



Australian Government

Department of Education, Employment and Workplace Relations

NWP531B Develop and review irrigation system management plan

Revision Number: 2

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Modification History

NWP531B Release 2: Layout adjusted. No changes to content.

NWP531B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the activities associated with the development and review of the operation and maintenance of irrigation 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 management of the irrigation system.

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 Plan and prepare for management of the irrigation system.	1.1 Determine and interpret water quantity and quality requirements including release and flow rates. 1.2 Access and interpret historic system capacity information. 1.3 Identify and access legislative, organisational and environmental requirements and system constraints that impact on the delivery of irrigation water.
2 Develop an irrigation system management plan.	2.1 Identify and interpret irrigation system management requirements. 2.2 Identify and validate customer requirements for irrigated culture. 2.3 Consult stakeholders, or their representatives, and obtain input for the management plan. 2.4 Develop and record an irrigation system management plan.
3 Review and refine the irrigation system management plan.	3.1 Monitor outcomes of the operations and maintenance evaluations and incorporate into the system's management review. 3.2 Review objectives of the management and implementation plans. 3.3 Make recommendations for changes to plan objectives and operational and maintenance procedures. 3.4 Provide advice and guidance to stakeholders.

Required Skills and Knowledge

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

Required skills:

- interpret and apply legislation and policies
- coordinate measuring and testing activities
- conduct investigations
- use data to inform planning processes
- communicate and consult with stakeholders and users
- 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 develop and review of the operation and maintenance of irrigation systems including:

- gathering, interpreting and synthesising information (including historical system capacity data, current legislation and standards, stakeholder views and monitoring results) to underpin the sound development of the irrigation system management plan
- consulting widely and effectively
- developing effective irrigation system management plans that address the water organisation's objectives and requirements
- using data from monitoring arrangements to track the performance of the irrigation system management plan and inform the review of the plan
- preparing reports and recommendations for changes to the objectives of the management plan and its implementation

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.

Historic system capacity information may include:

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

Legislative requirements 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

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

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

- service levels
- capital investment
- maintenance levels

Monitor outcomes using a range of indicators that 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

Water systems.