



Australian Government

NWPHYD018 Plan water resource management

Release: 1

NWPHYD018 Plan water resource management

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. This unit supersedes and is equivalent to NWP520A Contribute to hydrometric planning and water resource management. • 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 • Elements 2 and 3 reworded • Two new PC added to Element 1, Element 2 and Element 3 • PC 1.1 revised

Application

This unit of competency describes the skills required to contribute and manage hydrographic network planning and water resources. A detailed understanding of the processes required to collect, analyse, store and report data, together with the use of this information to inform effective policy development, is essential to effective performance.

This unit applies to hydrographers employed by the water industry and water operators involved in the monitoring of all the elements of the water cycle and their impact on the related environment.

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, Bureau of Meteorology, World Meteorological Organisation and Australian Standards.

Those undertaking this unit would work autonomously, supervising staff, while performing complex tasks in a broad range of contexts, that could be unpredictable, including remote, confined spaces, near water and/or at heights.

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

Competency Field

Hydrography

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. Review and plan hydrometric data management processes	1.1 Design and review hydrographic network and water resource management objectives in consultation with senior management. 1.2 Review and analyse the data required to support the hydrographic planning and water resource management processes within the organisation. 1.3 Review hydrographic network data management processes to collect, analyse, store and report hydrographic data to ensure they support the organisation's short-, medium- and long-term planning needs. 1.4 Identify, plan and report resource requirements to meet the hydrographic data management needs. 1.5 Identify, plan, manage and report resource requirements to meet hydrographic network data management needs. 1.6 Identify future and extended uses of data and monitoring networks as part of the planning process and to ensure the most effective use of data and network.
2. Guarantee the provision of quality data	2.1 Develop and review work procedures and documentation used to support the collection, analysis, storage and reporting of hydrographic data as required and communicate to staff. 2.2 Use advanced mathematical and technical processes to support the planning and operation of hydrographic monitoring and testing regimes. 2.3 Determine monitoring and testing priorities. 2.4 Prepare reports in a format suitable to support decision making and planning within the organisation. 2.5 Communicate holistic purpose, use of data and outcomes of the documentation review to staff and stakeholders. 2.6 Plan and ensure training is provided to staff in specialist systems used in data management.
3. Manage water resources	3.1 Review and analyse the role of hydrographic data in the development of water resource management policy. 3.2 Gather, review and communicate local, national and international information regarding effective water resource management.

	3.3 Conduct analysis of current, historic and trend data to inform the organisation's short-, medium- and long-term water resource management planning. 3.4 Gather, review and communicate best practice policy regarding effective water resource management. 3.5 Identify deficiencies in networks. 3.6 Prepare reports.
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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					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 NWP520A Contribute to hydrometric planning and water resource management.

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 NWPHYD018 Plan water resource management

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.

- gathering, interpreting, collecting and analysing hydrographic network and water resource management information and complex documentation sourced locally, nationally and internationally
- applying complex mathematical modelling and analytical tools
- undertaking evidence-based short-, medium- and long-range planning
- communicating with employees, senior management and external industry experts
- using data management and storage systems
- gathering, interpreting, preparing and applying complex documentation relating to the hydrographic planning and water resource management processes of the organisation
- reviewing and refining current practices used in the collection, analysis, storage and reporting of hydrographic data
- planning and setting priorities for the management of hydrographic data collection, storage and reporting
- contributing to the development of short-, medium- and long-term water resource management planning within the organisation
- operating communication systems

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.

- physical and chemical interactions of resources under varying catchment and climatic conditions and impact on data interpretation and analysis
- natural and constructed catchment processes that may affect hydrographic network data outputs, quality and eventual interpretation via modelling outputs and resource management and planning decisions
- relevant Australian Standards, international guidelines and best practice systems applicable to the nature and purpose of the monitoring network
- high-level hydrographic and water resource management technical and planning information
- mathematical techniques relevant to the complex analysis and planning of hydrographic data
- sampling and testing procedures
- WHS procedures

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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