



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG316A Implement a low volume irrigation maintenance program

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This Unit covers the process of implementing a maintenance program for a low volume irrigation system and defines the standard required to: inspect irrigation systems; maintain irrigation equipment; troubleshoot and undertake minor repairs of equipment; record and report maintenance activities; dispose of unused or waste materials from site.

Application of the Unit

This Unit applies to skilled workers in the irrigation servicing, food and fibre production and amenity horticulture industries, and is likely to be carried out under routine supervision within enterprise guidelines.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Interpret a low volume irrigation maintenance program	1.1 Scope of maintenance works is determined according to the irrigation maintenance program 1.2 Frequency of maintenance works is determined and implemented according to the irrigation maintenance program 1.3 Irrigation maintenance standards are established in line with the irrigation maintenance program 1.4 Maintenance works are planned and prepared 1.5 Occupational Health and Safety (OHS) requirements are identified, associated hazards and risks assessed, and suitable controls implemented 1.6 Environmental considerations of irrigation maintenance activities are identified
2 Inspect a low volume irrigation system	2.1 An inspection checklist is established according to the irrigation maintenance program 2.2 System is regularly inspected according to the checklist 2.3 Remedial action and repairs are identified and undertaken to restore system to full effectiveness 2.4 Servicing of mechanical equipment is undertaken according to the irrigation maintenance program 2.5 Results of maintenance works are assessed and recorded to ensure repairs or maintenance standards have been achieved according to the irrigation maintenance program 2.6 Surroundings are tidied and materials and equipment cleared from the site on completion of maintenance works
3 Carry out periodic system maintenance	3.1 Damage and blockages with contaminants are recorded by damage type, location and the section of the system affected 3.2 Damaged or faulty components and computer control systems are recorded and reported, and action taken to effect repairs 3.3 The system is chlorinated as per procedures 3.4 Filters are checked, cleaned and backflushed 3.5 Submains and laterals are flushed
4 Record and report maintenance activities	4.1 Maintenance and servicing records are completed 4.2 Parts removed and/or replaced are recorded 4.3 Faults and breakages are recorded or reported

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- interpret and apply enterprise maintenance procedures
- inspect irrigation system
- test irrigation equipment
- test emitter output and function
- check connections
- service filter strainer periodically
- ensure proper operation of automatic flush valves
- confirm operational pressures
- record all test results clearly and concisely with attention to detail
- undertake minor repairs of equipment
- dispose of unused or waste materials from site in an environmentally safe and sensitive manner
- identify hazards and implement safe work procedures
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record accurately and legible information collected and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge includes:

Knowledge of:

- methods and techniques of sprinkler irrigation
- components of a sprinkler irrigation system
- characteristics and operation of pipes, joints, valves, emitters
- operation of pumps and water flow rates
- low volume irrigation system components
- common operational and maintenance problems
- environmental impacts of irrigation maintenance
- OHS legislation and safe work procedures.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this Unit

The evidence required to demonstrate competency in this Unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:

- inspect low volume irrigation systems
- maintain irrigation equipment
- troubleshoot and undertake minor repairs of equipment
- record and report maintenance activities
- dispose of unused or waste materials from site.

Context of and specific resources for assessment

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Low volume irrigation systems</i> may include:	systems that operate under comparatively low volume and pressure including micro irrigation, pop-ups at less than 0.1 litres/second, and drippers.
System <i>components</i> may include:	• pump (flow rate and head requirement) • filter system • pressure gauges • backflow preventer • pressure regulator valves • fertiliser injector • flowmeter • block valve • air and vacuum release valves • main and sub-main lines • flushing manifold • connectors • lateral lines or tapes • emitters • controllers.

Unit Sector(s)

Irrigation