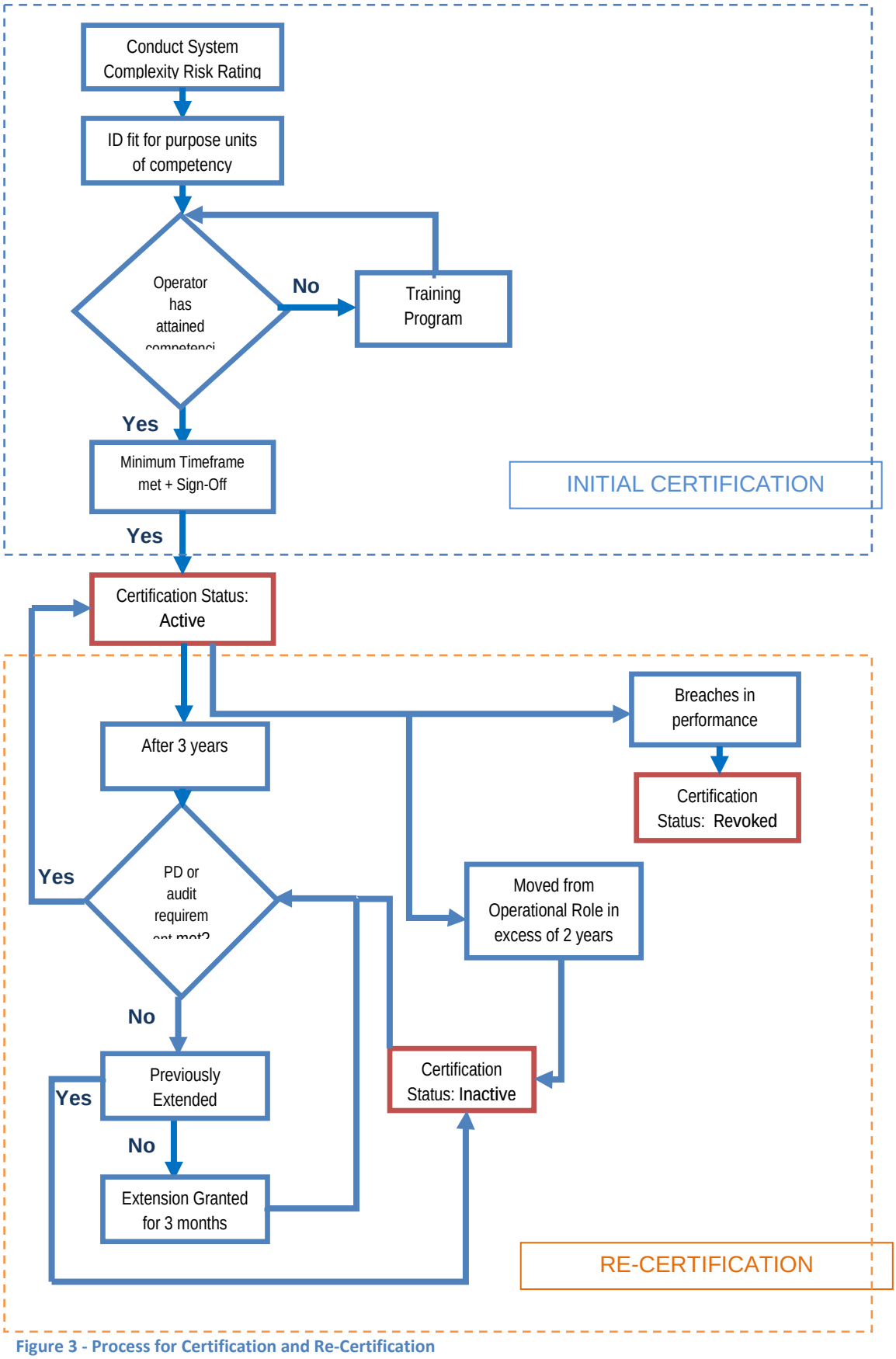

Figure 3 - Process for Certification and Re-Certification

Yes

Part One – Scope of Certification

Part One identifies the physical system components and stakeholders that are the focus of this Framework. It identifies the organisations that will likely employ water treatment operators to perform tasks associated with creating and maintaining safe drinking water.

Rationale

The Certification Framework provides one preventive measure as described in the ADWG that, when integrated with sound management of the entire system, will provide for safe drinking water.

Definitions

Drinking Water Treatment System –

*A*re a component of the *Drinking Water Supply System* as defined at Element 3.2 of the ADWG. *Drinking Water Treatment Systems* provide water intended for human consumption that;

- Does not pass through any treatment barriers; or
- Is treated by a single barrier or multiple barrier drinking water treatment facility.

