



Australian Government

NWPSOU054 Monitor and operate pump stations

Release: 1

NWPSOU054 Monitor and operate pump stations

Modification History

Release	Comments
1	This unit was released in NWP Water Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to NWP259B Operate, monitor and maintain pump stations. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice • Unit title changed to better reflect unit outcomes • PC 1.2 and 3.1 removed • PC 1.4 revised • PC 3.3 and 3.4 merged

Application

This unit describes the skills required to operate and monitor the performance of pump stations in water and wastewater systems and undertake minor maintenance, or organise more complex maintenance, of pump stations. This may include minor maintenance tasks, including gland adjustment, packing replacement and the replacement of some fittings.

This unit applies to those working as staff with specific responsibility for ensuring that pump stations operate according to organisational requirements.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to, particularly those related to WHS, maintenance standards and manufacturer specifications.

Those undertaking this unit would work under indirect supervision, while performing routine tasks in a familiar context, ensuring minimal damage to the environment.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Source

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare work	1.1 Determine pump station work requirements from standard operating and maintenance procedures. 1.2 Perform site check to prevent damage to other utilities and the environment. 1.3 Select and check equipment to meet safety requirements of task and site. 1.4 Select, fit and use personal protective equipment. 1.5 Handle, use and store chemicals.
2. Operate pump stations	2.1 Identify and set or adjust pump station components. 2.2 Carry out routine security inspections and cleaning duties. 2.3 Operate pump station.
3. Maintain pump stations	3.1 Inspect pump station components and identify maintenance needs. 3.2 Schedule maintenance tasks, order appropriate materials and conduct maintenance tasks. 3.3 Identify and report pump station faults and carry out minor repairs.
4. Monitor and adjust pump station performance	4.1 Apply pump station performance targets. 4.2 Identify and apply monitoring points and timing. 4.3 Monitor pump station and adjust, where necessary, to maintain operational parameters.
5. Check outsourced maintenance work	5.1 Check that completed maintenance and repairs meet specifications. 5.2 Check return of pumping station to service.
6. Finalise work	6.1 Check, maintain and store equipment, tools and materials. 6.2 Restore work site. 6.3 Maintain workplace records as required.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning NA					Reading					Writing					Oral communication					Numeracy				

Performance variables:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity				

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

This unit supersedes and is equivalent to NWP259B Operate, monitor and maintain pump stations.

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 NWPSOU054 Monitor and operate pump stations

Modification History

Release	Comments
1	These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages. • 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.

- operating and maintaining pumps and pumping stations
- identifying system faults, operational problems and hazards
- implementing remedial action
- operating service
- responding to operational problems
- collecting data
- producing reports and logs
- using safety and personal protective equipment
- using tools and machinery
- following plans and instructions
- performing work-related calculations
- using communication systems
- planning and preparing for work, including selecting equipment and chemicals
- conducting a security inspection
- monitoring and adjusting pump station performance
- checking quality of outsourced maintenance work
- finalising work, including completing documentation

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.

- system hydraulics basics, including suction and lift
- system layout
- principles and purpose of pump operation
- WHS requirements
- types of pump and their operational function
- pump and pump station operation and maintenance procedures and standards
- principles affecting selection of pump station monitoring points and timing of monitoring activities
- environmental aspects of operation
- lock-out procedures for mechanical and electrical installations
- relevant utilities and service bodies
- communication systems
- hazardous materials handling
- risk factors and potential hazards of operating wastewater transfer systems
- equipment operation, capacity and limitations
- effects of weather and conditions on system
- control systems
- pump station components
- high and low voltage requirements
- effect of lightning strikes

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.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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