Title	**Manage, monitor and optimise pH and alkalinity control processes for drinking-water treatment**		
Level	**5**	**Credits**	**10**

Purpose	People credited with this unit standard are able to: manage, monitor and optimise pH and alkalinity control processes for drinking-water treatment.

Classification	Water Industry > Water Treatment

Available grade	Achieved

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.

2 Legislation and references relevant to this unit standard include:
Health and Safety at Work Act 2015, Water Services Act 2021, Hazardous Substances and New Organisms (HSNO) Act 1996;
Ministry of Health, *Drinking-water Standards for New Zealand*, Ministry of Health, Wellington, 2005 (Revised 2018), and subsequent replacements, available at www.taumataarowai.govt.nz.

3 Definitions
Critical control point – specific point, procedure, or step in water treatment processes at which control can be exercised to reduce, eliminate, or prevent the possibility of a public health hazard.
Industry requirements include manufacturers' specifications; and enterprise requirements which may include documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
Optimise – adjusting plant input variables to make the process as effective as possible in order to achieve the desired output, taking into account the constraints of cost, human input, water quality, and water demand.

4 Learning and assessment activities for this unit standard must be informed by Te Mana o te Wai (refer to Taumata Arowai) and the *National Policy Statement for Freshwater Management 2020* available from https://environment.govt.nz/.

Outcomes and performance criteria

Outcome 1

Manage pH and alkalinity control processes for drinking-water treatment.

Performance criteria

1.1 Process variables and critical control points are managed to achieve the required parameters and maintain process performance.

1.2 pH and alkalinity control equipment is managed.

Outcome 2

Monitor pH and alkalinity control processes for drinking-water treatment.

Performance criteria

2.1 Monitoring is managed.

2.2 Monitoring data is collected, interpreted and reported.

Outcome 3

Optimise pH and alkalinity control processes for drinking-water treatment.

Performance criteria

3.1 The pH and alkalinity control process variables and operating factors are adjusted to achieve optimal performance in accordance with the results of monitoring.

Replacement information	This unit standard replaced unit standards 18451 and 19356.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 March 2017	31 December 2024
Review	2	26 May 2022	N/A

Consent and Moderation Requirements (CMR) reference	0101

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaAraRau.nz if you wish to suggest changes to the content of this unit standard.