



Certification Framework 2017

**Operators within Wastewater and
Recycled Water
Treatment Systems**

The document has been prepared by the Water Industry Operators Association of Australia (WIOA) and Queensland Water Directorate (*qldwater*), on behalf of the (now ceased operations) Australian Water Recycling Centre of Excellence, using the template developed for the *Certification Framework for Operators within Drinking Water Treatment Systems 2016* as its basis.

This *Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems 2017* is published by *qldwater*, acting as secretariat for the Water Industry Skills Taskforce (WIST). It supersedes the Queensland Water Skills Partnership's *Sewage Treatment Plant Operator Certification Framework V2 December 2015*.

Foreword

The Water Industry Skills Taskforce (WIST) was established in 2008, following a workshop convened by the Australian Water Association (AWA), the Water Services Association of Australia (WSAA) and the National Water Commission (NWC). The purpose of the workshop was primarily aimed at developing approaches to addressing a growing skills shortage in the Australian water industry.

The WIST drafted new Terms of Reference in March 2015. Taskforce membership has changed over time to address emerging needs, while retaining a focus on WIST's original role - to promote and oversee a nationally-coordinated effort to address skills shortages in the water sector.

The WIST is the current “owner” of the *Certification Framework for Operators within Drinking Water Systems* and it is the initial intention that the WIST is the owner of this *Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems*.

Framework ownership is not the WIST's long-term goal, and WIST itself is not a legal entity.

The current training requirements for the **Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems** (the [Certification Framework](#)) will be reviewed in line with any new [National Water Training Package](#) (NWP), as soon as is practicable after the release of any updates to the NWP. Given that the framework will continue to be used during the significant transition period of the new NWP (released in December 2015), specific references to training units from both NWP and NWP07 have been maintained, for example “NWPGEN001 (NWP279).” Units from NWP01 (superseded by NWP07) will also be considered as valid for [Certification](#), provided those units map directly to relevant plant processes.

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Introduction

The *Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems* (the [Certification Framework](#)) is underpinned by the need to ensure that the environment and public health are protected, and that wastewater and recycled water that is provided to end users is safe and fit for purpose.

[Certification](#) provides an assurance to regulators, communities and the users of recycled water that [Operators](#) are competent to manage wastewater and recycled water quality, as well as being capable of identifying and responding to wastewater and recycled 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 that there is a requirement for the on-going maintenance/development of skills and knowledge.

The actions of *Operators* who treat wastewater and recycled water have a direct impact on its quality and, consequently, may impact environmental and public health risks.

This framework builds on extensive experiences gained through the development of other related competency development tools. A consultation process was undertaken in 2017, with invitations to participate sent to all Australian jurisdictions and a number of industry experts. The wastewater component of this framework has effectively been trialled in Queensland, and at the time of publication, further practical testing of the recycled water component is being planned through the Water Industry Operators Association of Australia (WIOA).

Purpose

The [Certification Framework](#) provides a set of nationally consistent criteria that define and recognise the minimum level of competency and capability required by those [Operators](#) who manage the treatment of wastewater or recycled water to ensure that the final product does not have an adverse impact on the environment or public health, and that its quality is fit for purpose and safe to use.

Regulation

Each State and Territory, and in some cases the Commonwealth, regulate wastewater in some form. Any statements or conditions made in this framework do not over-ride the local regulatory requirements placed upon a [Wastewater Authority or Recycled Water Supplier](#).

The National Health and Medical Research Council, in collaboration with the Commonwealth Department of the Environment, maintains guidelines for the safe use of recycled water.

Applying the [Certification Framework](#)

The criteria in this framework identify a minimum requirement only. The criteria provide for specific competency and capability requirements that align directly to the tasks

performed. [Wastewater Authorities and Recycled Water Suppliers](#) are strongly encouraged to exceed the minimum requirements identified in the [Certification Framework](#) wherever possible.

Features of the framework

[Certification](#) is based on the requirement of a wastewater or recycled water treatment [Operator](#) to:

- Achieve the necessary competencies specified in the [National Water Training Package](#) (NWP, NWP07, NWP01 and future revised versions) for operating, controlling or optimising wastewater and/or recycled water treatment processes;
- 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 [Wastewater or Recycled Water Treatment System](#) forms the basis for determining the competency and capability required of the [Certified Operator](#).

National Competency Standards

By adopting national competency standards under the [Australian Qualification Framework \(AQF\)](#) 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](#). [Wastewater Authorities and Recycled 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 [Wastewater Authority and Recycled 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 (the [Framework Owner](#)) in accordance with the direction set from consultation with industry stakeholders, including regulators.

The Framework owner is also responsible for appointing an independent [Certifying Body](#) and recognising the role of [Framework Coordinators](#).

Review and Continuous Improvement

[Wastewater Authorities and Recycled Water Suppliers](#) are 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 address attraction, retention and knowledge management issues.

