Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG325A Operate irrigation technology

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This Unit covers operating irrigation technology as part of irrigation installation and construction and/or irrigation operations and defines the standard required to: maintain and check irrigation equipment for accuracy; take representative samples for measurement; operate technology to measure and monitor the irrigation system or the growing environment; and record the results of testing.

Application of the Unit

This Unit applies to skilled workers in the food and fibre production and amenity horticulture industries, and is likely to be carried out under routine supervision within enterprise guidelines.

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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate ***water metering equipment***	1.1 Equipment is maintained and checked for accuracy according to established procedures 1.2 Samples are collected according to established procedures 1.3 Readings and observations are recorded and interpreted 1.4 Equipment is transported and stored correctly
2 Operate ***pressure testing equipment***	2.1 Equipment is maintained and checked for accuracy according to established procedures 2.2 Sampling points are identified 2.3 Readings and observations are recorded and interpreted 2.4 Equipment is transported and stored correctly
3 Operate water testing equipment	3.1 Equipment is maintained and checked for accuracy as per procedures 3.2 Samples are collected according to established procedures 3.3 Readings and observations are recorded and interpreted 3.4 Equipment is transported and stored correctly
4 Operate ***soil moisture testing equipment***	4.1 Equipment is maintained and checked for accuracy according to established procedures 4.2 Samples are collected according to established procedures 4.3 Readings and observations are recorded and interpreted 4.4 Equipment is transported and stored correctly
5 Operate ***irrigation controllers and sensors***	5.1 Sensors are linked to controllers by wiring or radio signals 5.2 Controllers are programmed 5.3 Accuracy and reliability of electronic flow control equipment is monitored 5.4 Discrepancies or malfunctions are reported to management

Required Skills and Knowledge

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

Required skills include:

Ability to:

- operate water metering equipment
- operate pressure testing equipment
- operate water testing equipment
- operate soil moisture testing equipment
- operate irrigation controllers and sensors
- check accuracy and calibrate equipment if necessary
- take samples for testing
- record observations and data.

Required knowledge includes:

Knowledge of:

- sampling techniques
- equipment maintenance and operation
- measurement procedures
- operational procedures
- data recording procedures
- safe work practices including working with low voltage wiring
- environmental procedures for use, storage and recycling of electronic equipment and batteries.

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	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: • maintain and check irrigation equipment for accuracy • take representative samples for measurement • operate technology to measure and monitor the irrigation system or the growing environment • record the results of testing.
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

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. 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) may also be included.	
Water metering equipment may include:	• the range of meters that are commercially available for measuring irrigation water.
Pressure testing equipment may include:	• the range of pressure gauges.
Soil moisture testing equipment may include:	• tensiometers • electrical resistance blocks • capacitance probe • neutron probes.
Electronic componentry may include:	• remote control valves • sensing equipment.
Irrigation controllers may include:	the range from a simple time switch connected to one valve to programmable computers operating multiple valves to a schedule.

Unit Sector(s)

Irrigation