



Australian Government

AHCIRG332 Operate pressurised irrigation systems

Release: 1

AHCIRG332 Operate pressurised irrigation systems

Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency covers the skills and knowledge required to operate low volume and sprinkler irrigation systems.

It applies to individuals who take responsibility for own work and for the quality of the work of others. They use discretion and judgement in the selection, allocation and use of available resources. All work is carried out to comply with workplace procedures.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Carry out pre-start checks	1.1 Determine work requirements and identify hazards, assess risks and implement control measures 1.2 Select required tools and equipment and check for safe operation 1.3 Select and use suitable personal protective equipment 1.4 Check water, power, fuel and lubricants to confirm all are available and the control system is operational 1.5 Prime pumps, if necessary, and open or close valves and controls as directed 1.6 Calibrate pressure and flow testing equipment

Element	Performance criteria
	1.7 Carry out other pre-start system checks
2. Inspect and operate the system	2.1 Implement start up sequence 2.2 Check emitter spacing against the irrigation plan 2.3 Adjust water pressure as required 2.4 Keep filters clear and replace as required 2.5 Correct or repair all malfunctions, leaks and blockages and report
3. Monitor irrigation system performance	3.1 Check emitters for output 3.2 Calculate application rate of water 3.3 Check the water distribution pattern in the irrigated area 3.4 Monitor moisture levels in the root zone 3.5 Minimise environmental impacts of the operation
4. Shut down irrigation system	4.1 Apply water for sufficient time to achieve required soil moisture levels and allowing for weather conditions 4.2 Shut down system components and drain 4.3 Record and report irrigation activities

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

New unit - no equivalent.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG332 Operate pressurised irrigation systems

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- assess soil moisture levels
- carry out measurements for output and distribution
- measure and interpret flow rates and pressures
- monitor system effectiveness including:
 - application rates
 - depth of irrigation
 - emitter output
 - irrigation times
- pressure variations and blockages
- salinity levels and water quality
- perform shut down procedures
- read and follow operations manual and procedures
- record data
- start up the system and carrying out operational checks

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of pressurised irrigation system operation
- critical measures for moisture availability including:
 - evapotranspiration
 - field capacity
 - infiltration rates
 - readily available water
 - water holding capacity

- wilting point
- electrical hazards including:
- contact with pumps, motors, other live components
- short circuits
- standing laterals to remove blockages
- water spray onto power lines
- energy efficiency indicators and benchmarks for low volume irrigation
- environmental impacts of irrigation using water from any ground or underground source
- general irrigation methods for low volume systems
- main components of low volume and sprinkler irrigation systems
- principles of irrigation and the water cycle
- pump types used in irrigation systems and their operation
- shutdown sequence and flushing procedures
- soil characteristics
- soil, plant and water relationships
- water requirements of plants and crops consistent with sound environmental management

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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