



Australian Government

Assessment Requirements for NWPTRT057

Assess and improve coagulation and flocculation 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.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes:

- analysing and evaluating reports and reference materials
- analysing problems and recommending appropriate remedial solutions
- assessing effectiveness of treatment chemicals by conducting a range of tests
- assessing fault reports and investigating the current operational status of plant components
- conducting investigations and reporting on operational and control system problems
- identifying and responding to risks and hazards
- identifying data deficiencies and plan additional data collection through appropriate sampling and testing
- identifying opportunities for improved water treatment
- interpreting a range of complex and technical documents including at least one of the following:
 - codes of practice
 - national and industry standards
 - organisational policies
 - regulatory, legislative, licensing and organisational requirements
 - specifications
- investigating chemicals and current and potential coagulation and flocculation practices
- operating a coagulation and flocculation process
- planning trials to test the performance of the determined optimisation options and compiling recommendation reports
- reviewing existing process performance with reference to historical or seasonal data, differences in raw water quality and plant configuration

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- chemical concepts and reactions relevant to coagulation and flocculation processes, including pH and alkalinity

- chemical dosing system layout
- coagulation and flocculation plant and equipment
- dosing pump capacity and calibration chart including:
 - detention times
 - draw down tests
 - mixing intensity for flash or rapid mixing and flocculation
- factors affecting the selection of chemicals in coagulation and flocculation processes
- factors influencing the effectiveness of chemicals in coagulation and flocculation processes
- functions of various chemicals in coagulation and flocculation processes
- identify chemical dosing points
- impacts of incorrect dosing
- range and characteristics of chemicals used in coagulation and flocculation processes
- range of appropriate measuring and testing procedures
- risk and hazard management principles
- safety data sheets, site manifests and dangerous goods handling
- workplace documentation for data and reports

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -

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