



Australian Government

AHCIRG334 Operate and maintain gravity fed irrigation systems

Release: 1

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Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency covers the skills and knowledge required to install, operate and maintain surface irrigation structures and components.

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. Install surface irrigation systems	1.1 Check water supply is compatible with system specifications 1.2 Interpret plan, mark out structures and peg earthworks 1.3 Prepare and maintain beds, diversion and conveyancing structures 1.4 Install diversion and conveyancing structures, channels and beds 1.5 Prepare bed surface with roto-buck 1.6 Test structures for configuration, flow rates and capacity
2. Complete water measurement and	2.1 Install water measurement structures 2.2 Install channels and tail water storages

Element	Performance criteria
tail-water works	2.3 Install pumping equipment, lines and filters 2.4 Confirm that the system configuration and capacity matches the installation plan 2.5 Finish off earthworks and structures
3. Operate pumps and siphons	3.1 Prime pumps and open or close valves and controls 3.2 Position and set up pipes, system equipment and outlets 3.3 Prime and start siphons and other delivery mechanisms 3.4 Implement start up sequence and slowly build up water levels and pressure 3.5 Check pressure at the head-works and control valves 3.6 Distribute water evenly to the targeted areas with minimal wastage and run-off 3.7 Irrigate area and observe time lag between shut down and end of watering to minimise run-off and deep percolation
4. Measure and interpret water levels, flow rates and volume of water used	4.1 Monitor and maintain head water levels 4.2 Confirm that all water outlets are operating correctly 4.3 Replace or clear blocked inlets and outlets 4.4 Measure and record flow rates and water usage 4.5 Implement irrigation changes as required
5. Monitor drainage and tail-water systems	5.1 Monitor water intake, conveyance and distribution, drainage and tail-water 5.2 Check water reuse systems for clearance and freedom from weeds 5.3 Monitor pumps, if used, during operation, clear rubbish from outlets and backflush pump
6. Inspect and maintain a surface irrigation system	6.1 Record damage and blockages with contaminants by damage type, location and the section of the system affected 6.2 Record and report damaged or faulty pumps, valves, electrical components and computer control systems and take action to effect repairs 6.3 Service water measuring, diversion and conveyancing, and distribution structures 6.4 Carry out vegetation control to keep all system components clear 6.5 Undertake servicing and repair of mechanical equipment

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>