The [Framework Owner](#) will initiate and facilitate a periodic review of the framework to ensure competency, capability and development requirements defined in this document remain valid and appropriate to the industry. As a minimum, the framework will be reviewed every 5 years; however, legislative changes, new wastewater or recycled water treatment technologies, or significant regulatory revisions or changes to the [National Water Training Package](#) could provide triggers for an earlier review, in order to ensure that the framework remains current and reflects good industry practice.

Structure

The framework fits into the highly complex, multi-faceted water industry. In isolation, it provides minimum requirements that [Certified Operators](#) will need to attain to ensure they can competently carry out tasks.

In a larger context, the Framework forms just one driver in an industry underpinned by a commitment to training, research, innovation and regulation. [Appendix A](#) depicts the complex layers of state/territory and commonwealth wastewater and recycled water quality management.

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

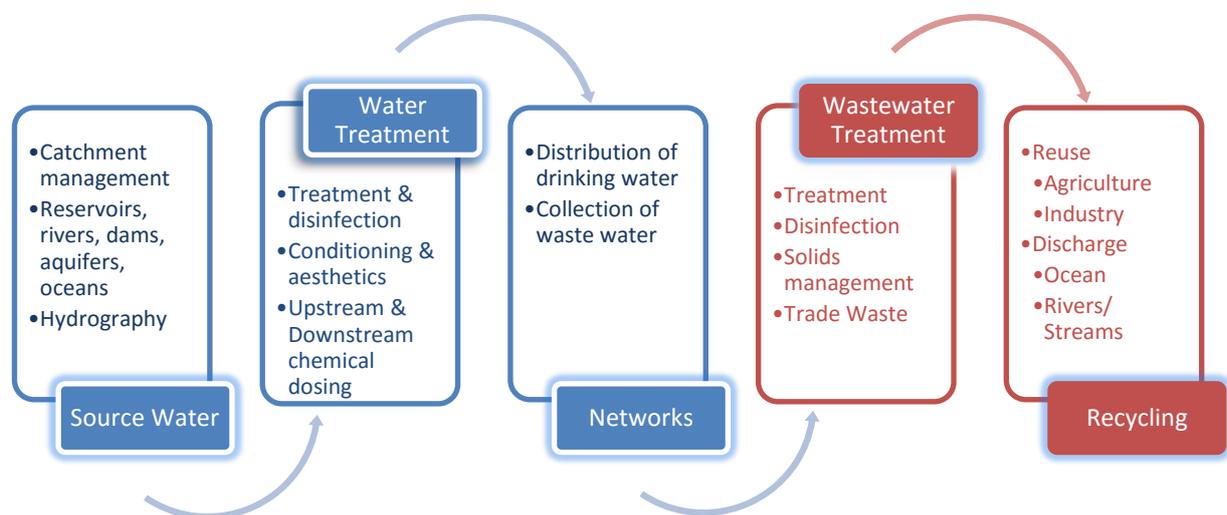


Figure 1 - Components of the Water Sector

Further rationalisation of operator frameworks may occur in future, given that there is likely to be a natural progression for some operators seeking certification under more than one framework.

The competency and capability of [Operators](#) is just one component that ultimately ensures that the wastewater or recycled water is safe and fit for purpose and is not a substitute for appropriate planning, capital and operational investment in treatment and recycling solutions.

This framework is intended to recognise the important role that competent and capable [Operators](#) play in the management of safe and fit for purpose wastewater and recycled water.

Certification Process

Figure 2 following provides an overview of the processes that underpins this framework:

