



Australian Government

NWPHYD003 Develop and maintain ratings

Release: 2

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Modification History

Release 2: Competency Field changed from Hydrology to Hydrometric Monitoring.

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 develop and maintain ratings.

It includes understanding relationships between variables, processes for collecting, interpreting and verifying data and producing compliant reports. It also includes applying relevant legislation, regulations, industry standards and workplace policies and procedures.

This unit applies to water operators involved in the monitoring of all the elements of the water cycle and environmental impacts. Those undertaking this unit would work autonomously, leading staff, while performing complex tasks in a broad range of contexts that could be unpredictable, including remote, confined spaces, working on or near water and working at heights.

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

Pre-requisite Unit

Not applicable.

Competency Field

Hydrometric monitoring

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.

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|---|--|
| 1 Review individual measurements | <ul style="list-style-type: none">1.1 Identify monitoring objectives of site and stage discharge ratings requirements1.2 Review historical discharge measurements, time series data and stage discharge rating curves and compare against expected trends1.3 Use standard processes and software to check, edit and verify field data1.4 Analyse, correct and adjust data utilising field measurements and data |
| 2 Develop rating curves | <ul style="list-style-type: none">2.1 Analyse existing measurements to establish trends and compare with existing ratings2.2 Identify events at monitoring site that can affect stage discharge curve2.3 Identify sources of error in ratings2.4 Confirm and verify existing trends whilst developing rating curves2.5 Identify and define new trends whilst developing rating curves2.6 Develop rating curves in compliance with industry and stakeholder requirements2.7 Use theoretical methods to create and extend ratings2.8 Document processes and observations to provide traceability and accountability for quality assurance2.9 Apply standard formulae to create ratings for pre-calibrated measuring structures2.10 Apply quality codes to rating curves utilising workplace procedures and stakeholder requirements |
| 3 Maintain rating curves | <ul style="list-style-type: none">3.1 Confirm accuracy of rating curves using recent measurements and review trends and rating applicability3.2 Adjust and maintain rating curves based on new information from data reviews, changed site conditions and additional field data3.3 Retrieve and analyse current, historic and trend data |

- using appropriate mathematical techniques
- 3.4** Document processes, observations and adjustments made
- 4 Report rating curves**
- 4.1** Prepare and store required archival data to guarantee data security
- 4.2** Prepare and disseminate ratings according to stakeholder requirements
- 4.3** Make recommendations for future observations

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.

Unit Mapping Information

This unit replaces and is equivalent to NWPHYD017 Develop and maintain ratings.

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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