

A grayscale photograph of a water treatment plant. In the foreground, there is a large circular clarifier tank with a central mechanical structure. The background shows various pipes, walkways, and other industrial structures, with a line of trees and hills in the distance under a cloudy sky.

**Water Industry Operator**

**Registration Taskforce**

**Water Industry Operator**

**Registration**

**Framework 2021:**

**Drinking Water**

**Wastewater**

**Recycled Water**

The document has been prepared by the Queensland Water Directorate (*qldwater*), and in conjunction with the current Registering Body, the Water Industry Operators Association of Australia (WIOA).

This document is an update to the Water Industry Operator Certification Framework 2018: Drinking Water, Wastewater, Recycled Water, and has primarily has been done to reflect a name change to the Framework and Taskforce that was passed by a resolution of the then Water Industry Operator Certification Taskforce (WIOCT) in July 2021.

That resolution was centred on changing the term “Certified Operator” to “Registered Professional Operator,” which better reflects what this process is seeking to achieve. It also removes any potential confusion as to whether Certification/Registration is linked, or refers to, achieving a VET Certificate under the National Water Training Package (NWP).

Grandfathering provisions apply to all Operators “Certified” under former Frameworks - those staff will be automatically recognised as “Registered Professional Operators” under the conditions of this Framework, provided the conditions of previous Framework versions, including timeframes, remain met.

, using the Certification Framework for Operators within Drinking Water Treatment Systems 2017 and Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems 2017 as its basis to form a unified Operator Framework. At the time of development, investigations were underway into other Certification “streams” and the document design is intended to easily facilitate the future introduction of new “streams.”

This *Water Industry Operator Registration Framework 2021: Drinking Water, Wastewater, Recycled Water* is published by *qldwater*, acting as secretariat for the Water Industry Operator Registration Taskforce (WIORT). This *Water Industry Operator Registration Framework 2021* supersedes ~~both~~ the *Water Industry Operator Certification Framework 2018, Certification Framework for Operators within Drinking Water Systems 2017* and the *Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems 2017*.

Further information and relevant links are available at [https://www.qldwater.com.au/Skills\\_water\\_operator\\_certification](https://www.qldwater.com.au/Skills_water_operator_certification).

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## Foreword

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The Water Industry Skills Taskforce (WIST) was established in 2008, and primarily concentrated on developing approaches aimed at addressing a growing skills shortage in the Australian water industry.

The WIST drafted new Terms of Reference in March 2015. Taskforce membership 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.

In late 2017, the WIST, as the “owner” of the *Certification Framework for Operators within Drinking Water Systems* and the *Certification Framework for Operators within Wastewater and Recycled Water Treatment Systems* approved development of a single unified Framework covering all of the requirements of those existing Frameworks. The unified Framework was to be readily adaptable for new “streams” covering other key water and wastewater operational roles should these be required in the future.

In August 2018, the existing WIST members met and agreed that the Taskforce be disbanded, with a new group, the Water Industry Operator Certification Taskforce (WIOCT) formed to focus exclusively on managing this Framework.

The Taskforce underwent a name change in July 2021 to reflect a resolution by WIOCT to replace the term “Certification” with “Registration”, with the outcome being that Operators registered under the Framework will become “Registered Professional Operators.”

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

The current training requirements for the Water Industry Operator Registration Framework 2021 will be reviewed in line with any updates to the National Water Training Package (NWP), as soon as is practicable after the release of any updates to the NWP. At the time of writing, all relevant qualifications in the NWP had been reviewed since the introduction of the new package in 2015.~~Australian Industry Standards has established a Technical Advisory Committee to review a range of relevant qualifications in 2019.~~ Specific references to training units from both NWP (2015) and NWP07 have been maintained, for example “NWPGEN001 (NWP279).” Units from NWP01 (superseded by NWP07) will also be considered as valid for Registration, provided those units map directly to relevant plant processes.

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## Introduction

The [Water Industry Operator Registration Framework 2021](#) is underpinned by the need to ensure that the environment and public health are protected, and that drinking water, wastewater and recycled water that is provided to end users is safe and fit for purpose.

[Registration](#) provides an assurance to regulators, communities and the users of drinking water and recycled water that [Operators](#) are competent to manage drinking water, wastewater and/or recycled water quality, as well as being capable of identifying and responding to drinking water, wastewater and/or recycled water quality risks and incidents. The framework introduces a minimum level of competency for [Registered Professional Operators](#) across all states and territories by aligning skills,

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

knowledge and competency requirements to national Vocational Education and Training (VET) standards. Further, the [Water Industry Operator Registration Framework 2021](#) ensures that there is a requirement for the on-going maintenance/development of skills and knowledge.

This Framework builds on extensive experiences gained through the development of other related competency development tools.

## Purpose

The [Water Industry Operator Registration Framework 2021](#) 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 water, wastewater and/or recycled water to ensure that the final product does not have an adverse impact on public health or the environment, and that its quality is fit for purpose and safe to use.

## Regulation

Each State and Territory, and in some cases the Commonwealth, regulate drinking water and wastewater in some form. Any statements or conditions made in this Framework do not over-ride the local regulatory requirements placed upon a Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier.

The NHMRC maintains the Australian Drinking Water Guidelines (the ADWG). The 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)

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

The National Health and Medical Research Council (NHRMC), in collaboration with the Commonwealth Department of the Environment, also maintains guidelines for the safe use of recycled water - the Australian Guidelines for Water Recycling (AGWR).

### Applying the [Water Industry Operator Registration Framework 2021](#)

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. Drinking Water Suppliers, Wastewater Authorities or Recycled Water Suppliers are strongly encouraged to exceed the minimum requirements identified in the [Water Industry Operator Registration Framework 2021](#) wherever possible.