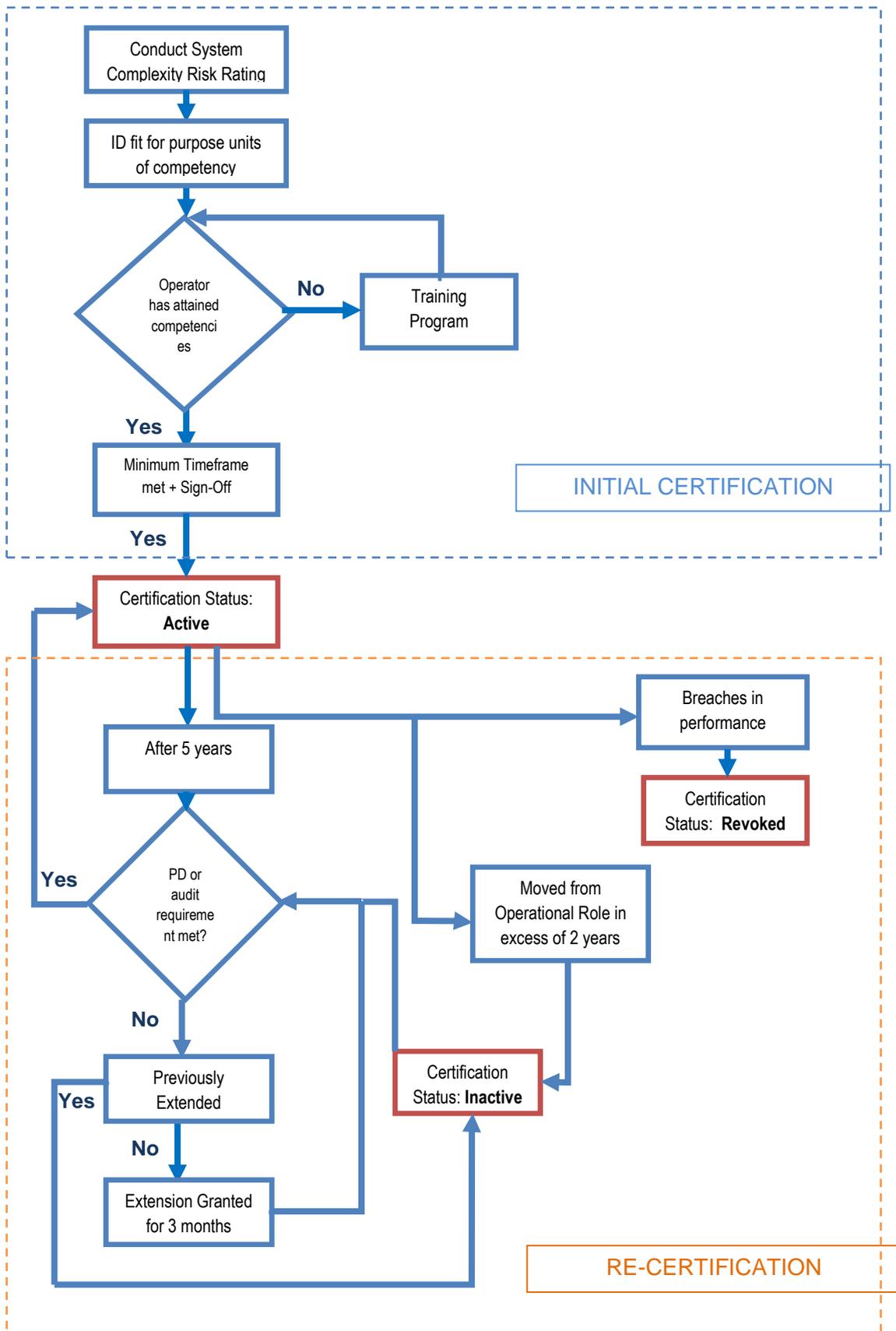


Figure 2 - Process for Certification and Re-Certification

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 wastewater or recycled water treatment [Operators](#) to perform tasks associated with managing safe and fit for purpose wastewater and recycled water.

Rationale

The [Certification Framework](#) provides one preventive measure that, when integrated with the sound management of risks across the entire [wastewater or recycled treatment system](#), will provide for safe and fit for purpose wastewater or recycled water.

The [Certification Framework](#) is intended for use by all Australian owners and/or operators of systems that treat domestic or industrial wastewater, or that treat and supply recycled water for reuse applications. 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 suppliers, wholesale and retail operators and contractors);
- Employment structures (from full time treatment [Operators](#) to part-time/multi-disciplined workers);
- Differing and changing legislative conditions across states and territories.

It applies to all [Wastewater or Recycled Water Treatment Systems](#) with a discharge licence, or approved re-use activity. It is not applicable to private residences where wastewater is sourced and/or treated onsite for domestic reuse.

Part Two - System Complexity Rating

Part Two outlines the requirement for the [Wastewater Authority or Recycled Water Supplier](#) to rate every [Wastewater or Recycled 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 and either risk/sensitivity of receiving waters (including public health risks in relation to recreational use, as well as environmental risks) or complexity added by reuse activities.

The [System Complexity Rating](#) supports the Certification Framework by categorising systems into the following:

- **Low Complexity - wastewater:** Will include [Wastewater or Recycled Water Treatment Systems](#) where low technology wastewater treatment processes are utilised. Low complexity treatment processes can include lagoons, trickling filters, rotating biological contactors, Imhoff tanks or small package treatment plants. Disinfection for reuse or discharge purposes may also be undertaken at this level.

Skills required by [Certified Operators](#) will typically involve monitoring, chemical dosing, sampling and/or reporting.

- **High Complexity - wastewater:** Will include [Wastewater or Recycled Water Treatment Systems](#) where higher technology treatment processes are utilised. High technology wastewater treatment processes can include intermittent aeration/oxidation ditches, membrane bioreactors, biological nutrient removal and dissolved air flotation. Includes recycled water use for irrigation purposes where less than 2 recycling processes are employed.

Skills required by [Certified Operators](#) will typically involve monitoring, sampling, reporting, chemical dosing and control/optimisation of multiple processes in conventional and/or advanced wastewater or recycled water treatment systems.

- **Recycled Water:** Will include a recycled water treatment plant where higher technology treatment processes are utilised specifically to provide an end product fit for use for some higher-end purpose. High technology wastewater treatment processes can include membrane bioreactors, desalination processes, chemical or biological nutrient removal, dissolved air flotation, plus a disinfection step, such as chlorine or UV, and/or irrigation. Typically, the recycled water produced is utilised in industrial applications, third pipe schemes or for irrigation of a golf course, sports fields, public gardens etc.