Where a water treatment facility exists, the *Drinking Water Treatment System* is inclusive of downstream chemical dosing and disinfection.

It does not include direct or indirect drinking water recycling/re-use schemes.

Drinking Water Supplier

An organisation/enterprise (public or private) or, individual that provides drinking water for human consumption. The *Drinking Water Supplier* includes, but is not limited to:

- major urban utility,
- corporation
- local government authority,
- public or private entity,
- small, regional or remote,
- wholesaler, retailer or contractor

Any organisation contracted to manage a *Drinking Water Treatment System* (or part thereof) is considered to be a *Drinking Water Supplier*.

Note that 'Independent Contractors' (individuals) are defined in Part Three – Operators in Scope

Treatment Process

Any process within a *Drinking Water Treatment System* that changes the physical, chemical or biological properties of water derived from any source in order to make it safe for human consumption or to make it comply with a regulatory order relating to human consumption. Treatment processes include, but are not limited to:

- Primary and Secondary Disinfection
- Coagulation and Flocculation
- Sedimentation and Clarification
- Dissolved Air Flotation
- Granular Filtration
- Membrane Filtration
- Reverse Osmosis
- Adsorption
- Ion Exchange
- Fluoridation
- Softening/Hardening
- Chemical Dosing

Part Two – System Complexity Rating

Part Two outlines the requirement for the *Drinking Water Supplier* to rate every *Drinking Water Treatment System* in relation to its complexity.

Rationale

The competencies and capabilities required of operators will be defined at different levels dependent upon the complexity of the system.

The System Complexity Rating supports the Certification Framework by categorising systems into the following:

- **Low Complexity:** Will typically include drinking water systems where no treatment barriers are in place or where disinfection is the only treatment barrier. Fluoridation of water may occur at this level.

  Skills required by *Certified Operators* will typically be sourced at AQF level 2 and involve chemical dosing, sampling and/or reporting.

- **Medium Complexity:** Will typically include all conventional treatment systems involving small to medium sized treatment facilities where no extraordinary conditions apply (such as high variability in source water quality). Fluoridation may also occur.

  Skills required by *Certified Operators* will typically be sourced at AQF levels 2 and 3 and involve chemical dosing, control of conventional treatment processes, monitoring, sampling and/or reporting.

- **High Complexity:** Will typically include drinking water systems that have a number of conventional and/or advanced treatment barriers in place requiring frequent and/or specialised intervention by the Certified Operator. Fluoridation may also occur.

  Skills required by *Certified Operators* will typically be sourced from AQF levels 2, 3 and 4 and involve monitoring, sampling, reporting, chemical dosing and control/optimisation of multiple conventional and/or advanced treatment processes.

Factors that will impact upon the competency and capability requirement of the *Certified Operator* include, but are not limited to:

• Automation and level of intervention	• Timeliness of response requirements
• Technology	• Raw source water management
• Complexity of individual processes	• Raw water quality and variability
• Interrelatedness of processes	• Microbial Risks
• Size of the facility	• Chemical Risks
• Number of connections	• Physical Risks
• Volume of Flow	• Radiological Risks

Table 2 - Factors that may be considered during a risk assessment

The information required to undertake this rating will be determined through negotiation with the relevant state or territory water quality or health regulator. The rating will utilise the risk management process as described in Element 3 of the ADWG.

The resultant category informs the level of competency required under the *Australian Qualifications Framework (AQF)*.

Criteria

1. The System Complexity Rating shall be performed by the *Drinking Water Supplier* and reported where required to the relevant state/territory regulator using a risk-based framework agreed with that regulator.

   Note: Please refer to Table 2 above for examples of factors that may affect the complexity rating of a facility.

2. The *Drinking Water Supplier* shall ensure that the rating remains current. Where a change in conditions occurs that would be reasonably expected to affect the resultant score, the System Complexity Rating must be resubmitted using the process agreed with the relevant state or territory regulator.

3. The Drinking Water Supplier shall forward the System Complexity Rating to the *Certifying Body.*

4. Where relevant, the *Drinking Water Supplier* shall inform any *Independent Contractor* of the System Complexity Rating.

5. The *Certifying Body* shall maintain records of the System Complexity Rating and resultant category (Low/Medium/High).

Part Three – Operators in Scope

Part Three identifies the categories of certification that are the subject of this framework.

Rationale

Communities, employers and regulators must be assured that all operators who work within drinking water systems are identified within the certification framework..

The Certification Framework does not seek to influence the levels of responsibility and accountability inherent in an organisational structure. *Drinking Water Suppliers* must ensure that *Certified Operators* are sufficiently supported and that expectations of performance are realistic (i.e. aligned to the level of competency achieved).