### Features of the framework

[Registration](#) is based on the requirement of a water, wastewater and/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 drinking water, wastewater and/or recycled water treatment processes (as relevant to their [Registration](#) stream);
- Demonstrate capability within the workplace through relevant industry experience; and
- Continue to develop knowledge and skills, as well as maintain currency of industry experience.

The classification of each treatment system and complexity assessment forms the basis for determining the competency and capability required of the [Registered Professional Operator](#).

### National Competency Standards

By adopting national competency **standards** under the Australian Qualification Framework (AQF) the skills and knowledge of a [Registered Professional 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 [Water Industry Operator Registration Framework 2021](#). Drinking Water Suppliers, Wastewater Authorities or Recycled Water Suppliers will notice that competency standards change over time. Where there are any concerns about the currency of a [Registered Professional Operator's](#) competency, the Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier is advised to liaise directly with the [Registering 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 [Registering Body](#) and recognising the role of [Framework Coordinators](#).

## Review and Continuous Improvement

Drinking Water Suppliers, Wastewater Authorities or 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 drinking water, 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 Registered Professional 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 drinking water, wastewater and recycled water quality management.

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

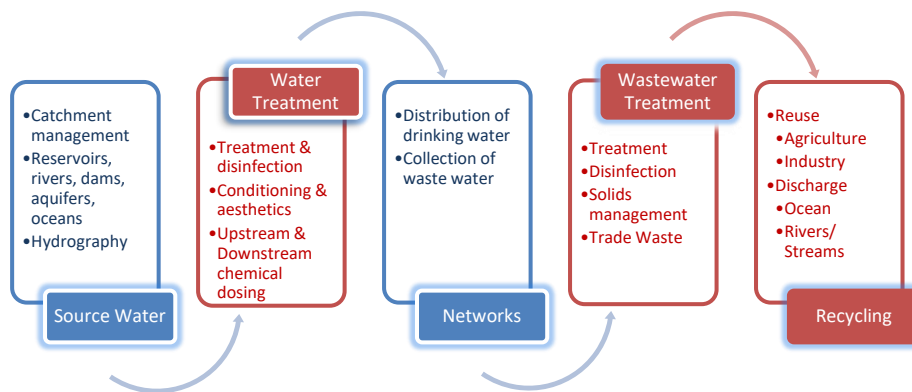


Figure 1 - Components of the Water Sector

The competency and capability of Operators is just one component that ultimately ensures that drinking water, 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 drinking water, wastewater and recycled water.



## Registration Process

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

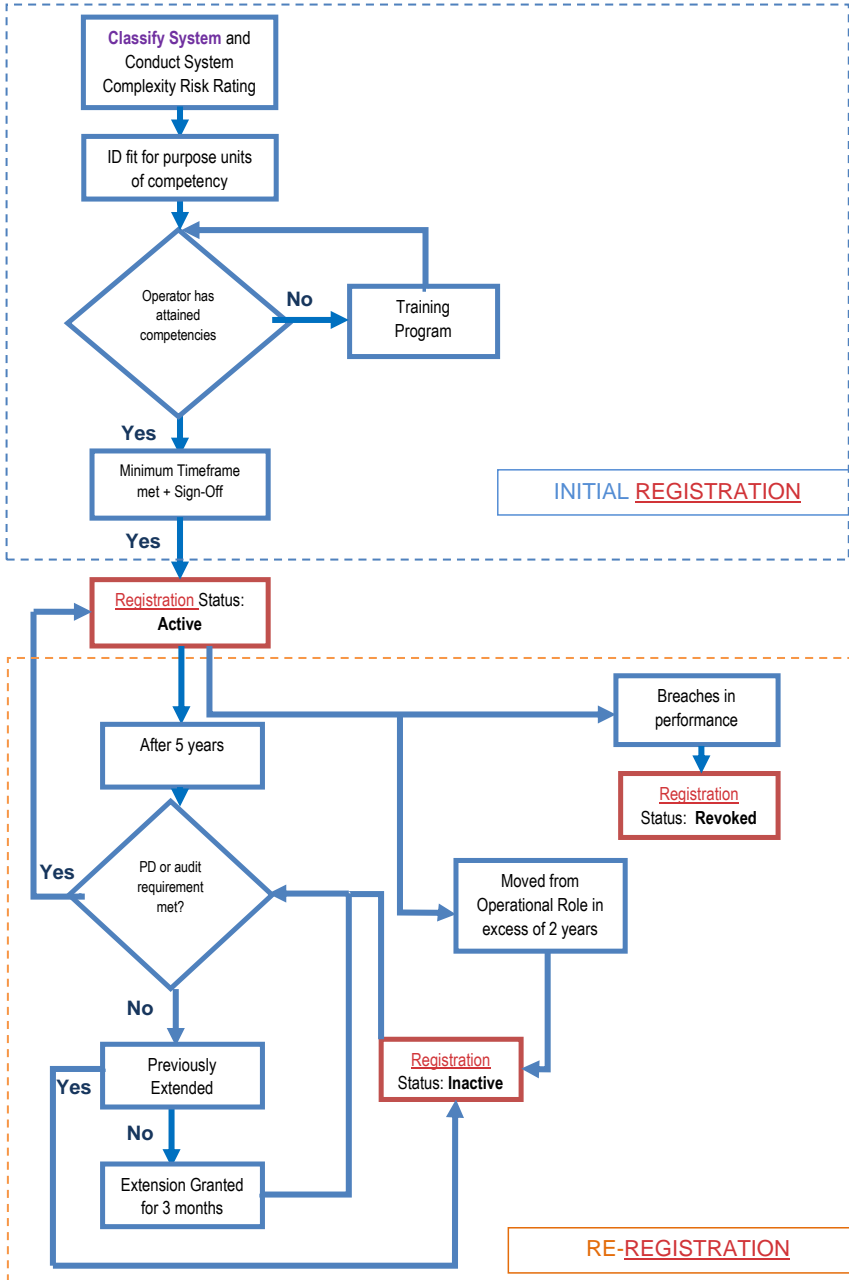


Figure 2 - Process for Registration and Re-

## Part One - Scope of Registration

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, wastewater and/or recycled water treatment Operators to perform tasks associated with managing safe and fit for purpose drinking water, wastewater and recycled water.

