



Australian Government

Department of Education, Employment and Workplace Relations

NWP530B Implement and manage the operation and maintenance of irrigation delivery systems

Release: 2

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Modification History

NWP530B Release 2: Layout adjusted. No changes to content.

NWP530B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to cover the activities associated with the implementation and management of the operation and maintenance of irrigation delivery systems, including system performance analysis, customer liaison and planning.

Application of the Unit

This unit supports the attainment of skills and knowledge required for managers in water organisations with responsibility for the implementation of irrigation system management plans.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Implement the irrigation system management plan.	<ul style="list-style-type: none">1.1 Confirm performance measures for the <i>irrigationsystem management plan</i>.1.2 Access and interpret <i>historic system information</i> to inform the implementation process.1.3 Inform and educate <i>stakeholders</i> about the system management plan.1.4 Develop management plan components and activities for implementation.1.5 Develop the implementation plan in conformance with <i>legislation</i>, organisational and <i>environmental requirements</i>.1.6 Determine responsibilities and timelines for the implementation activities.
2 Monitor and evaluate the operation and maintenance of the irrigation system.	<ul style="list-style-type: none">2.1 Plan, perform and report on <i>monitoring and testing</i> procedures to identify deviations of planned water system quantity, quality, release and flow rates.2.2 Evaluate delivery of water to customers (timeliness, volume and flow rates) and identify, investigate and report deviations from agreed service.2.3 Evaluate maintenance budgets, activity programs and output target measures and identify, investigate and report deviations from targets.2.4 Identify and document links between operational problems and maintenance activities.
3 Report on the implementation of the irrigation system management plan.	<ul style="list-style-type: none">3.1 Identify, investigate and report deviations of planned water usage, quality and management plan procedures.3.2 Review objectives of the management and implementation plans.3.3 Make recommendations for changes to plan objectives and operational and maintenance procedures.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- communicate effectively
- plan effectively
- prepare reports
- interpret and apply legislation
- interpret and apply organisational policies
- use mathematical techniques to interpret data
- coordinate measuring and testing activities
- conduct investigations
- assess environmental impacts

Required knowledge:

- relevant legislation
- relevant enterprise policies
- range of appropriate measuring and testing procedures
- investigation procedures
- customer expectations and requirements
- operations and maintenance policies and procedures
- occupational health and safety and environmental legislation, Acts and procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to cover the activities associated with the implementation and management of the operation and maintenance of irrigation delivery systems including:

- gathering, interpreting and synthesising information (including historical data, current legislation and standards, stakeholder views and the results of irrigation system testing and monitoring) to underpin the implementation of the irrigation management plan
- planning and implementing testing processes and programs
- monitoring and evaluating the outcomes of the irrigation system management plan
- providing advice and communicating with stakeholders and users
- preparing reports and recommendations for future action

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards, and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and/or assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence should only be made when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning

experience must include a combination of direct, indirect and supplementary evidence

- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

The ***irrigation system management plan*** may include:

- service levels
- capital investment
- maintenance levels

Historic system information may include:

- previous studies
- impact of weather
- relevant hydrometric information
- previous system deliveries
- previous flow rates and operational procedures

Stakeholders may include:

- customers
- government
- farmer and grower associations
- downstream land holders
- other water authorities
- employees
- customer representative committees
- land care or similar active groups
- local communities

Legislation may include:

- relevant federal legislation
- relevant state or territory legislation
- relevant local government by-laws or planning instruments
- board or authority by-laws

Environmental requirements may include:

- environmental flows
- chemicals
- nutrients
- salinity
- downstream requirements

Monitoring and testing may include:

- timeliness of deliveries
- flow
- input and output quality
- testing procedures
- frequency
- sampling locations
- budgets

- physical achievement targets
- operational procedures
- number of complaints

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.