Definitions

Operator in Training

An Operator who is gaining experience under the guidance of a *Certified Operator* performing routine tasks and undertaking relevant competency development which culminates in attainment of relevant competencies (from NWP07), as required by this Certification Framework.

The Operator in Training is not certified under this framework, but the *Drinking Water Supplier* is to ensure that opportunities are afforded to the person to develop all necessary competencies to achieve certified status.

Certified Operator

A *Certified Operator* has operational responsibility for water treatment processes or facilities. Duties performed will range from basic monitoring, sampling, testing and reporting, through to chemical dosing, control and optimisation of *Treatment Processes*.

The *Certified Operator* may have responsibility for more than one *Drinking Water Treatment System* at any one time, so long as it is reasonable to expect that drinking water quality and safety will be assured across all systems and the *Certified Operator's* current competencies cover all treatment processes for which they are responsible.

Independent Contractors

For the purposes of this framework, an independent contractor may provide expertise and services to other *Drinking Water Suppliers*;

Independent Contractors are not considered to be *Drinking Water Suppliers*. They are individuals (*Certified Operators*) who work within a *Drinking Water System* and must meet the minimum conditions stated in this Certification Framework.

Exclusions

Where workers who would not normally perform treatment tasks are called upon to assist in an unusual and unforeseen circumstance, the worker is not required to be certified under this framework but would be expected to have access to advice and guidance from a *Certified Operator.*

It is expected that the *Drinking Water Supplier* will be able to respond to emergencies, call-outs and unforeseen events and manage any immediate risk to drinking water safety.

Part Four - Competency Requirement

Part Four of this framework details the requirement for *Certified Operators* to undertake competency assessment.

Rationale

The actions of operators that treat drinking water have a direct impact on water quality and consequently may impact on the public health risk to communities.

Competency is attained through the completion of *fit for purpose* units of competency contained within the National Water Industry Training Package (currently NWP07). *Fit for purpose* units of competency are those that align with the treatment processes and/or associated monitoring, sampling and recording tasks. Part Two of this framework provides the basis for alignment of competency standards.

Although this Framework specifies the minimum competency requirement, *Drinking Water Supplier*s are strongly encouraged to support operators to achieve a formal qualification under the National Water Industry Training Package. The full qualification includes core units that also cover environmental and occupational health and safety issues which are relevant to water treatment but are not mandatory under this framework. There are many benefits to organisations to have staff undertake these core units.

Additionally, due to the complexity of many modern *Drinking Water Treatment Systems* it is likely that the additional training required to achieve a qualification will be minimal. There are a wide range of relevant units which help develop a competent operator. A decision to offer full qualifications may be influenced by:

- The level of investment in training by the employer;
- The availability of public funding for qualifications or part thereof; and
- The level of prior knowledge and skills of the worker.

Full details of qualifications are contained within the Water Industry Training Package.

Access and Opportunity to undertake Competency Development

Identification of an *Operator in Training* by the *Drinking Water Supplier* enables new entrants to the industry to work within a *Drinking Water Treatment System* whilst obtaining the relevant competencies necessary for certification. The guidance provided in this part also applies to existing workers who may need up-skilling through the attainment of formal units of competency.

Drinking Water Suppliers are to provide adequate opportunities to allow new workers or existing workers who require up-skilling to develop their competencies and provide evidence for assessment in order to achieve the competencies required for certification.

The following timeframes outline the **maximum period** an operator should take to complete all competency requirements, noting the need to balance training and workload:

System Complexity Rating	Timeframe for Training
Low	12 months
Medium	24 months
High	36 months

Table 3 - Maximum timeframes to achieve required competencies

Note: The *Drinking Water Supplier* should keep accurate records of *Operators in Training* to ensure that all operators are provided with adequate opportunity to develop the competencies and capabilities within the required timeframe.

Fit for Purpose Units of Competency

Fit for purpose mean that units align with the treatment processes and testing/monitoring processes specific to the *Drinking Water Treatment System* that have a water quality outcome.

Units of competency from the current Water Industry Training Package (NWP07) applicable to a *Drinking Water Treatment System* are provided at Appendix B. The units are presented in common clusters specific to the following process types:

- Disinfection only
- Sedimentation/Clarification
- Dissolved Air Flotation
- Direct Filtration
- Membrane Filtration
- Reverse Osmosis

Table 4 following identifies:

- Expected outcomes for operators within *Drinking Water Treatment Systems* that align to the System Complexity Rating.
- Mandatory units aligned to the System Complexity Rating.

Please note that the competencies stipulated are correct at time of printing. Please check for the most current version by referring to www.training.gov.au, Government Skills Australia or your preferred training provider.