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
- Technology
- Complexity of individual processes
- Interrelatedness of processes
- Size of the facility
- Range of end uses
- Volume of Flow
- Timeliness of response requirements
- Source water quality and variability
- Microbial Risks
- Chemical Risks
- Physical Risks
- Radiological Risks
- Receiving Environment

Table 1 - Factors that may be considered during a risk assessment

The [Certifying Body](#) shall maintain records of the [System Complexity Rating](#) and resultant category (Low/High/Recycled).

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 wastewater or recycled 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. [Wastewater Authority or Recycled 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).

The Certification Framework applies to the Operators of [wastewater or recycled water treatment facilities and processes](#).

The Framework does not apply to professionals or para-professionals (such as engineers or chemists), non-operational supervisors, administrative workers, managers or senior executives.

Independent Contractors

[Independent Contractors](#) are individuals (*Certified Operators*) who work within a [Wastewater or Recycled Water System](#) and they must also meet the minimum conditions stated in this Certification Framework.

An Operator will perform any or all of the following:

- Control
- Optimise
- Sample
- Monitor
- Report

The [Certifying Body](#) and [Framework Owner](#) should develop a process to authorise Employers to complete Employer Sign-off (as detailed in Part 5) for Independent Contractors engaged by that Employer. Such a process will include testimonials from previous employers, or other suitable evidence, as agreed by the [Certifying Body](#) and [Framework Owner](#).

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 [Wastewater Authority or Recycled Water Supplier](#) will be able to respond to emergencies, call-outs and unforeseen events, and manage any immediate risk to wastewater or recycled 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 who treat wastewater or recycled water have a direct impact on wastewater or recycled water quality and consequently may impact on the environment or pose a public health risk to communities.

Competency is attained through the completion of [fit for purpose units of competency](#) contained within the National Water Training Package (currently NWP, however appropriate units of competency from the NWP01 or NWP07 versions of the training package will also be considered valid for the purposes of this Framework).

Although this Framework specifies the minimum competency requirement, [Wastewater Authorities or Recycled Water Suppliers](#) are strongly encouraged to support Operators to achieve a formal qualification under the National Water Training Package. The full qualification includes core units that also cover environmental and occupational health and safety issues, which are relevant to wastewater or recycled 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 [Wastewater or Recycled Water Treatment Systems](#) it is possible that the additional training required to achieve a qualification will be minimal. It is likely that, in many instances, more units will be required than in a standard qualification.

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 National Water Training Package.

Table 2 identifies:

- Expected outcomes for Operators within [Wastewater or Recycled Water Treatment Systems](#) that align to the [System Complexity Rating](#).
- Mandatory units aligned to the [System Complexity Rating](#).

Units of competency from the current National Water Training Package (NWP) applicable to processes at a [Wastewater or Recycled Water Treatment System](#) are detailed in [Appendix C](#).

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

NWP Code and Unit	NWPGEN001 Apply the risk management principles of the water industry standards, guidelines & legislation*	NWPGEN008 Sample and test wastewater	NWPGEN003 Apply Environmental & Licensing Procedures	NWPGEN004 Apply Environmental & Licensing Procedures	NWPGEN009 Perform laboratory testing	Fit For Purpose units of competency from the NWP
Previous NWP code	NWP279	NWP208A and NWP218B	NWP202B	NWP301B	NWP364B	
Certified wastewater operator - low complexity	Optional	Mandatory	Mandatory	Optional	Optional	Mandatory
Certified wastewater operator - high complexity	Optional	Mandatory	Optional	Mandatory	Mandatory	Mandatory
Certified recycled water operator	Mandatory	Mandatory	Optional	Mandatory	Mandatory	Mandatory

Table 2 - Competency requirements for Certified Operators

Other courses may be approved by the [Framework Owner](#) and the [Certifying Body](#).

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 industry disciplines (e.g. water, distribution, etc.). Please refer to packaging rules in [NWP](#).

- Operators are not required to attain a stated mandatory unit where an equivalent higher level [Unit of Competency](#) has already been achieved. A higher level of competency can be sourced from within the [National Water Training Package](#), or other training packages, as deemed suitable by the [Certifying Body](#).
- Completion of the unit NWPGEN009 does not provide an exemption from completing unit NWPGEN007, because the competency requirements are not the same.

Criteria

1. [Wastewater Authority or Recycled Water Suppliers](#) shall provide training and/or assessment opportunities to complete the requirements of Part Four of this framework as detailed in Table 4.
2. [Operators](#) shall complete all units of competency that are:
 - Mandatory in accordance with Table 4.
 - [‘Fit for purpose’](#); and
 -
3. Where a necessary treatment process is identified which is not suitably represented by a [Unit of Competency](#) in the current [National Water Training Package](#):
 - Details of that process must be reported to the [Certifying Body](#) by the [Wastewater Authority or Recycled Water Supplier](#) as part of the [Employer Sign-off process](#) (see Part 5);
 - The [Certifying Body](#) will report details to the [Framework Owner](#) for consideration in order to continuously improve the [National Water Training Package](#);
 - The [Wastewater Authority or Recycled Water Supplier](#) must negotiate with the [Certifying Body](#) to determine appropriate in-house or other training options to ensure competency in operating the process can be demonstrated for the purposes of [Certification](#).

