

<b>Title</b>	<b>Demonstrate knowledge of water and wastewater treatment plants quality management</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to describe: preventive maintenance systems relevant to water and wastewater treatment; plant life expectancy and depreciation of water and wastewater treatment equipment; and the role of quality assurance, quality control and product standards for water and wastewater treatment.
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<b>Classification</b>	Water Industry > Water - Generic
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<b>Available grade</b>	Achieved
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### Explanatory notes

- 1 Legislation and references relevant to this unit standard include: Resource Management Act 1991, and subsequent amendments; *Drinking-water standards for New Zealand, 2005 (Revised 2008)*. Ministry of Health, Wellington.
- 2 Definitions  
*Organisational procedures* – instructions to staff, and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – site specific requirements, manufacturers’ specifications, product quality specifications, and legislative or regulatory requirements.  
*Infrastructure* includes treatment plant and its reticulation system.  
*Wastewater* may include stormwater and sewage systems.

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### Outcomes and evidence requirements

#### Outcome 1

Describe preventive maintenance systems relevant to water and wastewater treatment.

#### Evidence requirements

- 1.1 The necessity of routine maintenance is described in terms of deterioration of treatment infrastructure, manufacturer’s guidelines, and organisational procedures.
- 1.2 Procedures to manage asset lifespan and risk of equipment failure are identified and described in accordance with organisational procedures.

1.3 Procedures to monitor mechanical conditions are identified and described in terms of preventive maintenance.

Range may include but is not limited to – audio and visual checks, temperature check, frequency analysis, performance checks, power drawn, record keeping, flow test; evidence is required for at least six.

**Outcome 2**

Describe plant life expectancy and depreciation of water and wastewater treatment equipment.

Range one each of plant, equipment, and structures.

**Evidence requirements**

2.1 The expected service lives of plant items are described in terms of design life and process change.

Range typical production hours of mechanical plant, control and recording equipment duty, life of structures, technology change impacts.

2.2 Annual maintenance costs are described in terms of the implications of useful remaining life, depreciation, and risk of unplanned failures.

**Outcome 3**

Describe the role of quality assurance, quality control and product quality specifications for water and wastewater treatment.

**Evidence requirements**

3.1 Quality assurance is described in terms of its relationship with risk management.

3.2 Quality control is described in terms of the use of standards for sampling and measurement.

Range standards may include but are not limited to – NZ Drinking-Water Standards, resource consent discharge standards; evidence is required for at least one.

3.3 Product quality specifications are described in terms of their applications.

<b>Replacement information</b>	This unit standard replaced unit standard 17876.
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<b>Planned review date</b>	31 December 2021
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 September 2008	31 December 2018
Review	2	16 March 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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#### Comments on this unit standard

Please contact the Infrastructure Industry Training Organisation [qualifications@connexis.org.nz](mailto:qualifications@connexis.org.nz) if you wish to suggest changes to the content of this unit standard.