



Australian Government

NWPHYD004 Plan water resource management

Release: 2

NWPHYD004 Plan water resource management

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 plan water resource management.

It includes reviewing and planning hydrometric data management processes, guaranteeing the provision of quality data and managing water resources. It also includes collecting, analysing, storing and reporting data, using this information to inform effective policy development for effective performance and applying and adhering to legislative, regulatory and workplace policies and procedures, particularly those related to Work Health and Safety (WHS), Bureau of Meteorology, World Meteorological Organisation and Australian Standards.

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

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element

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 hydrometric data to support workplace 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 hydrometric data as required and communicate to relevant personnel
- 2.2** Use complex 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 purpose, use of data and outcomes of the documentation review to relevant personnel and stakeholders
- 2.6** Plan and ensure training is provided to relevant personnel in specialist systems used in data management

3 Manage water resources

- 3.1** Review and analyse the role of hydrometric 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 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 according to workplace procedures and communicate with relevant personnel and stakeholders

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 NWPHYD018 Plan 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 NWPHYD004 Plan water resource management

Modification History

Release 2: Minor document layout changes, no content changes.

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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:

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

Knowledge Evidence

- high-level hydrographic and water resource management technical and planning information
- mathematical techniques relevant to the complex analysis and planning of hydrographic data
- 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
- physical and chemical interactions of resources under varying catchment and climatic conditions and impact on data interpretation and analysis
- relevant industry standards, international guidelines and best practice systems applicable to the nature and purpose of the monitoring network
- sampling and testing procedures
- Work Health and Safety (WHS) procedures

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 suitable workplace operational situations. Where this is not appropriate, assessment must occur in suitable simulated workplace operational situations reflecting actual 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, facilities, equipment and personal protective equipment currently used in industry
- applicable relevant documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

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