



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG403A Determine seasonal irrigation scheduling tasks

Release: 1

AHCIRG403A Determine seasonal irrigation scheduling tasks

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers determining seasonal irrigation scheduling tasks and defines the standard required to: estimate water availability for plants/crops; determine irrigation shifts and rates; monitor and record irrigation data; analyse moisture monitoring equipment data; evaluate effectiveness of irrigation.
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Application of the Unit

Application of the unit	This unit applies to those who determine and implement irrigation scheduling and monitoring based on evaluating and recording irrigation activities and their effectiveness.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Determine irrigation shifts	1.1. The irrigated area is subdivided into the smallest units capable of individual irrigation and area, and irrigation equipment characteristics are noted for each. 1.2. Each unit is defined for its soil irrigation capability. 1.3. The crop/plant water requirement is defined for each unit. 1.4. Units requiring similar irrigation are combined to form a shift that does not exceed the water delivery capacity of the property irrigation infrastructure.
2. Check water supply and availability	2.1. Water volume required to meet irrigation needs over specified period is determined. 2.2. Water is ordered, if necessary, according to water management authority standards and procedures. 2.3. Sufficient notice of water order is given, if necessary, to ensure water is available when required.
3. Implement irrigation shifts	3.1. Resources are coordinated and personnel briefed to deliver requirements. 3.2. Agreed irrigation schedule is implemented.
4. Evaluate effectiveness of irrigation activities	4.1. Plant or crop environment is monitored according to enterprise policy and procedures. 4.2. Plants and crops are inspected for signs of stress.
5. Monitor irrigation system process as specified by enterprise policy and procedures	5.1. Frequency of irrigation is recorded. 5.2. Water usage is measured and recorded, and does not exceed water allocation for a given period. 5.3. Differences between estimated water use and actual water used are calculated. 5.4. Water quality is measured according to enterprise OHS policy and procedures. 5.5. Plant or crop growth and water use efficiency is assessed. 5.6. Soil chemical characteristics are measured and soil moisture is assessed. 5.7. Labour performance is measured. 5.8. Climate and weather conditions are recorded.
6. Record irrigation information and activities as specified by enterprise policy	6.1. Plant or crop environment data is recorded 6.2. Water orders and water usage is recorded. 6.3. Irrigation shifts are recorded. 6.4. System process data are recorded.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- use enterprise monitoring equipment
- identify adverse environmental impacts of irrigation activities and appropriate remedial action
- access irrigation data
- plot and read graphic data
- measure and interpret environmental data
- estimate water availability for plants/crops
- implement and follow relevant enterprise OHS and environmental policies and procedures
- use literacy skills to read, interpret and follow organisational policies and procedures, develop sequenced written instructions, record accurately and legibly information collected and select and apply procedures to a range of tasks
- 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 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

- crop and plant health
- weather patterns
- irrigation monitoring procedures
- environmental impacts of irrigation, using water from any ground or underground source
- soil water retention testing techniques
- monitoring irrigation surface runoff and infiltration due to soil type and terrain.
- water quality monitoring methods and techniques of potable and recyclable water
- water allocation
- water authority standards and procedures
- purchasing procedures, budget restrictions and limits
- Occupational Health and Safety (OHS) and environmental legislation and enterprise requirements.

Evidence Guide

EVIDENCE GUIDE	
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.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<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"> • estimate water availability for plants/crops • determine irrigation shifts and rates • monitor and record irrigation data • analyse moisture monitoring equipment data • evaluate effectiveness of irrigation.
Context of and specific resources for assessment	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

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Pressurised irrigation systems may include:	<ul style="list-style-type: none"> • micro-irrigation systems • spray irrigation systems • gravity fed irrigation systems.
Irrigation systems may include:	<ul style="list-style-type: none"> • manual operation and monitoring to fully automated systems with computer control and monitoring.

Unit Sector(s)

Unit sector	Irrigation
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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