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 [Wastewater or Recycled 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 [Customers](#), 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. ‘Capability’ should be addressed as part of the [Employer Sign-Off](#).

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 [Wastewater Authority or Recycled Water Supplier](#). It can only be attained through participating in the operational setting unique to the [Wastewater or Recycled Water Treatment System](#) for a period not recommended to be less than:

System Complexity Rating	Timeframe for Experience
Low	12 months inclusive of training
High	12 months inclusive of training
Recycled Water	TBC

Table 3 - Minimum period for experience in a -Wastewater or Recycled Water Treatment System

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

Awarding Certification

[Certification](#) shall be awarded on the completion of all requirements detailed in Parts Four and Five of this framework and is represented below:

Competency +	Employer Sign-Off* (Capability)	=	Certified Operator
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* [Employer Sign-off](#) must be undertaken by a suitably qualified person. It is for the [Wastewater Authority or Recycled Water Supplier’s](#) Chief Executive, or other relevant executive manager, to nominate on an appropriate delegate; however, as a guide, it should be the most senior technical officer within the organisation with responsibility for the [Wastewater or Recycled Water Treatment System](#).

Period of [Certification](#)

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

Credential

[Certification](#) shall result in a 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 [Wastewater or Recycled Water System](#) as defined in Table 3.

The [Wastewater Authority or Recycled Water Supplier](#) or [Independent Contractor](#):

- Shall make an application to the [Certifying Body](#) supporting the suitability of the [Operator](#) to be certified, based on their experience and the units of competence they have attained. Table 3 shall be a guide as to an appropriate timeframe for gaining the required experience. 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 [Wastewater Authority or Recycled 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 customer/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 demonstrating that they can respond 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 [Wastewater Authorities or Recycled 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 Operator](#), the geographic location and access to technology and other professional development opportunities.

Relevancy of Competencies to the [Wastewater or Recycled Water Treatment System](#)

[Certification](#) recognises [Operators](#) for their ability to perform wastewater or recycled 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 [Wastewater or Recycled 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 required to be addressed within a reasonable timeframe, and records of [Certification](#) will need to be amended to identify new [Treatment Processes](#).

Pathways for Re-Certification

Pathway #1 - Participation in the Continuing Professional Development Program

Pathway 1 provides the opportunity for [Certified Operators](#) to re-certify by participation in Continuing Professional Development (CPD) activities. CPD does not just include training programs or conferences. Please refer to Appendix A for a broad description of the type of activities included in an approved CPD scheme. The [Certifying Body](#) will maintain a list of relevant CPD activities and the associated points structure, and make this available online.

Records of the CPD activities undertaken shall be maintained by the [Wastewater Authority or Recycled 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 4.

Complexity Rating	Re-Certification
	Pathway #1 Required Points
WASTEWATER - LOW	5
WASTEWATER - HIGH	15
RECYCLED WATER	15

Table 4 - PD requirements for Maintaining Certification

Pathway #2 - Audit / Demonstration of current competence

The [Wastewater Authority or Recycled 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 of the [Wastewater Authority or Recycled Water Supplier](#), and who is approved or nominated by the [Certifying Body](#). The [Certification](#) Audit will be undertaken 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, and/or the competencies used to gain their initial certification.

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 Re-Certification, 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 4.
 - Pathway #2: Demonstrate current competence through successfully undertaking a [Certification](#) audit of operational and developmental activities using the process administered by the [Certifying Body](#).
- Certified Operators must complete training for any new treatment processes added after they were last certified, to ensure that the competencies held (as required in Part Four) remain directly relevant to the wastewater or recycled 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 [Wastewater Authority or Recycled 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 [Wastewater Authority or Recycled Water Supplier](#) shall plan and assist the [Certified Operator](#) 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 wastewater or recycled water treatment system

- The [Certifying Body](#) shall keep a record of the gap and all correspondence; however, the status of the [Certified Operator](#) shall remain unchanged.
- It is the responsibility of the [Wastewater Authority or Recycled Water Supplier](#) to provide an annual update to the [Certifying Body](#) describing any changes to treatment processes at any [Wastewater or Recycled Water System](#) operated by [Certified Operators](#).
- The [Certifying 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 [Certifying Body](#) shall review the status of [Certification](#) on a case-by-case basis.

Part Seven - Certification Status

Part Seven of the framework allows for those that have let their status lapse or become inactive for any reason 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, Wastewater Authorities or Recycled Water Suppliers should not make judgements about employment opportunities based only on the status of their 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 Wastewater Authority or Recycled Water Supplier and the Certified Operator where the status of Certification changes.