### Rationale

*The Water Industry Operator Registration Framework 2021 provides one preventive measure that, when integrated with the sound management of risks across the entire drinking water, wastewater or recycled treatment system, will provide for safe and fit for purpose drinking water, wastewater or recycled water.*

The Water Industry Operator Registration Framework 2021 is intended for use by all Australian owners and/or operators of systems that;

- Treat and supply drinking water intended for human consumption, and/or;
- Treat domestic or industrial wastewater, and/or;
- Treat and supply recycled water for reuse applications.

Variables considered in the Water Industry Operator Registration Framework 2021 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 Operators or contractors to part-time/multi-disciplined workers);
- Differing and changing legislative conditions across states and territories.

It applies to:

- All Drinking Water Treatment Systems that are part of the supply systems that produce water intended for human consumption.
- All Wastewater or Recycled Water Treatment Systems with a discharge licence, or approved re-use activity. It is not, for example, applicable to private residences where wastewater is sourced and/or treated onsite for domestic reuse, but represents a sound competency framework to adopt wherever wastewater is treated or recycled.

## Part Two - System Complexity Rating

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Part Two outlines the requirement for the Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier to classify each system and to rate every system in relation to its complexity.

### Rationale

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

*For Wastewater and Recycled Water systems the 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 is also taken into account.*

The System Complexity Rating supports the [Water Industry Operator Registration Framework 2021](#) by categorising systems into the following classifications and complexity ratings:

### System Complexity Rating: Drinking Water

- **Low:** Will 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 [Registered Professional Operators](#) will typically involve chemical dosing, sampling and/or reporting.

- **High:** Will include drinking water systems that have two or more treatment barriers in place. Fluoridation may also occur.

### System Complexity Rating: Wastewater

- **Low:** 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 that do not incorporate any activated sludge processes. Disinfection for reuse or discharge purposes may also be undertaken at this level.

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

- **High:** 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 [Registered Professional 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.

### System Complexity Rating: Recycled Water

- **Recycled Water** (no distinct low/ high classification): Will include a recycled water treatment plant where higher technology treatment processes are utilised specifically to provide an end product fit for use for a higher-end purpose. Typically, the recycled water produced is used to replace potable water in industrial applications, third pipe schemes, or irrigation (including but not limited to golf courses, sporting fields and public gardens). For these higher level end-uses there may be a Recycled Water Quality Management Plan in place.
- High technology wastewater treatment processes can include membrane bioreactors and/or membrane filtration processes, desalination processes, chemical or biological nutrient removal, dissolved air flotation, plus a disinfection step, such as chlorine or UV, and possibly irrigation system management.

Factors that will impact upon the competency and capability requirement of the [Registered Professional Operator](#) include, but are not limited to:

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

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

The [Registering Body](#) shall maintain records of the System Complexity Rating and resultant category (Water - Low/High, Wastewater Low/ High, Recycled).

## Part Three - Operators in Scope

Part Three identifies the categories of [Registration](#) that are the subject of this Framework.

### Rationale

*Communities, employers and regulators must be assured that all Operators who work within drinking water treatment systems, and/ or wastewater or recycled water treatment systems are identified within the [Water Industry Operator Registration Framework 2021](#).*

The [Water Industry Operator Registration Framework 2021](#) does not seek to influence the levels of responsibility and accountability inherent in an organisational structure. Drinking Water Suppliers, Wastewater Authority or Recycled Water Suppliers must ensure that [Registered Operators](#) are sufficiently supported and that expectations of performance are realistic (i.e. aligned to the level of competency achieved).

This Framework applies to Operators. The Framework does not apply to professionals or para-professionals (such as engineers or chemists), non-operational supervisors, administrative workers, managers or senior executives, unless their role specifically encompasses the functions of an Operator. Generally professionals and para-professionals have access to alternative accreditation options such as chartered engineering schemes.

An Operator will perform any or all of the following:

- Control
- Optimise
- Sample
- Monitor
- Report

### Operators in Training

An Operator in Training is defined as an Operator who is gaining experience under the guidance of a [Registered Professional 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 [Water Industry Operator Registration Framework 2021](#).

The Operator in Training is not [Registered](#) under this Framework, but the Drinking Water Supplier, or Wastewater or Recycled Water Supplier is to ensure that opportunities are afforded to the Operator in Training to develop all necessary competencies to achieve [Registered](#) status.

### Individual Contractors

Individual Contractors are individuals ([Registered Professional Operators](#)) who work within a Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System and they must also meet the minimum conditions stated in this [Water Industry Operator Registration Framework 2021](#).

The [Registering Body](#) and Framework Owner should develop a process to authorise Employers to complete Employer Sign-off (as detailed in Part 5) for Individual Contractors engaged by that Employer. Such a process will include testimonials from previous Employers, or other suitable evidence, as agreed by the [Registering 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 [Registered](#) under this Framework, but would be expected to have access to advice and guidance from a [Registered Professional Operator](#).

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

## Part Four - Competency Requirement

Part Four of this Framework details the requirement for [Registered Professional Operators](#) to undertake competency assessment.