Complexity Rating	Fit For Purpose competency requirements	Mandatory Units
Low Complexity	Fit for purpose units from AQF level 2 from the NWP07. # Units selected may or may not result in a qualification at Certificate level II.	• NWP279A Demonstrate knowledge of the risk management principles of the Australian Drinking Water Guidelines. • NWP218B Perform and record sampling
Medium Complexity	Fit for purpose unis from AQF level 3 from NWP07 Disinfection units at AQF level 2 may also be required. Units selected are likely to result in the award of a Certificate III qualification.	• NWP279A Demonstrate knowledge of the risk management principles of the Australian Drinking Water Guidelines. • NWP210B Perform Basic water quality tests • NWP218B Perform and record sampling
High Complexity	Fit for purpose units from AQF level 4 where relevant from NWP07. Process control and disinfection units from AQF levels 2 and 3 may also be required Units selected will likely result in award of qualification at either Certificate level III or IV.	• NWP279A Demonstrate knowledge of the risk management principles of the Australian Drinking Water Guidelines. • NWP210B Perform Basic water quality tests • NWP218B Perform and record sampling • NWP364B Perform laboratory testing

Table 4 - Competency requirements for Certified Operators

Notes:

- The minimum requirements stated in this part of the framework do not exclude an operator from undertaking units of competency or attaining a qualification that spans other water disciplines (e.g. wastewater, distribution, etc.). Please refer to packaging rules in NWP07.
- Operators are not required to attain a stated Mandatory Unit where an equivalent higher level unit of competency has already been achieved.

Units of Competency not suitable for Certification:

Drinking Water Suppliers and *Registered Training Organisation*s (RTOs) may consider the following units of competency appropriate for workers in the water sector, however the units are not appropriate for certification:

- **NWP260A Monitor and report water treatment processes** is not appropriate to certify operators where conventional or highly complex processes are utilised unless accompanied by the appropriate AQF level 3 unit(s) specific to each process to which certification is to be applied.
- **NWP345B Monitor, operate and control water treatment processes** is not appropriate for certification of an operator who has regular drinking water treatment duties. The unit is intended to provide limited competency to workers who are not usually engaged in water treatment activities.

Criteria

1. *Drinking Water Suppliers* shall provide training and/or assessment opportunities to complete the requirements of Part Four of this framework in accordance with Table 3.
2. Operators shall complete all units of competency that are:
    - 'Fit for purpose'; and
    - Mandatory in accordance with Table 4.

Part Five – Attaining Certification

Part Five details the capability requirement for entry into the Certification Framework.

Rationale

Skills and knowledge (i.e. competency) will be developed further through on the job experience and peer group engagement that is only achieved by working within a Drinking Water Treatment System.

By attaining certification, the operator will have been required to meet the competency requirements as outlined in Part Four of this Framework. However, certification aims to provide additional assurance to consumers, regulators and employers that the operator is able to perform under changing and sometimes challenging conditions.

In other words this part of the framework extends 'demonstrated competency' to include an indication of the capability of an operator to reliably perform under conditions that are difficult, challenging or non-routine.

Required Timeframes

The additional capability is attained through direct exposure to workplace conditions and by application of relevant skills and knowledge to the satisfaction of the *Drinking Water Supplier*. It can only be attained through participating in the operational setting unique to the *Drinking Water Treatment System* for a period not recommended to be less than:

System Complexity Rating	Timeframe for Experience
Low	6 months inclusive of training
Medium	18 months inclusive of training
High	24 months inclusive of training

Table 5 - Minimum period for experience in a Drinking Water System

Where competencies are achieved in a lesser period, the recommended minimum period for experience still applies.

Awarding Certification

Certification shall be awarded on completion of all requirements detailed in Parts Four and Five of this Framework and is represented below:

Competency +	Employer Sign-Off (Capability)	=	Certified Operator

Period of Certification

Certification is valid for a five (5) year period.

Credential

Certification shall result in the credential being issued that specifies:

- Name of the Certified Operator
- Current date of issue and expiry
- *Treatment Processes* for which the person is certified
- Status (i.e. Active/Inactive)

Criteria

The operator shall:

- Be currently employed in an operational role.
- Have undertaken the minimum period for experience within a drinking water system as defined in Table 5.

The *Drinking Water Supplier* or *Independent Contractor*:

- Shall make an application to the *Certifying Body* supporting the suitability of experience of the operator to be certified. Table 5 shall be a guide as to an appropriate timeframe. The application will be made using the approved process supplied by the *Certifying Body*.

The *Certifying Body* shall:

- Upon assessment, and after ensuring that the minimum competency requirements have been met, issue a credential to the *Certified Operator* and a copy to the *Drinking Water Supplier*.

Part Six – Maintaining Certification

Part Six outlines the two pathways available to re-certify under this framework.

