



Australian Government

NWPTRT049 Assess and improve activated sludge and biological nutrient removal processes

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

Application

This unit involves the skills and knowledge required to assess and improve activated sludge and biological nutrient removal (BNR) processes.

It includes assessing, evaluating system performance and investigating and reporting on the optimisation of activated sludge and biological nitrogen or phosphorus removal treatment processes.

This unit applies to those working as technical staff with a specific responsibility for optimising activated sludge and BNR treatment processes. Those undertaking this unit would work autonomously, usually with supervisory responsibilities, while performing complex tasks in a range of contexts.

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

Pre-requisite Unit

Not applicable.

Competency Field

Treatment

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

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|---|--|
| 1 Evaluate activated sludge and BNR processes | 1.1 Review existing process performance data against activated sludge and BNR organisational operating protocol

1.2 Identify the impact of influent quality on activated sludge and BNR treatment processes

1.3 Identify additional sampling and testing required for valid evaluation of current process performance |
| 2 Investigate activated sludge and BNR configuration | 2.1 Assess existing effluent quality reports, fault reports and other relevant plant asset information

2.2 Investigate the operational status of plant components with reference to manufacturer and plant design specifications

2.3 Assess the effectiveness of process control strategies

2.4 Identify treatment process conditions for optimising the growth of beneficial microorganisms

2.5 Identify hazards, assess risks and control measures according to workplace procedures

2.6 Identify biological risks and controls |
| 3 Develop and record a plan for process optimisation | 3.1 Determine plant configuration or chemical options for process optimisation

3.2 Plan a trial to test the performance of the determined optimisation options

3.3 Compile report with recommendations on optimisation options |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to NWPTRT084 Assess and improve activated sludge and nutrient removal processes.

Links

Companion Volume implementation guides are found in VETNet -

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