



Australian Government

NWPTRT018 Operate and control ion exchange and softening processes

Release: 1

NWPTRT018 Operate and control ion exchange and softening 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 ion exchange and softening processes.

It includes monitoring an ion exchange plant, measuring and reporting on system performance and processing quality control. It also includes identifying faults, determining and applying adjustments.

This unit applies to operational staff with a specific responsibility for ion exchange processes in treatment plants. Those undertaking this unit would work under appropriate supervision within a familiar context while performing routine tasks.

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 required 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 ion exchange 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 or 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 NWPTRT035 Operate and control ion exchange and softening processes.

Links

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for NWPTRT018 Operate and control ion exchange and softening processes

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:

- collecting data and completing required documentation
- conducting routine plant inspections
- identifying and reporting faults
- making process adjustments according to workplace procedures
- monitoring test results and processes
- performing system calculations
- reporting data outside of specified parameters to relevant personnel
- solving operational problems
- taking samples and performing tests
- using safety and personal protective equipment

Knowledge Evidence

- chemical principles of water treatment processes
- components of ion exchange and softening equipment
- equipment operation, capacity and limitations
- interpretation of safety data sheets
- ion exchange and softening process operation, capacity and limitations
- mechanical and electrical control systems
- relevant legislation, regulations and workplace procedures
- risk factors and potential hazards involved with ion exchange and softening processes
- system layout

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>

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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