



Australian Government

NWPTRT017 Operate and control activated carbon processes

Release: 1

NWPTRT017 Operate and control activated carbon processes

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 operate and control activated carbon processes.

It includes identifying faults, determining and applying adjustments and completing documentation.

This unit applies to those working as operational staff in treatment. Those undertaking this unit would work under appropriate supervision, while performing routine tasks, within a familiar context.

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

Elements describe the essential outcomes.

1 Prepare for work

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Determine work requirements from job specifications and plans

1.2 Select and check equipment to meet safety requirements

		of task and worksite
	1.3	Select, fit and use required safety equipment including personal protective equipment (PPE)
2 Operate and control processes	2.1	Conduct routine inspections according to workplace procedures
	2.2	Identify and report process faults to relevant personnel
	2.3	Collect process samples and conduct standard tests according to workplace procedures
	2.4	Interpret data and make process adjustments to maintain operational parameters
3 Complete documentation	3.1	Collect, interpret and record process data according to workplace procedures and process requirements
	3.2	Identify data outside of normal operational parameters and report to relevant personnel for further action

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 NWPTRT034 Operate and control activated carbon 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 NWPTRT017 Operate and control activated carbon processes

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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:

- applying process formulae of at least one of the following:
 - backwash flow rates (biological activated carbon (BAC), granular activated carbon (GAC))
 - bed expansion
 - dosage powered activated carbon (PAC)
 - empty bed contact time
- conducting routine plant inspections on asset conditions
- identifying and reporting faults
- making at least one of the following process adjustments:
 - backwash flow rate
 - backwash frequency
 - detention time (PAC)
 - dosage
 - flow rate
 - process flow rate (BAC, GAC)
- performing at least one of the following processes:
 - biologically activated carbon (BAC)
 - granular activated carbon (GAC)
 - powdered activated carbon (PAC)
- taking samples and conducting at least one of the following tests:
 - jar testing
 - odour analysis
 - ultraviolet absorbance at 254 nanometres

Knowledge Evidence

- activated carbon adsorption principles
- features and components of activated carbon processes

- relevant legislation, regulations and workplace procedures
- risk factors and potential hazards associated with activated carbon
- water quality characteristics including:
 - assimilable organic carbon (AOC)
 - biodegradable dissolved organic carbon (BDOC)
 - dissolved organic carbon (DOC)
 - total organic carbon (TOC)

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.

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