



Australian Government

**Assessment Requirements for NWPTRT084
Assess and improve activated sludge and
nutrient removal processes**

Release: 1

Assessment Requirements for NWPTRT084 Assess and improve activated sludge and nutrient removal processes

Modification History

Release	Comments
1	<p>These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages.</p> <ul style="list-style-type: none">• Assessment Requirements created drawing upon specified assessment information from superseded unit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 preparing recommendation reports on at least one process 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 wastewater microorganisms
- selecting measures to optimise the growth of beneficial microorganisms
- identifying a range of wastewater microorganisms, and their general characteristics and types of problems caused
- identifying effluent quality and selecting process control strategies to optimise the growth of beneficial microorganisms
- preparing reports outlining the optimum treatment for various microorganisms including measures to ensure validity
- performing various calculations to provide data for the analysis and development of options and solutions, including at least one of F:M ratio, MCRT
- return and wasting rates
- preparing and applying chemical dosing as required
- reviewing existing activated sludge or BNR treatment process performance with reference to historical data, differences in raw water quality and plant configuration
- identifying data deficiencies
- assessing fault reports and investigating the current operational status of activated sludge or BNR treatment process plant components
- investigating current and potential chemical addition practices
- planning trials to test the performance of the determined activated sludge or BNR treatment process optimisation options
- identifying the general characteristics of different types of microorganisms

- identifying wastewater characteristics that impact on microorganism growth
- identifying the problems caused by microorganisms in specific wastewater treatment processes

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.

- types, lifecycle, characteristics of wastewater microorganisms
- operational problems caused by wastewater microorganisms
- effluent quality problems caused by wastewater microorganisms
- properties and mode of action of chemical additives
- principles that form the basis of activated sludge treatment processes
- principles that form the basis of BNR-activated sludge treatment processes, including nitrification and de-nitrification, enhanced biological phosphorous removal
- types of activated sludge and BNR-activated sludge treatment processes
- activated sludge and BNR microbiology

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

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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