Rationale

Certified Operators must attain and maintain competencies to ensure their skills remain relevant and keep pace with changes to treatment processes, technology and consumer/regulatory expectations.

Maintenance of Certification is achieved by ensuring that the competencies and capabilities identified during initial certification remain current. This is achieved through on-going engagement within the water industry, participation in refresher and professional development activities and by responding to changes in conditions, responsibilities, technology or treatment processes.

Importantly, this framework recognises that each workplace is unique and will influence the method by which *Drinking Water Suppliers* will use the framework to ensure the competence of *Certified Operators* is maintained. These factors include the size of the workforce, the nature of the work being performed by the certified person, the geographic location and access to technology.

Relevancy of Competencies to the Drinking Water System

Certification recognises operators for their ability to perform drinking water treatment tasks related to specific processes only. In other words, it does not certify operators to work at a specific facility.

If a Certified Operator moves to another *Drinking Water System* or if an upgrade of a system occurs, the alignment of competencies held by the *Certified Operator* will need to be checked against the new *Treatment Processes*. Where a gap is identified, the *Certified Operator* retains their certified status, however the gap will be addressed and records of certification will be amended to identify new *Treatment Processes*.

Pathways for Re-certification

Pathway #1 – Participation in the Professional Development Program

Pathway 1 provides the opportunity for *Certified Operators* to re-certify by participation in professional development activities. Professional development does not just include training programs or conferences. Please refer to Appendix A for the list of approved professional development activities.

Records of professional development undertaken shall be maintained by the *Drinking Water Supplier* or *Independent Contractor* and shall be provided to the *Certifying Body* to support an application for continued certification. The points required for each period of certification are specified in Table 6.

Pathway #2 - Audit / Demonstration of current competence

The Drinking Water Supplier or the Certified Operator may elect to undertake a certification audit within three (3) months of the expiry of their certification.

The certification audit shall be performed by an operationally competent person, who is independent and approved or nominated by the certifying body using an appropriate audit methodology/tool.

The certification audit will provide evidence that the competence of the *Certified Operator* is current and relevant to the tasks performed at a particular treatment facility.

Criteria

- Regardless of the pathway chosen, *Certified Operators* must:
  - Be currently undertaking treatment tasks aligned to their certification status in an operational role.
    Note: Where a *Certified Operator* is participating in an activity for professional development at the time of -recertification, the *Certifying Body* will consider the operator to be in their substantive position.
  - Meet the requirements of either Pathway 1 or 2 as follows:
    - Pathway #1: Attain the minimum number of points aligned to the System Complexity Rating as detailed in Table 6 below.
    - Pathway #2: Demonstrate current competency through successfully undertaking a certification audit of operational and developmental activities using the process administered by the Certifying Body.
- Ensure that the competencies held (as required in Part Four) remain directly relevant to the water treatment processes that are used within the system.

Extensions to Certification

Falling Short of Required Points in Pathway #1

- Where a *Certified Operator* has elected Pathway #1 but falls short of the required points during the period of certification:
  - A three (3) month extension will be provided to achieve the remaining required points; or
  - The *Drinking Water Supplier* may elect to meet the requirements of Pathway #2 within three (3) months of the expiry of certification.

Unsuccessfully completing the Audit in Pathway #2

- Where the audit is unable to confirm the competence of the *Certified Operator*:
  - A three (3) month extension will be provided.
  - The *Drinking Water Supplier* shall plan and assist the certified person to address any shortfall or gap identified during the audit. Actions and outcomes shall be reported to the Certifying Body.

Continued shortfall after an extension

- Where the three month extension expires, the Certifying Body shall receive advice on a case-by-case basis. The certification status of a Certified Operator may be amended to 'Inactive' unless there are reasonable circumstances to extend the certification period further. Please refer to Part Seven for details of Active and Inactive Certification.

System Upgrades/Moving to a new water treatment system

- The Certification Body shall keep a record of the gap and all correspondence; however the status of the Certified Operator shall remain unchanged.

- The Certification Body shall monitor the progress of a Certified Operator to up-skill. Where the Certified Operator has not up-skilled within a reasonable period of time, the Certification Body shall review the status of certification on a case-by-case basis.

Summary of Competency, Capability and PD Requirements

	Operator in Training	Certified Operator		
		Initial Certification		Re-Certification
Complexity Rating	**Competency Requirement**	**Competency Requirement**	**Capability Requirement**	**Pathway #1 Required Points**
LOW	Undertaking a training program aligned to fit-for-purpose units of competency	Units required within **12 months**	6 months experience plus employer application.	5
MEDIUM		Units completed within **24 months**	18 months experience plus employer application.	10
HIGH		Units completed within **36months**	24 months experience plus employer application.	15

Table 6 - Summary of Competency, Capability and PD requirements

Part Seven – Certification Status

Part Seven of the framework allows for those that have let their status lapse or become inactive for a variety of reasons to re-apply for certification through a fair and simple process.

