



Australian Government

NWPGEN027 Monitor and operate pump stations

Release: 1

NWPGEN027 Monitor and operate pump stations

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 monitor and operate pump stations.

It includes pump stations in water and wastewater systems, undertaking minor maintenance or organising more complex maintenance. It also includes gland adjusting, packing replacement and replacing fittings.

This unit applies to staff with specific responsibility for ensuring pump stations operate according to workplace procedures. Those undertaking this unit would work under appropriate supervision, while performing routine tasks in a familiar context, ensuring minimal damage to the environment.

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

Pre-requisite Unit

Not applicable.

Competency Field

General

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare work

PERFORMANCE CRITERIA

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

1.1 Determine pump station work requirements from standard operating and maintenance procedures

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| | 1.2 | Perform worksite inspection to prevent damage to other utilities and the environment |
| | 1.3 | Select and check equipment and tools to meet task and safety requirements |
| | 1.4 | Select, fit and use personal protective equipment according to workplace procedures |
| | 1.5 | Handle, use and store chemicals according to safety data sheet and workplace procedures |
| 2 | Operate pump stations | |
| | 2.1 | Identify and set or adjust pump station components |
| | 2.2 | Perform routine security inspections and cleaning duties according to workplace procedures |
| | 2.3 | Operate pump station according to manufacturer instructions |
| 3 | Maintain pump stations | |
| | 3.1 | Inspect pump station components, identify maintenance needs and report to relevant personnel |
| | 3.2 | Schedule maintenance tasks, order appropriate materials and conduct maintenance tasks according to maintenance schedule |
| | 3.3 | Identify and report pump station faults and perform 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 to maintain operational parameters |
| | 4.4 | Identify and report observations outside defined parameters to relevant personnel for further action |
| 5 | Check outsourced maintenance work | |
| | 5.1 | Check completed maintenance and repairs meet specifications |
| | 5.2 | Return pumping station to service |
| 6 | Finalise work | |
| | 6.1 | Check, maintain and store equipment, tools and materials and report defects to relevant personnel |

- 6.2 Restore worksite according to environmental and workplace procedures
- 6.3 Maintain workplace records according to workplace procedures

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 NWPSOU054 Monitor and operate 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 NWPGEN027 Monitor and operate pump stations

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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:

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

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:

- control systems
- effects of weather and conditions on system including lightning strikes
- environmental aspects of operation
- equipment operation, capacity and limitations
- hazardous materials handling
- high and low voltage requirements
- lock-out procedures for mechanical and electrical installations
- principles affecting selection of pump station monitoring points and timing of monitoring activities

- principles and purpose of pump operation
- pump and pump station operation and maintenance procedures and standards
- pump station components
- relevant legislation, regulations and workplace procedures
- relevant utilities and service bodies
- risk factors and potential hazards of operating wastewater transfer systems
- system hydraulics including suction and lift
- system layout
- types of pump and their operational function
- work, health and safety (WHS) requirements.

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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