### Rationale

*The actions of Operators who operate systems for drinking water, wastewater or recycled water treatment have a direct impact on drinking water, wastewater or recycled water quality, which consequently may impact on the environment or communities' public health.*

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, Drinking Water Suppliers, 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 drinking water, 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 Drinking Water Treatment Systems, and 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 [Registered Professional Operators](#) within Drinking Water Treatment Systems, and 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 applicable to processes at a Drinking Water Treatment System, and 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](http://www.training.gov.au), or your preferred training provider.



NWP Code and Unit	NWPGEN017 Apply the risk management principles of the water industry standards, guidelines & legislation*	NWPGEN02108 Sample and test wastewater	NWPGEN02097 Sample and test source or drinking water	NWPGEN01803 Apply Follow Environmental & Licensing Procedures	NWPGEN01904 Apply-Assess, Implement and report Environmental & Licensing Procedures	NWPGEN02209 Perform laboratory testing	Fit For Purpose units of competency from the NWP
Previous NWP code	NWPGEN001, NWP279	NWPGEN008 NWP208A and NWP218B	NWPGEN007 NWP210A and NWP218B	NWPGEN003 NWP202B	NWPGEN004 NWP301B	NWPGEN009 NWP364B	
Drinking water low complexity	Mandatory	Optional	Mandatory	Optional	Optional	Optional	Mandatory
Drinking water high complexity	Mandatory	Optional	Mandatory	Optional	Optional	Mandatory	Mandatory
Wastewater low complexity	Optional	Mandatory	Optional	Mandatory	Optional	Optional	Mandatory
Wastewater high complexity	Optional	Mandatory	Optional	Optional	Mandatory	Mandatory	Mandatory
Recycled water	Mandatory	Mandatory	Optional	Optional	Mandatory	Mandatory	Mandatory

Table 2 - Competency requirements for [Registered Professional Operators](#)

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

**Notes:**

- An Operator may complete all relevant units to obtain [Registration](#) against more than one [Registration](#) category (e.g. they may be a [Registered Professional Operator](#) - drinking water low complexity, wastewater high complexity, recycled water etc.)
- 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. networks, dam management, 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 [Registering Body](#).
- Completion of the unit NWPGEN02209 does not provide an exemption from completing unit either NWPGEN02007 or NWPGEN02108, because the competency requirements are not the same.

## Criteria

1. Drinking Water Suppliers, 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 2.
2. Operators shall complete all units of competency that are:
  - Mandatory in accordance with Table 2.
  - '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 [Registering Body](#) by the Drinking Water Supplier, or as part of the Employer Sign-off process (see Part 5);
  - The [Registering Body](#) will report details to the Framework Owner for consideration in order to continuously improve the National Water Training Package;
  - The Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier must negotiate with the [Registering Body](#) to determine appropriate in-house or other training options to ensure competency in operating the process can be demonstrated for the purposes of [Registration](#).

## Part Five - Attaining Registration

Part Five details the capability requirement for entry into the Water Industry Operator Registration Framework 2021.

### 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, or Wastewater or Recycled Water Treatment System.*

By attaining Registration, the Operator will have been required to meet the competency requirements as outlined in Part Four of this framework. However, Registration 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 Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier. It can only be attained through participating in the operational setting unique to either the Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System for a period not recommended to be less than:

Complexity Rating	Timeframe for Experience
Drinking Water - Low	12 months inclusive of training
Drinking Water - High	24 months inclusive of training
Wastewater - Low	12 months inclusive of training
Wastewater - High	24 months inclusive of training
Recycled Water	24 months inclusive of training

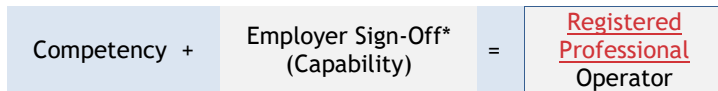
Table 3 - Minimum experience period for a Wastewater or Recycled Water Treatment System

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

Where an Operator seeks “dual” or more Registration (e.g. Drinking Water Low and Wastewater High), then the highest timeframe for experience will be applied (the experience requirements are not combined).

### Awarding Registration

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



\* Employer Sign-off must be undertaken by a suitably qualified person. It is for the Drinking Water Supplier, or 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 Drinking Water, Wastewater or Recycled Water Treatment System, as relevant to the Registration categories applied for.

### Period of Registration

Registration is valid for a five (5) year period and commences on approval of the initial Registration application.

### Credential

Registration shall result in a credential being issued that specifies:

- Name of the Registered Professional Operator
- Current date of issue and expiry
- Specialisation for which the person is Registered (e.g. Drinking Water/Wastewater)
- Treatment Processes for which the person is Registered
- Status (i.e. Active/Inactive)

### Criteria

The Operator shall:

- Be currently employed in an operational role specific to the specialisation for which the person seeks to be Registered.
- Have undertaken the minimum period for experience within a Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System as defined in Table 3.

The Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier or Individual Contractor:

- Shall make an application to the Registering Body supporting the suitability of the Operator to be Registered, based on their experience and the units of competency 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 Registering Body.

The Registering Body shall:

- Upon assessment, and after ensuring that the minimum competency requirements have been met, issue a credential to the Registered Professional Operator and a copy to the Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier.

## Part Six - Maintaining Registration

Part Six outlines the two pathways available to re-register under this Framework.

### Rationale

*Registered Professional Operators must attain and maintain competencies to ensure their skills remain relevant and keep pace with changes to treatment processes, operational practices, technology and customer/regulatory expectations.*

Maintenance of Registration is achieved by ensuring that the competencies and capabilities identified during initial Registration 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, operational practices, technology or treatment processes.