Rationale

Certified Operators experience periods of inactivity during their career which must not be discouraged or result in disadvantage through this framework.

The *Certifying Body* will assign a status to each *Certified Operator* to identify operators who are active or inactive. An operator may become inactive for a variety of reasons that are valid and reasonable. Examples include extended leave (such as parental leave), career progression and career breaks. Where a *Certified Operator* is identified as inactive, *Drinking Water Suppliers* should not make judgements about employment opportunities based only on the status of certification.

Active Certification

This category of certification shall be used to identify *Certified Operators* who currently meet all requirements as stated in this Framework.

Inactive Certification

- The *Certifying Body* may revise the status to 'Inactive' where the Certified Operator:
  - Is absent from an operational role for a period in excess of twenty four (24) months; or
  - Has been unable to meet the criteria as described in Pathway #1 or #2 as detailed in Part Five within a three (3) month extension period.
- Notification will be provided to the *Drinking Water Supplier* and *Certified Operator* where the certified status changes.

Revoked Status

- The *Drinking Water Supplier must* inform the *Certifying Body* where employment of a *Certified Operator* has been terminated for a serious breach. The *Certifying Body* will examine the specific circumstances and may amend the certification status to 'Revoked' as a result of the notification.

  Please note that Part 8 requires the *Certifying Body* to allow for a formal appeals process.

Criteria for Re-entry

- *Certified Operators* who currently meet all requirements as stated in this Framework shall be identified as Active by the *Certifying Body.*
- Where an 'Inactive' operator seeks to return to 'Active' status, the *Drinking Water Supplier* shall:
  - Cause an audit of current competency to occur as outlined in Pathway #2 of Part Six.
  - Upon successfully completing the audit or addressing any gaps identified, shall apply to the *Certifying Body* to have the status of the *Certified Operator* revised to 'Active'. Evidence of the audit and any gap training shall accompany the application.

Part Eight – Certification Management

Rationale

The administration functions performed by the Certifying Body must be performed in a manner that ensures the integrity of this framework and provides national portability for certified operators.

Administration

The *Certifying Body* shall ensure that sufficient resources are allocated to effectively manage, administer and participate in the review of the Certification Framework.

Governance activities and administrative processes shall be documented through formal policies.

The *Certifying Body* shall ensure that it has national coverage and maintain independence from:

- A Registered Training Organisation (RTO) or affiliate*
- A *Drinking Water Supplier*
- A state or territory regulator

* An RTO affiliate is an organisation that has entered into a partnership arrangement to delivery nationally recognised training or is a member of an RTO Board of Governance.

Records Management

Type of Record

- To ensure that the Certification Framework remains an effective strategy to meet its stated objective, a database shall be maintained by the *Certifying Body* and shall include the following details:

  ORGANISATIONAL INFORMATION

  - The details of the *Drinking Water Treatment System* including:
    - Name of the *Drinking Water Supplier*;
    - Name of an *Independent Contractor's* Business where relevant;
    - Location and business name (where relevant) of each *Drinking Water Treatment System*;
    - The treatment processes present within each *Drinking Water Treatment System*; and
    - The System Complexity Rating for each *Drinking Water Treatment System*.

PERSONNEL INFORMATION

- Details of each *Certified Operator* including:
  - Name;
  - Business Address/Contact details;
  - Certification Number;
  - Date of Initial Certification;

- Entry and Expiry date for current certification.
- Employer Details;
- Status – Active / Inactive / Revoked;
- List of treatment processes for which the certified member is currently competent; and
- List of units of competency achieved including the issuing RTO(s)

Note: The *Drinking Water Supplier* must advise the *Certifying Body* of any changes that impact upon certification as described in Part Six.

Currency of Records

- The *Drinking Water Supplier* must advise the certifying body of any change to the *Certified Operator's* records in relation to any change to treatment processes including any change in the complexity rating of the system.

Access to personal records

Certified Operators, the *Drinking Water Supplier* and the regulatory body responsible for public health in the relevant state or territory can apply to the Certifying Body to access the relevant personal records for the purpose of validating current competency.

- Documented authority from the *Certified Operator* will be received prior to the release of any information to any other third party.
- Where information is released to any party, a full record of the information that was supplied shall be maintained by the nominate *Certifying Body*.
- Relevant state and territory privacy and confidentiality statutory requirements will apply to all applications.