Revoked Status

- The Wastewater Authority or Recycled Water Supplier must inform the Certifying Body where the 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](#).
- An 'Inactive' [Operator](#) may be returned to 'Active' status by the [Certifying Body](#) within a period of two (2) years of being deemed 'Inactive' without following the process detailed below, provided that the [Certifying Body](#) is satisfied that the [Operator](#) otherwise continues to meet the requirements for [Certification](#).
 - Where an 'Inactive' [Operator](#) otherwise seeks to return to 'Active' status, the [Wastewater Authority or Recycled 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 undertaken in a manner that ensures the integrity of this Framework and provides national portability for Certified Operators.

Selection of Certifying Body

The Framework Owner will appoint a Certifying Body, based on criteria it establishes and manages. The criteria for initial selection will include:

- Establishment of a Quality Assurance System
- Industry expertise
- Viable business model
- Capacity for data management
- Documented future direction for their Certification activities
- Capacity to service the industry nationally

The appointment of a Certifying Body will be for a minimum period of 5 years, under terms which require annual progress reporting to the Framework Owner. The Framework Owner may at any time appoint an independent reviewer to review the performance of the current Certifying Body, or the framework itself. The appointment of the current Certifying Body may be extended by the Framework Owner beyond the minimum 5 years based on satisfactory performance. At all times the appointment arrangements should seek to promote certainty and continuity with respect to the Certification process.

Note: Due to the potential conflict of interest that may arise, RTOs or RTO affiliates, Wastewater Authorities and Recycled Water Suppliers and state/territory regulators are precluded from taking on the role as a Certifying Body.

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 any:

- Registered Training Organisation (RTO) or affiliate
- Wastewater Authority or Recycled Water Supplier
- State or territory regulator

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 [Wastewater or Recycled Water Treatment System](#) including:
 - Name of the [Wastewater Authority or Recycled Water Supplier](#);
 - Name of an [Independent Contractor's](#) Business where relevant;
 - Location and business name (where relevant) of each [Wastewater or Recycled Water Treatment System](#);
 - The treatment processes present within each [Wastewater or Recycled Water Treatment System](#); and
 - [The System Complexity Rating](#) for each [Wastewater or Recycled 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 Operator](#) is currently competent; and
 - List of units of competency achieved including the issuing RTO(s)

Note: The [Wastewater Authority or Recycled Water Supplier](#) must advise the [Certifying Body](#) of any changes that impact upon [Certification](#) as described in Part Six.

Currency of Records

- The [Wastewater Authority or Recycled 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 records

[Certified Operators](#), the [Wastewater Authority or Recycled Water Supplier](#) and the regulatory body responsible for the environment, as well as public health, in the relevant state or territory can apply to the [Certifying Body](#) to access the relevant records for the purpose of validating current competency or monitoring uptake etc. Records will only be shared with permission from the [Certified Operators](#).

[Framework Coordinators](#) can apply to the [Certifying Body](#) to access data, as agreed by the [Framework Owner](#).

- 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 nominated [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 [Wastewater Authority or Recycled 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.

Framework Coordinator

The [Framework Coordinator](#) is formally recognised as part of this framework, although the roles and responsibilities of a [Framework Coordinator](#) may differ, depending on the jurisdiction. In essence, the role recognises the need for a body, or bodies, to liaise with [Wastewater Authorities and Recycled Water Suppliers](#), state/territory regulators and [RTOs](#) to ensure cost-effective investment in gap training, which maximises the benefits of collaboration across the jurisdiction's water industry. Recognition of this role allows [Framework Coordinators](#), once recognised by the [Framework Owner](#), to access the information and data necessary to support this role.

Appendix A - List of Stakeholders

Commonwealth	State/Territory	Local	Industry
<p>Policy</p> <ul style="list-style-type: none"> National Health and Medical Research Council <p>Guidelines/Standards</p> <ul style="list-style-type: none"> Australian Guidelines for Water Recycling (AGWR) National Water Training Package NWP 	<p>Regulatory</p> <ul style="list-style-type: none"> Licensed discharge Approvals Public Health Recycled Water Quality Management Best Practice Guidelines OH&S Environmental stewardship Reporting Department of Primary Industries Water (or equivalent) Economic Regulator 	<p>Regulatory</p> <ul style="list-style-type: none"> Local approvals Inspections <p>Guidelines/Standards</p> <ul style="list-style-type: none"> Customer contracts Defined levels of service Local Standards 	<p>Guidelines/Standards</p> <ul style="list-style-type: none"> Best Practice Guidelines AS/NZS quality standards <p>Peak Bodies/ Associations</p> <ul style="list-style-type: none"> Water Services Association of Australian (WSAA) Australian Water Association (AWA) Australian Industry Standards Industry Training Advisory Bodies (ITABs) NSW Water Directorate Queensland Water Directorate (<i>qldwater</i>) VicWater Water Industry Operators Association of Australia (WIOA) <p>Employee Associations</p> <ul style="list-style-type: none"> Australian Services Union (ASU)

Appendix B - Approved Professional Development - Sample

Continuing Professional Development (CPD) Activities and Points for Maintaining Certified Status

A full CPD scheme will be developed and maintained by the Certifying Body and available online.