Importantly, this framework recognises that each workplace is unique and will influence the method by which Drinking Water Suppliers, or Wastewater Authorities or Recycled Water Suppliers will use the Framework to ensure the competence of Registered Professional Operators is maintained. These factors include the size of the workforce, the nature of the work being performed by the Registered Professional Operator, the geographic location and access to technology and other professional development opportunities.

### Relevancy of Competencies to the Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System

Registration recognises Operators for their ability to perform either drinking water, wastewater or recycled water treatment tasks related to specific processes only. In other words, it does not necessarily register Operators to work at a specific facility.

If a Registered Professional Operator moves to another Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System, or if an upgrade of a system occurs, the alignment of competencies held by the Registered Professional Operator will need to be checked against the new Treatment Processes. Where a gap is identified, the Registered Professional Operator retains their Registered status; however, the gap will be required to be addressed within two years, and records of Registration will need to be amended to identify any new Treatment Processes.

### Pathways for Re-Registration

#### Pathway #1 - Participation in the Continuing Professional Development Program

Pathway 1 provides the opportunity for Registered Professional Operators to re-register 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 Registering 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 Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier or Individual Contractor and shall be provided to the [Registering Body](#) to support an application for continued [Registration](#). The points required for each period of [Registration](#) are specified in Table 4.

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

Table 4 - [CPD requirements for Maintaining Registration](#)

The approach to [Operators](#) seeking dual (or more) [Registration](#) shall be similar to the experience requirements detailed in Table 3, with the highest CPD points requirement for a single category being the minimum target for re-[registration](#). It will however be an expectation that some CPD of specific relevance to each [registered](#) category is undertaken during a 5 year re-[registration](#) period.

For dual or multiple [Registered Professional Operators](#), the [Registering Body](#) will maintain a table outlining the minimum relevant CPD points required for each category and make this available online.

#### Pathway #2 - Audit / Demonstration of current competence

The Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier or the [Registered Professional Operator](#) may elect to undertake a [Registration](#) audit within three (3) months of the expiry of their [Registration](#).

The [Registration](#) audit shall be performed by an operationally competent person, who is independent of the Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier, and who is approved or nominated by the [Registering Body](#). The [Registration](#) audit will be undertaken using an appropriate audit methodology/tool.

The [Registration](#) audit will be sufficiently detailed to provide evidence that the competence of the [Registered Professional Operator](#) is current and relevant to the tasks performed at a particular treatment facility, and/or the competencies used to gain their initial [Registration](#). The costs of any [Registration](#) audit will be borne entirely by the Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier, Individual Contractor or the [Registered Professional Operator](#). If any process skills are identified as deficient during the [Registration](#) audit, the [Registered Professional Operator](#) will be required to undertake retraining and then prove their competence to the satisfaction of the auditor before being re-registered. The costs of any retraining, along with the costs of competency sign-off by the auditor, will be borne entirely by the Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier, Individual Contractor or the [Registered Professional Operator](#).

## Criteria

- Regardless of the pathway chosen, [Registered Professional Operators](#) must:
  - Be currently undertaking treatment tasks aligned to their [Registration](#) status in an operational role.  
**Note:** Where a [Registered Professional Operator](#) is participating in an activity for professional development at the time of re-[registration](#), the [Registering 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 [Registration](#) audit of operational and developmental activities using the process administered by the [Registering Body](#).
- [Registered Operators](#) must complete training for any new treatment processes added after they were last [Registered](#), to ensure that the competencies held (as required in Part Four) remain directly relevant to the treatment processes that are used within the system.

## Extensions to [Registration](#)

### *Falling Short of Required Points in Pathway #1*

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

### *Unsuccessfully completing the Audit in Pathway #2*

- Where the audit is unable to confirm the competence of the [Registered Professional Operator](#):
  - A three (3) month extension will be provided.
  - The Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier shall plan and assist the [Registered Professional Operator](#) to address any shortfall or gap identified during the audit. Actions and outcomes shall be reported to the [Registering Body](#).

### *Continued shortfall after an extension*

- Where the three month extension expires, the [Registering Body](#) shall receive advice on a case-by-case basis. The [Registration](#) status of a [Registered Operator](#) may be amended to 'Inactive' unless there are reasonable circumstances to extend the [Registration](#) period further. Please refer to Part Seven for details of Active and Inactive [Registration](#).



#### System Upgrades/Moving to a new drinking water treatment system, or wastewater or recycled water treatment system

- The Registering Body shall keep a record of the gap and all correspondence; however, the status of the Registered Operator shall remain unchanged.
- It is the responsibility of the Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier to provide an annual update to the Registering Body describing any changes to treatment processes at any Drinking Water Treatment System, or Wastewater or Recycled Water System operated by Registered Professional Operators.
- The Registering Body shall monitor the progress of a Registered Professional Operator to up-skill. Where the Registered Operator has not up-skilled within a reasonable period of time, the Registering Body shall review the status of Registration on a case-by-case basis.

## Part Seven - Registration 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 Registration through a fair and simple process.

### Rationale

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

The Registering Body will assign a status to each Registered Professional 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 Registered Professional Operator is identified as inactive, Drinking Water Suppliers, or Wastewater Authorities or Recycled Water Suppliers should not make judgements about employment opportunities based only on the status of their Registration.

### Active Registration

This category of Registration shall be used to identify Registered Professional Operators who currently meet all requirements as stated in this Framework. A Registered Professional Operator may be active in only one specialisation that they are Registered against or all (e.g. active in drinking water but not wastewater).

### Inactive Registration

- The Registering Body may revise the status to 'Inactive' where the Registered Professional Operator:
  - Is absent from an operational role of direct relevance to the operator's Registration 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, or Wastewater Authority or Recycled Water Supplier and the Registered Professional Operator where the status of Registration changes.

