

Modification history

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

AHCIRG332	Operate pressurised irrigation systems
Application	<p>This unit of competency describes the skills and knowledge required to pre-start check, inspect, start up, operate, monitor and shut down pressurised irrigation systems.</p> <p>The unit applies to individuals who operate pressurised irrigation systems under broad direction and take responsibility for their own work.</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Irrigation (IRG)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Carry out pre-start checks	1.1 Confirm activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks 1.2 Select required tools and equipment and check for safe operation 1.3 Select, fit and use personal protective equipment applicable to the task 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 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 Clear and replace filters 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 allow for weather conditions 4.2 Shut down system components and drain 4.3 Record and report irrigation activities

Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document irrigation activities
Oral communication	<ul style="list-style-type: none"> Use clear language to report irrigation activities
Numeracy skills	<ul style="list-style-type: none"> Calculate application rate of water
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG332 Operate pressurised irrigation systems Release 2	AHCIRG332 Operate pressurised irrigation systems Release 1	Minor changes to performance criteria and foundation skills	Equivalent unit

Links
Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72

TITLE	Assessment requirements for AHCIRG332 Operate pressurised irrigation systems
Performance Evidence	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has operated pressurised irrigation systems on at least two occasions and has:</p> <ul style="list-style-type: none"> • assessed soil moisture levels • carried out measurements for output and distribution • measured and interpreted flow rates and pressures • monitored system effectiveness including: <ul style="list-style-type: none"> • application rates • depth of irrigation • emitter output • irrigation times • pressure variations and blockages • salinity levels and water quality • performed shut down procedures • read and followed operations manual and procedures • recorded data • started the system and carried out operational checks. 	
Knowledge Evidence	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> • safe working practices applicable to operating pressurised irrigation systems • pressurised irrigation equipment operation and maintenance manual/critical measures for moisture availability including: <ul style="list-style-type: none"> • evapotranspiration • field capacity • infiltration rates • readily available water • water holding capacity • wilting point • electrical hazards including: <ul style="list-style-type: none"> • 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 pressurised irrigation • environmental impacts of irrigation using water from any ground or underground source • general irrigation methods for low volume systems • main components of pressurised 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	
<p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"> • physical conditions: <ul style="list-style-type: none"> • a workplace setting or an environment that accurately represents workplace conditions • resources, equipment and materials: 	

Assessment Conditions

- work instructions and workplace procedures applicable to operating pressurised irrigation systems
- pressurised irrigation system operation and maintenance manual
- pressurised irrigation system equipment
- pressurised irrigation system tools and equipment and procedures
- personal protective equipment applicable to operating pressurised irrigation systems
- specifications:
 - recording procedures
- relationships:
 - supervisor
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements of assessors in applicable vocational education and training legislation, frameworks and/or standards.

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