



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG213A Assist with surface irrigation operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This Unit covers the process of assisting with the operation of surface irrigation systems under routine supervision and defines the standard required to: handle and shift loads; operate, check, clean and store surface irrigation equipment; set up field for surface irrigation; estimate and monitor water levels and volumes/flow; identify adverse environmental impacts of surface irrigation system and take appropriate action.

Application of the Unit

This Unit applies to working 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 Set up field for surface <i>irrigation systems</i>	1.1 Irrigation equipment is handled safely in accordance with Occupational Health and Safety (OHS) practices 1.2 Irrigation equipment is positioned in accordance with enterprise requirements 1.3 Rotobuck area is checked for irrigation set up and action taken as required in accordance with enterprise procedures 1.4 Pumps, bores and other water delivery mechanisms are checked for irrigation set up and action taken as required in accordance with enterprise procedures 1.5 Tarpaulins or other water control devices are positioned and secured as required in accordance with enterprise procedures
2 Undertake surface irrigation work as directed	2.1 Gates and/or valves are opened and shut as necessary in accordance with enterprise procedures 2.2 Required head and water levels in head ditch are achieved and maintained to ensure sufficient water flow and availability to crops 2.3 Required number of siphons are started/opened in accordance with enterprise procedures 2.4 Progress of water flow in furrows is monitored in accordance with enterprise procedures 2.5 Siphons are lifted where irrigation is complete in accordance with enterprise procedures 2.6 Irrigation change is carried out and marked as required 2.7 Irrigation equipment is shifted, as required, for irrigation changes in accordance with OHS guidelines 2.8 Basic maintenance tasks are carried out as directed
3 Monitor soil moisture and drainage	3.1 Soil moisture levels are assessed to determine watering requirement 3.2 Soil drainage and recycling of tailwater is observed and problems reported 3.3 Environmental hazards from surface irrigation are identified and reported where necessary
4 Observe and report on plant response	4.1 Plant moisture requirements and signs of stress are established 4.2 Plant growth and condition is monitored to indicate over or under watering 4.3 Inadequate plant response to watering is recorded and reported
5 Clean and store surface irrigation equipment	5.1 Equipment is cleaned and prepared for storage, as necessary, in accordance with enterprise policy and procedures 5.2 Equipment is loaded for transport safely, if necessary, in accordance with OHS practices

5.3 Equipment is stored as required, in accordance with enterprise policy and procedures

Required Skills and Knowledge

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

Required skills include:

Ability to:

- prepare materials, tools and equipment for surface irrigation work
- handle materials and equipment
- observe required head and water levels in head ditch
- monitor irrigation times for enterprise fields to deliver sufficient volume
- open and close check valves
- carry out surface irrigation operating tasks as directed
- follow directions to operate pumps and valves
- start and pull siphons
- check siphons for even water flow
- observe for uneven water distribution or drainage
- record and report maintenance activities
- report faults
- follow safe work procedures including manual handling.

Required knowledge includes:

Knowledge of:

- purpose and principles of surface irrigation
- identification, characteristics and operation of surface irrigation structures and components
- system malfunctions and their likely causes
- environmental impacts of irrigation, using water from any ground or underground source
- OHS procedures relating to general activities involved in irrigating field crops using surface irrigation.

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	<p>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:</p> <ul style="list-style-type: none"> • handle and shift loads • operate, check, clean and store irrigation equipment • set up field for gravity fed irrigation • estimate and monitor water levels and volumes/flow • identify adverse environmental impacts of gravity fed irrigation system and take appropriate action.
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>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.</p>

Range Statement

<p>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.</p>	
<p>Surface <i>irrigation systems</i> may include:</p>	<p>any systems that apply water across the surface of a levelled or contoured area. These include furrow, border and basin irrigation.</p>
<p><i>Basic maintenance tasks</i> may include:</p>	<p>performing basic maintenance tasks under supervision to maintain structures such as banks, head walls and canals, and to maintain equipment such as pumps, gates and siphons.</p>

Unit Sector(s)

Irrigation