### Revoked Status

- The Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier must inform the Registering Body where the employment of a Registered Operator has been terminated for a serious breach. The Registering Body will examine the specific circumstances and may amend the Registration status to 'Revoked' as a result of the notification.

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

## Criteria for Re-entry

- [Registered Professional Operators](#) who currently meet all requirements as stated in this Framework shall be identified as Active by the [Registering Body](#).
- An 'Inactive' Operator may be returned to 'Active' status by the [Registering Body](#) within a period of two (2) years of being deemed 'Inactive' without following the process detailed below, provided that the [Registering Body](#) is satisfied that the Operator otherwise continues to meet the requirements for [Registration](#).
  - Where an 'Inactive' Operator otherwise seeks to return to 'Active' status, the Drinking Water Supplier, or 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 [Registering Body](#) to have the status of the [Registered Professional Operator](#) revised to 'Active'. Evidence of the audit and any gap training shall accompany the application.

## Part Eight - Registration Management

### Rationale

*The administration functions performed by the Registering Body must be undertaken in a manner that ensures the integrity of this Framework and provides national portability for Registered Professional Operators.*

### Selection of Registering Body

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

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

The appointment of a Registering Body will be for a minimum period of 5 years, under terms which require annual progress reporting to the Framework Owner. Reports are to include a summary of completions, and changes to CPD including the addition of new CPD pathways.

The Framework Owner may at any time appoint an independent reviewer to review the performance of the current Registering Body, or the framework itself. The appointment of the current Registering 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 Registration process.

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

### Administration

The Registering Body shall ensure that sufficient resources are allocated to effectively manage, administer and participate in the review of the Water Industry Operator Registration Framework 2021.

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

The Registering Body shall ensure that it has national coverage and maintain independence from any:

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

## Records Management

### Type of Record

- To ensure that the [Registration Framework](#) remains an effective strategy to meet its stated objective, a database shall be maintained by the [Registering Body](#) and shall include the following details:

#### ORGANISATIONAL INFORMATION

- The details of the Drinking Water Treatment System or Wastewater or Recycled Water Treatment System including:
  - Classification of the System as either drinking water, wastewater or recycled water.
  - Name of the Drinking Water Supplier, or Wastewater Authority or Recycled Water Supplier;
  - Name of an Individual Contractor's business where relevant;
  - Location and business name (where relevant) of each Drinking Water Treatment System, Wastewater or Recycled Water Treatment System;
  - The treatment processes present within each Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System; and
  - The System Complexity Rating for each Drinking Water Treatment System, Wastewater or Recycled Water Treatment System.

#### PERSONNEL INFORMATION

- Details of each [Registered Professional Operator](#) including:
  - Name;
  - Business Address/Contact details;
  - [Registration](#) Number;
  - Date of Initial [Registration](#);
  - Entry and Expiry date for current [Registration](#).
  - Employer Details;
  - Status - Active / Inactive / Revoked;
  - List of treatment processes for which the [Registered Professional Operator](#) is currently competent; and
  - List of units of competency achieved including the issuing RTO(s)

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

### Currency of Records

- The Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier must advise the [Registering Body](#) of any change to the [Registered Operator's](#) records in relation to any change to treatment processes including any change in the complexity rating of the system.

### Access to records

[Registered Operators](#), the Drinking Water Supplier, 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 [Registering 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 [Registered Professional Operators](#).

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

- Documented authority from the [Registered Professional 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 [Registering Body](#).
- Relevant state and territory privacy and confidentiality statutory requirements will apply to all applications.

### Records Retention

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

### Appeals

The [Registering Body](#) will develop an Appeals Policy and Procedure that will be reviewed and endorsed by the Framework Owner.

Where a Drinking Water Supplier, Wastewater Authority or Recycled Water Supplier or [Registered Operator](#) is dissatisfied with a judgement or process used by the [Registering Body](#) an appeal may be lodged in accordance with the Appeals Policy and Procedure.

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.

The [Registering Body](#) will ensure that the appeals process operates independently of the [Registering Body](#) with the current version of the policy published on the [Registering Body's](#) website.

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



## Appendix B - Approved Professional Development - Sample

### Continuing Professional Development (CPD) Activities

#### and Points for Maintaining Registered Status

Sample only - A full CPD scheme will be developed and maintained by the Registering Body and available online at <https://wioa.org.au/certification/maintaining/>

Commented [DC2]: TO be updated with new link

Activity	Details
Attend a training session approved or conducted by a state/territory regulator or mandated as refresher training	(Non-accredited)
Complete additional units of competency applicable to the relevant <u>registration</u> Classification at AQF level 2	Units from a training package other than NWP must relate specifically to the relevant <u>registration</u> Classification - i.e. drinking water, wastewater or recycled water.
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.
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.
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.
Attend a peak water/wastewater industry annual conference	Peak industry associations include: <ul style="list-style-type: none"> <li>• Australian Water Association</li> <li>• Water Industry Operators Association</li> <li>• Water Services Association of Australia</li> </ul>
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.
Attend a specialist seminar or workshop relevant to wastewater/recycled water treatment	Examples include: <ul style="list-style-type: none"> <li>• IWES short courses</li> <li>• <del>WIOA workshops</del></li> <li>• <del>Smart Water Research Centre</del></li> </ul>

