



Australian Government

NWPTRT054 Operate and control chloramination processes

Release: 1

NWPTRT054 Operate and control chloramination processes

Modification History

Release	Comments
1	This unit was released in NWP Water Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to NWP366A Monitor, operate and control chloramination disinfection processes. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice • Unit title changed to better reflect unit outcomes • Elements reordered • One new PC added to Element 1

Application

This unit describes the skills required to monitor, operate and control chloramination processes; and to measure and report on system performance and process quality control. The ability to identify faults, determine and apply technical adjustments is essential to performance.

This unit applies to those working as operational staff with a specific responsibility for chloramination processes.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to, particularly those relating to storage and handling of hazardous substances and dangerous goods.

Those undertaking this unit would work under supervision, while performing routine tasks, within a range of familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Treatment

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Monitor chloramination process performance	1.1 Conduct and analyse process tests and compare performance to plant operational requirements. 1.2 Collect samples and test chlorine residuals. 1.3 Identify and report process faults and the operational condition of plant.
2. Prepare and apply chloramination chemical dosing	2.1 Use, handle and store chemicals. 2.2 Prepare chemical dosing according to system specifications and organisational requirements. 2.3 Maintain information related to chlorine and ammonia supply and usage.
3. Operate and control chloramination processes	3.1 Carry out routine plant inspections. 3.2 Make adjustments to dosing to optimise system performance.
4. Complete documentation	4.1 Collect and record process data. 4.2 Report observations outside defined parameters for further action.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning NA					Reading					Writing					Oral communication					Numeracy				

Performance variables:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity				

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

This unit supersedes and is equivalent to NWP366A Monitor, operate and control chloramination disinfection processes.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

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Assessment Requirements for NWPTRT054 Operate and control chloramination processes

Modification History

Release	Comments
1	These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages. Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- operating control and chemical dosing equipment
- performing chloramination process calculations including at least one of:
 - chlorine and ammonia dose rate
 - chlorine to ammonia ratio
 - dichloramine concentration
- collecting samples and conducting tests including at least one of:
 - total chlorine
 - free chlorine
 - monochloramine
 - ammonia and hypochlorite strength
 - pH
- analysing tests
- identifying and reporting process and operational faults
- monitoring chloramination systems
- making appropriate system adjustments including at least one of:
 - flow rate
 - chlorine feed rate
 - ammonia feed rate
 - chlorine to ammonia ratio
 - calibration of chemical dosing equipment
- preparing and applying chloramination chemical dosing, including at least one of:

- liquefied chlorine gas
- sodium hypochlorite
- anhydrous ammonia
- aqua ammonia
- pH correcting chemicals including lime soda ash
- sodium hydroxide

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- microbiological aspects of water quality
- chloramination process theory
- chlorine and ammonia dosing equipment
- operational problems including nitrification
- lockout procedures for mechanical and electrical installations
- risk factors and potential hazards associated with chloramination processes
- equipment operation, capacity and limitations
- control and communications systems

Assessment Conditions

Competency should be assessed in an actual workplace or in a simulated environment, with access to equipment and infrastructure appropriate to the outcome. Competency should be demonstrated over time to ensure the candidate is assessed across a variety of situations.

Some components of this unit require assessment in a workplace environment therefore the unit is not suitable for fully external or electronic based assessment.

Consideration must be given to holistic assessment for this unit. Refer to advice in the companion volumes.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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