



Australian Government

AHCIRG431 Supervise irrigation system installation

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 coordinate and supervise the construction and installation of a range of irrigation systems.

It applies to individuals who analyse information and exercise judgement to complete a range of 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.

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. Develop and implement construction procedures	1.1 Develop employment and contract management procedures 1.2 Develop procedures for controlling and recording site deliveries 1.3 Develop procedures for recording the hire of plant and equipment 1.4 Determine work health and safety procedures, including risk assessment 1.5 Notify client, authorities and agencies of the schedule of works 1.6 Develop procedures for dealing with environmental issues associated with construction work

Element	Performance criteria
2. Interpret the irrigation system design for the site	2.1 Determine the purpose, scale and required output of the irrigation system 2.2 Assess the landscape of the site 2.3 Determine construction requirements and verify with the designer 2.4 Select components to meet design specifications and site requirements
3. Organise resource requirements	3.1 Nominate tasks and timelines and the required resources for each 3.2 Organise labour requirements 3.3 Verify and check parts and equipment delivered to the site 3.4 Select and maintain equipment and machinery 3.5 Allocate jobs and tasks to the work team 3.6 Carry out safety induction for the task and site
4. Supervise construction work	4.1 Interpret plan and supervise construction work 4.2 Confirm site is prepared and set out appropriately 4.3 Confirm the correct lay out of the main lateral line 4.4 Supervise the insertion of sub-mains and flushing manifold 4.5 Supervise the installation of risers, emitters and other components
5. Complete installation work and test components	5.1 Connect water supply 5.2 Check emitters for optimal coverage and efficiency 5.3 Set valves to allow water to targeted areas 5.4 Start up and flush the system 5.5 Attach measuring devices and controllers to the system
6. Commission system	6.1 Identify operating faults and take corrective action to meet design specifications 6.2 Calibrate testing and monitoring equipment 6.3 Carry out testing procedures and record 6.4 Hand over system in operating order

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 AHCIRG431 Supervise irrigation system installation

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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:

- conduct work health and safety risk assessment
- develop operational procedures
- implement employment procedures
- interpret irrigation designs
- supervise installation tasks such as:
 - assembling sprinklers, pressure regulators and hose directors
 - checking operating specifications for pressures and flow rates
 - completing installation work and testing components
 - installing irrigation components
 - installing power and pumping plant
 - laying and joining sprinkler lateral pipelines
 - laying and joining supply and distribution pipeline
 - pressure testing the system
 - setting out and preparing site
 - setting up irrigation controllers
 - undertaking start-up procedures

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of irrigation system installation supervision
- behaviour of water on varying terrain and soil types
- calculations for installing low volume irrigation systems
- characteristics and operation of joints, valves and sprinkler components
- commissioning procedures

- design interpretation
- distribution uniformity
- employment procedures
- licensing requirements for electrical work
- operating specifications for pressures and flow rates
- project management principles
- pump capacity
- safe work practices for construction
- setting up fertigation equipment
- setting up irrigation controllers
- soil water retention testing techniques
- start-up procedures
- types of pumps and water flow rates
- volume and pressure requirements
- water quality and water filtration techniques

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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