



Australian Government

NWPTRT081 Operate and control activated sludge processes

Release: 1

NWPTRT081 Operate and control activated sludge 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 NWP351B Monitor, operate and control activated sludge 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 • Element 1 revised • One new PC added to Elements 1 and 2 • Elements 1 and 2 all PC reordered and renumbered • PC 3.1 removed • PC 2.1 and 2.3 revised

Application

This unit describes the skills required to operate and control activated sludge processes and to measure and report on system performance and process quality control. The ability to identify faults, determine and apply technical adjustments and conduct chemical dosing procedures is essential to performance.

This unit applies to those working as operational staff with a specific responsibility for wastewater activated sludge in treatment plants.

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.

Those undertaking this unit would work under supervision, performing routine tasks within a familiar context.

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. Plan and prepare for work	1.1 Determine work requirements from job specification and plans. 1.2 Select and check equipment required to meet safety requirements of task and site. 1.3 Select, fit and use personal protective equipment.
2. Operate and control process	2.1 Carry out routine inspection on assets. 2.2 Collect process samples. 2.3 Carry out routine tests. 2.4 Prepare samples for laboratory testing. 2.5 Identify and report process faults and operational condition of assets. 2.6 Carry out basic process adjustments to enhance process performance. 2.7 Monitor processes to maintain parameters of operation.
3. Complete documentation	3.1 Collect, record and complete process data. 3.2 Identify data that falls outside normal parameters and report 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					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.

Range of Conditions

Current processes include:	• intermittent decanted extended aeration (IDEA) • sequencing batch reactors (SBR) • Bathurst Box • oxidation ditches
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Unit Mapping Information

This unit supersedes and is equivalent to NWP351B Monitor, operate and control activated sludge 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 NWPTRT081 Operate and control activated sludge 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. The candidate must be assessed in at least one of the processes listed in the Range of Conditions. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- identifying and correcting operational and control process problems
- completing logs
- determining chemical dosing
- identifying and reporting faults
- applying basic formulae

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.

- basic hydraulics
- relevant hazards and risks factors
- basic microscopy
- basic biology and chemistry applying to process
- flow measurement
- process layout
- process issues
- chemicals used for pH control, odour control, nutrient removal
- features and components of activated sludge processes
- operational problems such as sludge bulking and foaming

- control of solids
- chemical and biological principles that form the basis of activated sludge wastewater treatment

Candidate should demonstrate basic knowledge of all processes listed in Range of conditions.

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.

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

Links

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