



Australian Government

NWPCAD015 Operate and maintain locks and weirs

Release: 1

NWPCAD015 Operate and maintain locks and weirs

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 maintain locks and weirs.

It includes regulating flows through the weir and operating lock gates. It also includes scheduling and undertaking maintenance, inspecting equipment and collecting data.

This unit applies to those working as field staff with the responsibility for operating locks and weirs in remote locations. Those undertaking this unit will work independently under appropriate supervision while performing routine tasks in a range of familiar contexts.

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

Pre-requisite Unit

Not applicable.

Competency Field

Catchment and Dams

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 Assess upstream flow and establish pool demand according to workplace procedures

1.2 Calculate inflow and outflow discharge rates according to workplace procedures

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|-----------------------------------|------------|---|
| | 1.3 | Develop operation and maintenance plan according to work schedule |
| 2 Operate locks and weirs | 2.1 | Operate the weir gates to control river flows and pool levels |
| | 2.2 | Store water in the weir pool and regulate river flow downstream |
| | 2.3 | Raise river level upstream of the weir to improve navigability of the river |
| | 2.4 | Operate the lock to allow river vessels to navigate through the weir |
| 3 Maintain locks and weirs | 3.1 | Inspect the equipment of the locks, weirs and navigational aids to identify maintenance needs |
| | 3.2 | Schedule and undertake maintenance tasks according to the operational and maintenance plan |
| 4 Finalise work | 4.1 | Collect data from monitoring points according to workplace procedures |
| | 4.2 | Compile reports from monitoring point data |
| | 4.3 | Identify and report current or potential operational problems to relevant personnel |

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 NWPSOU031 Operate and maintain locks and weirs.

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 NWPCAD015 Operate and maintain locks and weirs

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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:

- calculating inflows and discharge rates
- identifying and investigating operational problems
- installing stop logs or bulk heads
- operating lock levels
- operating the lock gates
- operating winches
- performing at least one of the following types of maintenance:
 - greasing bearings
 - oiling hydraulics
 - painting metal work
 - removing debris
 - repairing concrete
- regulating flows through the weir

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:

- legislation relating to vessels within locks
- maintenance requirements of the following:
 - greasing bearings
 - oiling hydraulics
 - painting metal work
 - removing debris
 - repairing concrete
- materials characteristics including:
 - concrete
 - hydraulic systems

- steel
- methods for collecting and reporting on data
- navigational rules
- relevant legislation, regulations and workplace procedures
- river flow considerations

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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