Attend an in-house training course specific to wastewater/recycled treatment	The course must be a formal training program with documented learning outcomes.
Mentoring of a junior staff member	Mentoring must be through a formal arrangement with scheduled meetings/activities over an extended period of time.
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.
Write and submit a poster presentation at an event	
Write, submit and present a poster presentation at a wastewater industry event	
Submit an article that is published in a wastewater/water industry or relevant technical journal	Examples include: <ul style="list-style-type: none"> <li>• AWA Current Magazine</li> <li>• WIOA WaterWorks Magazine</li> <li>• Any other industry recognised journal</li> </ul>
Complete a significant workplace project	Examples include: <ul style="list-style-type: none"> <li>• Analysis of performance membranes in an RO plant</li> <li>• Research and recommend process for eradication of mosquitoes in a WWTP</li> <li>• Investigation and implementation of plant process improvements</li> </ul>
Participate in a rotation program or perform higher duties for professional development	The program must be formalised with stated objectives/outcomes
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
Subscribe to an industry periodical	Operators should demonstrate that their knowledge of wastewater system issues is current.
Recognition of achievement through an industry development award or prize	Examples include: <ul style="list-style-type: none"> <li>• Churchill Fellowships</li> <li>• IWA (Vic) Award</li> <li>• WIOA Kwatye prize</li> </ul>

## Appendix C - Relevant Units of Competency

### C.1 - Water Treatment Units of Competency

NWP Unit Code	NWP Unit Descriptor	NWP (2015) Code	NWP07 Code*
	<i>MANDATORY (DEPENDING ON COMPLEXITY)</i>		
NWPGEN01704	Apply the risk management principles of the water industry standards, guidelines and legislation	NWPGEN001	NWP279
NWPGEN002007	Sample and test <a href="#">source or drinking water</a>	NWPGEN007	NWP210B/ NWP218B
NWPGEN02209	Perform laboratory testing	NWPGEN009	NWP364B
	<i>PROCESS UNITS</i>		
<del>NWPTRT011</del> NWPTRT057	Assess and improve <del>chemical dosing</del> <a href="#">coagulation and flocculation</a> process	NWPTRT011	NWP409A
NWPTRT00642	Operate and control fluoride addition process	NWPTRT012	NWP276A
NWPTRT000743	<del>Monitor and operate liquefied chlorine gas disinfection processes</del> <a href="#">Operate and control liquefied chlorine gas disinfection</a>	NWPTRT013	NWP277A
NWPTRT00814	Operate and control iron and manganese removal processes	NWPTRT014	N.A.
NWPTRT00945	Operate and control coagulation and flocculation processes	NWPTRT015	NWP347B
NWPTRT01034	Operate and control sedimentation and clarification processes	NWPTRT031	NWP348B
NWPTRT06432	Assess and improve sedimentation processes	NWPTRT032	NWP408A
NWPTRT01633*	Operate and control DAF processes	NWPTRT033*	NWP352B/ NWP407A
NWPTRT01734*	Operate and control activated carbon processes	NWPTRT034*	NWP367A
NWPTRT01835	Operate and control ion exchange and softening processes	NWPTRT035	NWP356B
NWPTRT01944	Operate and control granular media filters	NWPTRT041	NWP354B
NWPTRT05942	Assess and improve granular media filters	NWPTRT042	NWP406A
NWPTRT02043	Operate and control membrane filters	NWPTRT043	NWP355B
NWPTRT063	<a href="#">Assess and improve membrane filters</a>		
NWPTRT02144*	Operate and control desalination processes	NWPTRT044*	NWP357B
NWPTRT05845	Assess and improve desalination processes	NWPTRT045	N.A.
NWPTRT02252	Operate and control hypochlorite disinfection processes	NWPTRT052	NWP268B
NWPTRT02353	Operate and control UV processes	NWPTRT053	NWP273A
NWPTRT02454	Operate and control chloramination processes	NWPTRT054	NWP366A
NWPTRT02555	Operate chlorine dioxide processes	NWPTRT055	NWP275A
NWPTRT02656	Operate and control ozone processes	NWPTRT056	NWP274A
NWPTRT03994	Operate and control solids handling processes	NWPTRT091	NWP360B

## C.2 - Wastewater and Recycled Water Treatment Units of Competency

NWP Unit Code	NWP Unit Descriptor	NWP (2015) Code	NWP07 Code*
	<i>MANDATORY (DEPENDING ON COMPLEXITY AND SYSTEM)</i>		
NWPGEN01704	Apply the risk management principles of the water industry standards, guidelines and legislation	NWPGEN001	NWP279A
NWPGEN02108	Sample and test wastewater	NWPGEN008	NWP208A and NWP218A
NWPGEN01803	<del>Follow</del> Apply Environmental & Licensing Procedures	NWPGEN003	NWP202B (or higher level)
NWPGEN02209	Perform laboratory testing	NWPGEN009	NWP364B
	<i>PROCESS UNITS</i>		
NWPTRT02974	Operate Pre-treatment Processes	NWPTRT071	NWP264B
NWPTRT00945	Operate and control coagulation and flocculation processes	NWPTRT015	NWP347B
NWPTRT01073*	<del>Operate and control sedimentation and clarification processes</del> Sedimentation Processes	NWPTRT073	NWP271B
NWPTRT01633*	Operate and control DAF processes	NWPTRT033*	NWP352B/ NWP407A
NWPTRT01734*	Operate and control activated carbon processes	NWPTRT034*	NWP367A
NWPTRT01835	Operate and control ion exchange and softening processes	NWPTRT035	NWP356B
NWPTRT01944	Operate and control granular media filters	NWPTRT041	NWP354B
NWPTRT05942	Assess and improve granular media filters	NWPTRT042	NWP406A
NWPTRT02043	Operate and control membrane filters	NWPTRT043	NWP355B
NWPTRT063	<del>Assess and improve membrane filters</del>		
NWPTRT060	<del>Assess and improve membrane bioreactor processes</del>		
NWPTRT02244*	Operate and control desalination processes	NWPTRT044*	NWP357B
NWPTRT02345	Assess and improve desalination processes	NWPTRT045	N.A.
NWPTRT03883	<del>Aerobic bioreactor</del> Operate and control fixed film processes (trickling filters, RBC)	NWPTRT083	NWP350B
NWPTRT036084	<del>Operate and control a</del> Activated Sludge processes	NWPTRT081	NWP351B or NWP412A
NWPTRT03782	<del>Operate and control n</del> Nutrient Removal Processes	NWPTRT082	NWP359B
NWPTRT049	<del>Assess and improve activated sludge and biological nutrient removal processes</del>		
NWPTRT04092	Anaerobic bioreactor processes (Digesters & Bulk Volume Fermenters)	NWPTRT092	NWP353A or NWP413A or NWP270B
NWPTRT03072	Odour Control (Gas scrubber) treatment processes	NWPTRT072	NWP361B