Records Retention

- The *Certifying Body* shall maintain records for all persons with an Active, Inactive or Revoked certification status.
- Records shall be disposed of in accordance with the Records Retention Policy of the *Certifying Body*. The policy shall require that details of certification shall be retained for 30 years. This does not include retention of any supporting materials.
- In the event that the *Certifying Body* discontinues business, all records shall be safeguarded and provided to the relevant authority as directed.

Appeals

- Where a *Drinking Water Supplier* or *Certified Operator* is dissatisfied with a judgement or process used by the *Certifying Body* an appeal may be lodged in accordance with the Appeals Policy.

The policy shall ensure that the appeals process is confidential, equitable and transparent. The policy shall ensure that no stakeholder is vilified, victimised or subject to discrimination.

Appendix A – Approved Professional Development

Activity	Details	Points
Attend a training session approved or conducted by a state/territory regulator or mandated as refresher training	Examples include the NSW Office of Water Update Seminar and the Victorian Dept of Health Water Industry Issues course.	3 points
Complete additional units of competency applicable to drinking water treatment at AQF level 2	Units from a training package other than NWP07 must relate specifically to drinking water treatment.	3 points for each unit
Complete additional units of competency applicable to potable water treatment at AQF level 3	Units from a training package other than NWP07 must relate specifically to drinking water treatment.	4 points for each unit
Complete additional units of competency applicable to potable water treatment at AQF level 4	Units from a training package other than NWP07 must relate specifically to drinking water treatment.	5 points for each unit
Complete additional non-accredited relevant, process based, refresher training.	The training course will be relevant to drinking water treatment systems. The course must include some form of assessment.	4 points
Attend a peak water industry annual conference	Peak industry associations include: • Australian Water Association • Water Industry Operators Association • Water Services Association of Australia	1 point per day attended
Attend a water industry conference, trade show, field day, specialty event or meeting with published agenda	These events are typically facilitated by professional associations, education or training providers (e.g. universities or RTOs), manufacturers or distributors.	1 point per day attended to a maximum of 3 points
Attend a specialist seminar or workshop relevant to drinking water treatment	Examples include: • CRC Road shows and workshops • IWES short courses • Water Treatment Alliance Filter Optimisation workshop • WIOA workshops	2 points per day attended

Attend an in-house training course specific to drinking water treatment	The course must be a formal training program with documented learning outcomes.	1 point per day attended to a maximum of 3 points
Mentoring of a junior staff member	Mentoring must be through a formal arrangement with scheduled meetings/activities over an extended period of time.	4 points
Present a technical paper at a water industry conference or seminar	A 20 minute presentation is the minimum standard as an indicator of the level of research/technical expertise.	5 points
Write and submit a poster presentation at an event		2 points
Write, submit and present a poster presentation at a drinking water industry event		3 points
Submit an article that is published in a water industry or relevant technical journal	Examples include: • AWA Water Magazine • WIOA WaterWorks Magazine • Any other industry recognised journal	5 points
Complete a significant workplace project	Examples include: • Analysis of performance membranes in an RO plant • Research and recommend process for eradication of mosquitoes in a WWTP • Investigation and implementation of plant process improvements	Points to be allocated on a case by case basis. A maximum of 10 points will apply.
Participate in a rotation program or perform higher duties for professional development	The program must be formalised with stated objectives/outcomes	2 points
Provide public presentation in relation to the drinking water treatment system	Examples include the provision of a tour to an external industry, community or school group	2
Subscribe to an industry periodical	Operators should demonstrate that their knowledge of drinking water system issues is current.	1
Recognition of achievement through an industry development award or prize	Examples include: • Churchill Fellowships • IWA (Vic) Award • WIOA Kwatye prize	10 points

Appendix B – Water Treatment Units of Competency

Unit Code	Unit Title	Disinfection Only	Sedimentation Clarificatio	Dissolved Air Flotation	Direct Filtration	Membrane Filtration	Reverse Osmosis
Units generally applicable to Low, Medium and High Complexity Systems							
NWP210B	Perform basic water quality tests						
NWP218B	Perform and record sampling						
NWP268B	Monitor, operate and report chlorine disinfection systems						
NWP273A	Monitor, operate and report UV disinfection systems						
NWP274A	Monitor, operate and report ozone treatment systems						
NWP275A	Monitor, operate and report chlorine dioxide systems						
NWP366A	Monitor, operate and control chloramination disinfection systems						
NWP276A	Monitor, operate and report fluoridation systems						
Units generally applicable to Medium and High Complexity Systems (in addition to any of the relevant units described above)							
NWP347B	Monitor, operate and control coagulation and flocculation processes						
NWP348B	Monitor, operate and control sedimentation and clarification processes						
NWP352B	Monitor, operate and control dissolved air flotation processes						
NWP354B	Monitor, operate and control granular media 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 non filtration processes						
NWP360B	Monitor, operate and control dewatering processes						
NWP364B	Perform laboratory testing						
NWP367A	Monitor, operate and control activated carbon adsorption processes						
Units generally applicable to High Complexity systems (in addition to any of the relevant units described above)							
NWP406A	Investigate and report on optimisation of granular media filtration processes						
NWP407A	Investigate and report on optimisation of dissolved air filtration processes						
NWP408A	Investigate and report on optimisation of sedimentation and clarification processes						
NWP409A	Investigate and report on optimisation of chemical addition, coagulation and flocculation processes						
NWP404A	Apply knowledge of chemistry to water industry						
NWP411A	Select the treatment requirements for waterborne micro-organisms						

