



Australian Government

AHCIRG433 Manage 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 manage an irrigation system.

It applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. All work is carried out to comply with workplace procedures.

o 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. Ensure the irrigation is prepared for operation	1.1 Assess staff training needs for carrying out pre-start checks and routine servicing and arrange training for those that require it 1.2 Program or adjust the irrigation controller to meet the required schedule 1.3 Develop procedures for adjusting valves and checking filters and emitters
2. Develop and	2.1 Develop start-up procedures

Element	Performance criteria
implement start-up and shutdown procedures	2.2 Develop shut down sequence and isolation procedures 2.3 Install safety or security lock off devices and signage 2.4 Provide instructions for flushing the system as required
3. Carry out trouble shooting for faults and blockages	3.1 Arrange access to faulty components and blockages 3.2 Remove faulty components and repair or dispose of 3.3 Select appropriate replaceable components and install
4. Measure performance of the system	4.1 Identify and record variations in pressures 4.2 Measure and record water flow rates 4.3 Identify and record variations in water flow and distribution 4.4 Measure and record pump performance parameters as necessary 4.5 Measure and record variations in pump performance parameters where relevant 4.6 Inspect distribution and delivery systems and identify and fix malfunctions in system and record actions 4.7 Identify and record factors external to the system that may cause interference
5. Review system performance status	5.1 Record system pressures and variations 5.2 Record system flow rates and variations 5.3 Calculate and record distribution uniformity and mean application rates 5.4 Determine and record watering depth 5.5 Calculate energy use and water efficiency and compare to industry benchmarks

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 AHCIRG433 Manage 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:

- access and prepare data records for both print-based and computer-based data
- apply measuring and testing techniques
- calculate pressure differentials, flow rates, crop yields, estimated water usage/actual water usage
- develop and supervise procedures for starting up, carrying out operational checks and shutting down
- identify adverse environmental impacts of irrigation activities and appropriate remedial action
- measure output and efficiency of an irrigation system
- measure, interpret and adjust flow rates and pressures
- monitor system effectiveness

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of irrigation system management
- best practices for reducing environmental impacts of irrigation
- component specifications
- environmental impacts of irrigation using water from any ground or underground source
- irrigation schedules
- pump types used in irrigation systems and their output and efficiency ratings
- soil moisture testing techniques
- irrigation technologies
- using records to review an irrigation system
- water in soils and plants

- water requirements of plants/crops consistent with sound environmental management

Assessment Conditions

Assessors must satisfy current standards for RTOs.

Links

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