



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AHCIRG502A Design irrigation system maintenance and monitoring programs**

**Release: 1**

## AHCIRG502A Design irrigation system maintenance and monitoring programs

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the process of designing irrigation system maintenance and monitoring programs and defines the standard required to: identify irrigation system monitoring and maintenance requirements; determine the resources required for irrigation system maintenance; design a maintenance program for an irrigation system; develop procedures for scheduling and monitoring an irrigation system to achieve required performance; and develop contingency plans for the irrigation system for periods of restricted water supply.
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### Application of the Unit

<b>Application of the unit</b>	This unit applies to irrigation managers.
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Not Applicable

## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>

ELEMENT	PERFORMANCE CRITERIA
1. Design an irrigation system maintenance program	<p>1.1.Resources needed to perform maintenance tasks are specified in the program outline.</p> <p>1.2.Repairs, replacements and servicing requirements for all equipment and machinery are specified in the program outline.</p> <p>1.3.Activities required to maintain the irrigation site, system hardware and water quality are specified according to enterprise needs.</p> <p>1.4.Manufacturer's operating manuals are obtained and used as guidance to specify maintenance activities, schedule and skills required.</p> <p>1.5.Timing and frequency of maintenance activities are scheduled to co-ordinate with other enterprise activities.</p> <p>1.6.System maintenance program activities relate to water supply authority constraints and requirements for water and maintenance.</p> <p>1.7.Labour and Occupational Health and Safety (OHS) requirements for each activity are determined and recorded in the system maintenance program.</p> <p>1.8.Weed control, water storage and treatment maintenance form an integral part of the system maintenance program.</p> <p>1.9.Strategies are specified in the program to ensure that negative impacts of irrigation, drainage and water treatment systems are minimised, and positive impacts are maximised.</p>
2. Design a monitoring and scheduling program	<p>2.1.Procedures for monitoring and recording system hardware use and performance are included in the monitoring and scheduling program.</p> <p>2.2.Procedures for scheduling, monitoring and recording water use form an integral part of the monitoring and scheduling program.</p> <p>2.3.Procedures for monitoring and recording operating costs are included in the program.</p> <p>2.4.Contingency plans in the event of water restrictions being imposed are developed for inclusion in the monitoring and scheduling program.</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

**REQUIRED SKILLS AND KNOWLEDGE**

This section describes the skills and knowledge required for this unit.

**Required skills**

- analyse and organise information
- identify and schedule activities
- design scheduling and recording procedures
- identify adverse environmental impacts of irrigation, drainage and water treatment activities and appropriate remedial action
- develop and include relevant enterprise OHS and environmental procedures
- use literacy skills to fulfil job roles as required by the organisation. The level of skill may range from reading and understanding documentation to completion of written reports
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views
- use numeracy skills to estimate, calculate and record complex workplace measures
- use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

**Required knowledge**

- maintenance and monitoring design requirements
- irrigation, drainage and water treatment maintenance activities
- water supply authority constraints
- water quality guidelines for fresh and marine water (e.g. ANZECC 1999)
- environmental impacts of irrigation
- drainage and water treatment using water from any ground or underground source
- OHS and environmental protection legislation, codes of practice and enterprise requirements for monitoring and maintenance programs.

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> <li>• identify irrigation system monitoring and maintenance requirements</li> <li>• determine the resources required for irrigation system maintenance</li> <li>• design a maintenance program for an irrigation system</li> <li>• develop procedures for scheduling and monitoring an irrigation system to achieve required performance</li> <li>• develop contingency plans for the irrigation system for periods of restricted water supply.</li> </ul>
<b>Context of and specific resources for assessment</b>	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

## Range Statement

<b>RANGE STATEMENT</b>	
The range statement relates to the unit of competency as a whole.	
Irrigation systems may include:	<ul style="list-style-type: none"> <li>• pressurised irrigation systems such as:             <ul style="list-style-type: none"> <li>• micro-irrigation systems</li> <li>• spray irrigation systems</li> <li>• gravity fed irrigation systems.</li> </ul> </li> </ul>

**Unit Sector(s)**

<b>Unit sector</b>	Irrigation
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**Co-requisite units**

<b>Co-requisite units</b>		

**Competency field**

<b>Competency field</b>	
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