<del>NWPTRT02862</del> or <del>NWPTRT048</del>	Reclaimed water irrigation	<del>NWPTRT062</del>	NWP362B
<del>NWPTRT01734</del>	Activated Carbon (PAC, GAC/BAC)	<del>NWPTRT034</del>	NWP367A
<del>NWPTRT01835</del>	Ion Exchange	<del>NWPTRT035</del>	NWP356B
<del>NWPTRT092</del>	<del>Operate digestion processes</del>		<del>NWP270B</del>
<del>NWPTRT04694</del>	Incineration processes	<del>NWPTRT094</del>	NWP349B
<del>NWPTRT02252</del>	Operate and control hypochlorite disinfection processes	<del>NWPTRT052</del>	NWP268B
<del>NWPTRT04307</del>	Operate and control liquefied chlorine gas disinfection	<del>NWPTRT013</del>	NWP 268B and NWP277A
<del>NWPTRT02353</del>	Operate and control UV processes	<del>NWPTRT053</del>	NWP273A
<del>NWPTRT02555</del>	Operate chlorine dioxide processes	<del>NWPTRT055</del>	NWP275A
<del>NWPTRT02656</del>	Operate and control ozone processes	<del>NWPTRT056</del>	NWP274A
<del>NWPTRT03994</del>	Operate and control solids handling processes	<del>NWPTRT091</del>	NWP360B
<del>NWPTRT047401*</del>	Operate and control lagoon processes	<del>NWPTRT101*</del>	NWP272B/NWP369

\* May not be directly equivalent

## Glossary

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### Appeals Policy and Procedure

A policy to enable the [Registering](#) Body to respond to complaints or appeals made in relation to the [Registration](#) 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.

### Customer

A recipient of wastewater or recycled water who is:

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

### Drinking Water Supplier

An organisation/enterprise (public or private) or, individual that treats drinking water for human consumption. A Drinking 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 Drinking Water Treatment System (or part thereof) is considered to be a Drinking Water Supplier.

### Drinking Water Treatment System

Is, for the purposes of this Framework, a subset of a Drinking Water Supply System, as defined under Section 3.2 of the ADWG. Drinking Water Treatment Systems are that part of the supply system that produce water intended for human consumption, whether the water either;

- Does not pass through any treatment barriers; or
- Is treated by a single treatment barrier, or multiple treatment barriers, at a 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 potable reuse schemes.

### 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 Drinking Water Treatment System, or Wastewater or Recycled Water Treatment System.

### Framework Coordinator

A formally recognised role, which may vary depending on the jurisdiction, that liaises with Drinking Water Suppliers, or Wastewater Authorities and Recycled Water Suppliers, state/territory regulators and RTOs to ensure cost-effective investment in gap training and supports 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 [Registering](#) Body.

### Individual Contractors

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

Individual Contractors are not considered to be Drinking Water Suppliers, or Wastewater or Recycled Water Suppliers. They are individuals ([Registered Professional Operators](#)) who work within a Drinking Water System, or Wastewater or Recycled Water System and must meet the minimum requirements stated in this [Registration](#) 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 [Registered](#) 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 [Registration](#) Framework.

The Operator in Training is not [Registered](#) under this Framework, but the Drinking Water Supplier, or Wastewater or Recycled Water Supplier is to ensure that opportunities are afforded to the Operator to develop all necessary competencies to achieve [Registered](#) status.

### Operator

A person who performs tasks directly related to the operation of a drinking water treatment plant, or 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 Professional Operator**

A Registered Professional Operator has operational responsibility for drinking water, 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 Registered Professional Operator may have responsibility for more than one drinking water, wastewater or recycled treatment system at any one time, so long as it is reasonable to expect that drinking water, wastewater or recycled water quality and safety will be assured at all plants and the Registered Professional Operator's current competencies cover all treatment processes under the responsibility of that person.

### **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.

### **Registering Body**

The Registering Body is responsible for undertaking the formal governance and administrative processes relevant to Registration and awarding Professional Registration to the Operator. The Registering Body/bodies is appointed by the Framework Owner.

### **Registration**

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 drinking water, wastewater or recycled water through meeting the minimum requirements for Registration as Professional Registered drinking water, wastewater or recycled water treatment Operators.

### **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.

### **Source**

Where water is initially sourced prior to use as drinking water, including but not limited to:

- Ground water
- Surface water
- Rain water (including stormwater)

### **Statement of Attainment**

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. A Statement of Attainment is evidence of completion of a specific unit of competency which may have been undertaken discretely or as part of a Qualification.



## System Complexity Rating

A rating assigned to a water treatment plant, or 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 Drinking Water System, or 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:

### *Drinking Water:*

- 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

### *Wastewater/ Recycled Water:*

- 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
  - Advanced Oxidation
- 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

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 processes downstream of the treatment facility.

It does not include direct or indirect potable reuse schemes.

### **Water Industry Operator Registration Framework 2021**

This document - designed to set out the principles and process for achieving and maintaining Registration and procedures relevant to Registration.