Activity	Details	Points
Attend a training session approved or conducted by a state/territory regulator or mandated as refresher training		3 points
Complete additional units of competency applicable to wastewater/recycled treatment at AQF level 2	Units from a training package other than NWP must relate specifically to wastewater or recycled water treatment.	3 points for each unit
Complete additional units of competency applicable to wastewater/recycled treatment at AQF level 3	Units from a training package other than NWP must relate specifically to wastewater or recycled water treatment.	4 points for each unit
Complete additional units of competency applicable to wastewater/recycled treatment at AQF level 4	Units from a training package other than NWP must relate specifically to wastewater or recycled treatment.	5 points for each unit
Complete additional non-accredited relevant, process based, refresher training.	The training course will be relevant to wastewater/recycled water treatment systems. The course must include some form of assessment.	4 points
Attend a peak water/wastewater industry annual conference	Peak industry associations include: <ul style="list-style-type: none"> • Australian Water Association • Water Industry Operators Association • Water Services Association of Australia 	1 point per day attended
Attend a wastewater/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 wastewater/recycled water treatment	Examples include: <ul style="list-style-type: none"> • IWES short courses • WIOA workshops • Smart Water Research Centre 	2 points per day attended
Attend an in-house training course specific to wastewater/recycled 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 wastewater/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 wastewater industry event		3 points
Submit an article that is published in a wastewater/water industry or relevant technical journal	Examples include: <ul style="list-style-type: none"> • AWA Water Magazine • WIOA WaterWorks Magazine • Any other industry recognised journal 	5 points
Complete a significant workplace project	Examples include: <ul style="list-style-type: none"> • 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 wastewater 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 wastewater system issues is current.	1
Recognition of achievement through an industry development award or prize	Examples include: <ul style="list-style-type: none"> • Churchill Fellowships • IWA (Vic) Award • WIOA Kwatye prize 	10 points

Appendix C - Wastewater and Recycled Water Treatment Units of Competency

NWP Unit Code	NWP Unit Descriptor	NWP07 Code*
<i>MANDATORY (DEPENDING ON COMPLEXITY AND SYSTEM)</i>		
NWPGEN001	Apply the risk management principles of the water industry standards, guidelines and legislation	NWP279A
NWPGEN008	Sample and test wastewater	NWP208A and NWP218 A
NWPGEN003	Apply Environmental & Licensing Procedures	NWP202B (or higher level)
NWPGEN009	Perform laboratory testing	NWP364B
<i>PROCESS UNITS</i>		
NWPTRT071	Operate Pre-treatment Processes	NWP264B
NWPTRT013	Operate and control liquefied chlorine gas disinfection	NWP277A
NWPTRT015	Operate and control coagulation and flocculation processes	NWP347B
NWPTRT073	Sedimentation Processes	NWP271B
NWPTRT033*	Operate and control DAF processes	NWP352B/ NWP407A
NWPTRT034*	Operate and control activated carbon processes	NWP367A
NWPTRT035	Operate and control ion exchange and softening processes	NWP356B
NWPTRT041	Operate and control granular media filters	NWP354B
NWPTRT042	Assess and improve granular media filters	NWP406A
NWPTRT043	Operate and control membrane filters	NWP355B
NWPTRT044*	Operate and control desalination processes	NWP357B
NWPTRT045	Assess and improve desalination processes	N.A.
NWPTRT083	Aerobic bioreactor processes (trickling filters, RBC)	NWP350B
NWPTRT081	Activated Sludge processes	NWP351B or NWP412A
NWPTRT082	Nutrient Removal Processes	NWP359B
NWPTRT092	Anaerobic bioreactor processes (Digesters & Bulk Volume Fermenters)	NWP353A or NWP413A
NWPTRT072	Odour Control (Gas scrubber) treatment processes	NWP361B
NWPTRT062	Reclaimed water irrigation	NWP362B
NWPTRT034	Activated Carbon (PAC, GAC/BAC)	NWP367A

NWPTRT035	Ion Exchange	NWP356B
NWPTRT092	Operate digestion processes	NWP270B
NWPTRT094	Incineration processes	NWP349B
NWPTRT052	Operate and control hypochlorite disinfection processes	NWP268A
NWPTRT013	Operate and control liquefied chlorine gas disinfection	NWP277A
NWPTRT053	Operate and control UV processes	NWP273A
NWPTRT055	Operate chlorine dioxide processes	NWP275A
NWPTRT056	Operate and control ozone processes	NWP274A
NWPTRT091	Operate and control solids handling processes	NWP360B
NWPTRT101	Operate and control lagoon processes	N.A.

* May not be directly equivalent

Glossary

Appeals Policy

A policy to enable the Framework Owner to respond to complaints or appeals made in relation to the Certification process.

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.