Generally Applicable Unit
Possible Unit dependent on process
Generally Not Applicable

Glossary

Australian Qualification Framework (AQF)

The AQF is the national policy for regulated qualifications in Australian education and training. AQF Qualifications certify the knowledge and skills that a person has achieved through study, training, work and life experience. Units of competency in the National Water Industry Training Package identify to a particular AQF level based on the complexity, specialisation and breadth of the unit.

Certification

A national program of recognition afforded to workers who have met industry defined minimum entry standards. This Certification Framework is underpinned by a need to ensure the provision of safe drinking water through minimum standards of certification for water treatment operators.

Certified Operator

A Certified Operator has operational responsibility for water treatment processes or facilities. Duties performed will range from basic sampling, testing and reporting, through to chemical dosing, control and optimisation of treatment processes.

The Certified Operator may have responsibility for more than one treatment systems at any one time, so long as it is reasonable to expect that drinking water quality and safety will be assured at all plants and the Certified Operator's current competencies cover all treatment processes under the responsibility of that person.

Consumer

A recipient of drinking water who is:

- An individual, community, city, town or state (public)
- A guest, customer or employee (private)

Drinking Water Supplier

An organisation/enterprise (public or private) or, individual that provides drinking water for human consumption. The Drinking Water Supplier includes, but is not limited to:

- major urban utility,
- corporation
- local government authority,
- public or private entity,
- small, regional or remote,
- wholesaler, retailer or contractor

Any organisation contracted to manage a Drinking Water System (or part thereof) is considered to be a Drinking Water Supplier.

Drinking Water Treatment System –

*A*re a component of the *Drinking Water Supply System* as defined at Element 3.2 of the ADWG. *Drinking Water Treatment Systems* provide water intended for human consumption that;

- Does not pass through any treatment barriers; or
- Is treated by a single barrier or multiple barrier drinking water treatment facility.

Where a water treatment facility exists, the *Drinking Water Treatment System* is inclusive of downstream chemical dosing and disinfection.

It does not include direct or indirect drinking water recycling/re-use schemes.

Independent Contractors

For the purposes of this framework, an independent contractor may provide expertise and services to other *Drinking Water Suppliers*;

Independent Contractors are not considered to be *Drinking Water Suppliers*. They are individuals (*Certified Operators*) who work within a *Drinking Water System* and must meet the minimum conditions stated in this Certification Framework.

Operator in Training

An Operator who is gaining experience under the guidance of a Certified Operator performing routine tasks and undertaking relevant competency development which culminates in attainment of relevant competencies (from NWP07), as required by this Certification Framework.

The Operator in Training is not certified under this framework, but the Drinking Water Supplier is to ensure that opportunities are afforded to the person to develop all necessary competencies to achieve certified status.

Registered Training Organisation

Training providers that are registered by a national or state regulator to deliver Nationally Recognised Training in the Australian Vocational Education and Training Sector.

Qualification

Issued under the Australian Qualification Framework (AQF) by a Registered Training Organisation (RTO) as a result of completing a formal training and/or assessment pathway. Qualifications are defined in Industry Training Packages or accredited through the national, state or territory accrediting body for Vocational Education and Training (VET).

Treatment Process

Any process within a *Water Treatment System* that changes the physical, chemical or biological properties of water derived from any source in order to make it safe for human consumption or to make it comply with a regulatory order relating to human consumption. Treatment processes include, but are not limited to:

- Primary and Secondary Disinfection
- Coagulation and Flocculation
- Reverse Osmosis
- Adsorption

- Sedimentation and Clarification
- Dissolved Air Flotation
- Granular Filtration
- Membrane Filtration
- Ion Exchange Fluoridation
- Softening/Hardening
- Chemical Dosing

Unit of Competency

A single component of a qualification or a stand-alone unit that has been accredited through the same process as a Qualification.

Vocational Education and Training (VET)

Post-compulsory education and training, excluding degree and higher level programs delivered by higher education institutions (Registered Training Organisations), which provides people with occupational or work-related knowledge and skills. VET also includes programs which provide the basis for subsequent vocational programs or higher education programs.