



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG409A Implement, monitor and adjust irrigation schedules

Release: 1

AHCIRG409A Implement, monitor and adjust irrigation schedules

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of implementing watering shifts, monitoring factors that influence water requirements and adjusting the irrigation schedule to accommodate changes in those factors, and defines the standard required to: use enterprise monitoring equipment; monitor plant or crop environment for irrigation requirement; check water supply and availability; implement irrigation shifts; evaluate effectiveness of irrigation activities.
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Application of the Unit

Application of the unit	This unit relates to implementing, monitoring and adjusting irrigation schedules will be carried out without supervision but with general guidance on progress.
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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. Monitor plant or crop environment for irrigation requirement	1.1. Plant or crop environment is monitored and results are interpreted according to enterprise policy and procedures. 1.2. Plants or crops are inspected for signs of stress. 1.3. Changes to irrigation shifts are recommended according to environmental conditions and plant or crop requirements.
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 co-ordinated 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 Occupational Health and Safety (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
- read and apply map data to property features
- 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 numeracy skills to estimate, calculate and record routine and more complex workplace measures and data
- 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
- enterprise policies and procedures.

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"> • use enterprise monitoring equipment • monitor plant or crop environment for irrigation requirement • check water supply and availability • implement irrigation shifts • evaluate effectiveness of irrigation activities
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.	
Environmental factors may include:	<ul style="list-style-type: none"> • drainage • soil moisture • water table levels • soil salinity • rainfall • air temperature • frost risk • water quality • plant/crop and soil nutrient deficiencies • irrigation system maintenance requirements.

RANGE STATEMENT

Water quality measurements may include:

- salinity (ground water and surface water
- pH level
- nutrient concentration.

Unit Sector(s)

Unit sector	Irrigation
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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