Certification

A national program of recognition afforded to workers who have met industry defined minimum entry requirements. This framework is underpinned by a need to ensure the provision of fit-for-purpose wastewater or recycled water through meeting the minimum requirements for Certification as wastewater or recycled water treatment Operators.

Certification Framework

The document that sets out the principles and process for achieving and maintaining Certification and procedures relevant to Certification.

Certifying Body

The Certifying Body is responsible for undertaking the formal governance and administrative processes relevant to Certification and awarding Certification to the operator. The Certifying Body/bodies is appointed by the Framework owner.

Certified Operator

A Certified Operator has operational responsibility for wastewater or recycled 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 wastewater or recycled treatment system at any one time, so long as it is reasonable to expect that wastewater or recycled 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.

Customer

A recipient of wastewater or recycled water who is:

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

Fit for Purpose Units of Competency

Fit for purpose mean that training units completed align with the treatment processes and testing/monitoring processes specific to the Wastewater or Recycled Water Treatment System.

Framework Coordinator

A formally recognised role, which may vary depending on the jurisdiction, that liaises with Wastewater Authorities and Recycled Water Suppliers, state/territory regulators and RTOs to ensure cost-effective investment in gap training and support collaboration across the jurisdiction's water industry.

Framework Owner

An independent third party entity responsible for management and continuous improvement of the Framework and appointment of a Certifying Body.

Independent Contractors

For the purposes of this Framework, an independent contractor may provide expertise and services to other Wastewater or Recycled Water Suppliers;

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

National Water Training Package

The training package that contains the set of nationally endorsed standards and qualifications for recognising and assessing the skills of operational staff in the water industry.

Operator in Training

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

The Operator in Training is not Certified under this Framework, but the Wastewater or Recycled Water Supplier is to ensure that opportunities are afforded to the operator to develop all necessary competencies to achieve Certified status.

Operator

A person who performs tasks directly related to the operation of a wastewater or recycled water treatment plant.

Qualification

Issued under the Australian Qualifications 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).

Registered Training Organisation (RTO)

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

RTO Affiliate

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.

System Complexity Rating

A rating assigned to a wastewater or recycled water treatment plant based on the complexity of the system (i.e. treatment processes) or complexity added by reuse activities.

Treatment Process

Any process within a Wastewater or Recycled Water Treatment System that changes the physical, chemical or biological properties of water derived from any source in order to make it fit for purpose for either discharge to the environment or reuse, or to make it comply with a regulatory order relating to discharge or reuse. Treatment processes include, but are not limited to:

- Pre-treatment such as step screen, gravity or aerated grit removal, inlet works odour control
- Imhoff tank
- Chemical addition for solids or phosphorus removal
- Primary and secondary sedimentation tanks/clarifiers
- Lagoons (any of - anaerobic, facultative, aerobic or maturation)
- High rate lagoon or Bulk Volume Fermenter
- Upflow Anaerobic Sludge Blanket (UASB) process
- Activated sludge - such as oxidation ditch, Intermittently Decanted Extended Aeration (IDEA), Sequencing Batch Reactor (SBR), Membrane Bioreactor (MBR)
- Activated sludge with biological nitrogen and phosphorus removal
- Trickling Filter or Rotating Biological Contactor
- Gas Scrubber process for odour control
- Sludge thickening - such as gravity, rotary drum, dissolved air flotation
- Mechanical dewatering process (belt press, centrifuge etc)
- Anaerobic or aerobic sludge digester
- Incineration process
- Disinfection using UV
- Disinfection using Gas Chlorine or Hypo addition
- Tertiary Treatment/recycled water production including
 - Granular activated carbon (GAC)
 - Ozone/BAC
 - Chemical dosing (coagulation and flocculation)
 - Sedimentation eg Actiflo
 - Dissolved air flotation
 - Media filters
 - Membrane filtration (MF/UF)
 - Reverse Osmosis/desalination
- Irrigation of recycled water

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.

Wastewater Authority or Recycled Water Supplier

An organisation/enterprise (public or private) or, individual that treats wastewater or provides recycled water for reuse. A Wastewater Authority or Recycled Water Supplier includes, but is not limited to:

- a major urban utility,
- a corporation,
- a local government authority,
- a public or private entity,
- small, regional or remote suppliers,
- wholesalers, retailers or contractors.

Any organisation contracted to manage a wastewater or recycled Water System (or part thereof) is considered to be a Wastewater or Recycled Water Supplier.

Wastewater or Recycled Water Treatment System

Is, for the purposes of this Framework, a subset of a Wastewater or Recycled Water Supply System, as defined under Section 3.2 of the AGWR. Wastewater or Recycled Water Treatment Systems are that part of the supply system that produce wastewater or recycled water which is fit for purpose either to be discharged to the environment or reused, where the wastewater or recycled water either;

- Does not pass through any treatment barriers; or
- Is treated by a single treatment barrier, or multiple treatment barriers, at a Wastewater or Recycled Water Treatment Facility.

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

It does not include direct or indirect potable reuse schemes.