



Australian Government

NWPTRT021 Operate and control desalination processes

Release: 2

NWPTRT021 Operate and control desalination processes

Modification History

Release 2. Added 1 item to Knowledge Evidence.

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 desalination processes.

It includes monitoring a desalination plant and measuring and reporting on system performance and processing quality control. It also includes identifying faults, determining and applying technical adjustments.

This unit applies to operational staff with a specific responsibility for desalination processes in treatment plants. 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.

PERFORMANCE CRITERIA

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

- | | |
|---|---|
| 1 Prepare for work | 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 desalination processes | 2.1 Conduct routine inspections according to workplace procedures |
| | 2.2 Identify and report process faults according to workplace procedures |
| | 2.3 Collect process samples and conduct standard tests according to workplace procedures |
| | 2.4 Interpret data and make process adjustments and conduct pre-treatment to maintain operational parameters |
| 3 Complete documentation | 3.1 Collect, interpret and record process data according to workplace and process requirements |
| | 3.2 Identify data outside of normal operational parameters 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 NWPTRT044 Operate and control desalination processes.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for NWPTRT021 Operate and control desalination processes

Modification History

Release 2. Minor upgrade - added 1 item to Knowledge Evidence.

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
- interpreting data and making process adjustments
- making process adjustments including:
 - chemical cleaning
 - flow control
 - pre-treatment optimisation
 - waste disposal
- monitoring test results and processes
- operating control equipment
- performing one of the following desalination processes:
 - electrodialysis reversal (EDR)
 - nanofiltration (NF)
 - reverse osmosis
 - thermal desalination
- performing process calculations
- taking samples and performing tests
- using safety and personal protective equipment

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 includes knowledge of:

- chemical dosing requirements for pre-treatment or cleaning
- desalination equipment operation, capacity and limitations
- impact of electrical flow or current and how reversal effects the process

- interpretation of safety data sheets
- lockout procedures for mechanical and electrical installations
- mechanical and electrical control systems
- pre-treatment processes
- principles of desalination processes
- relevant legislation, regulations and workplace procedures
- risk factors and potential hazards
- system layout

Assessment Conditions

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>