



Australian Government

Assessment Requirements for NWPTRT015

Operate and control coagulation and flocculation processes

Release: 1

Assessment Requirements for NWPTRT015 Operate and control coagulation and flocculation 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• Assessment Requirements created drawing upon specified assessment information from superseded unit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. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- taking samples and performing tests including at least one of:
 - flocculation growth and size
 - flocculation time
 - mixing time
 - mixing energy
 - pH
 - colour
 - turbidity
 - routine jar tests and associated timings
 - residual aluminium or iron
 - alkalinity
 - drop tests
 - dosage feed rate review and checks
- producing logs and reports
- preparing testing solutions and solutions strengths
- performing process calculations including at least one of:
 - preparation of dosing solutions
 - jar test dosages
 - dry and liquid chemical feed rates
 - mixing intensity
- preparing and applying chemical dosing

- applying optimised jar test results in the process
- conducting routine plant inspections
- identifying and reporting system faults
- making basic system adjustments including at least one of:
 - pH correction
 - chemical dosing
- completing required documentation including at least one of:
 - routine plant inspection and safety checks
 - water quality sampling and test results
 - routine maintenance reports
 - chemical dosing calculations
 - process set point changes
 - water quality and safety incident reports

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.

- process layout
- process flash mix
- flocculation process
- chemicals used i.e. polymers, coagulants, flocculants and pH correction
- features and components of coagulation and flocculation systems
- process operations including:
 - chemical addition
 - flash mixing
 - flocculation
- chemicals used for coagulation and flocculation
- chemical dosing processes
- risk factors and potential hazards related to coagulation and flocculation systems including:
 - aluminium and iron based coagulants
 - synthetic organic polymers
 - pH adjusting chemicals such as lime, soda ash, caustic soda
- risk control requirements including safety equipment and safety data sheets (SDS)
- operation of pumping and valving systems
- control and communications systems
- water testing procedures
- effects of weather and conditions on operation of site or plant
- procedures for storing and handling dangerous goods and chemicals

- understanding risk management principles of ADWG and AGWR
- jar testing dosage and calculations

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.

Links

Companion Volume implementation guides are found in VETNet -

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

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