



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG208A Assist with the installation and maintenance of pumps and flow control devices for irrigation

Release: 1

AHCIRG208A Assist with the installation and maintenance of pumps and flow control devices for irrigation

Modification History

Not applicable.

Unit Descriptor

This Unit describes the outcomes required to assist with the installation and maintenance of pumps and flow control devices for irrigation systems and defines the standard required to: assemble equipment and materials for installation work; assist with the installation of pumps and flow control devices; assist with maintenance tasks for pumps and flow-control devices; and identify basic faults related to pumping and flow control and fix or report.

Application of the Unit

This Unit applies to workers in irrigation servicing, food or fibre production or amenity horticulture enterprises that operate under supervision and 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 Plan and prepare for work on pumping and flow control systems	1.1 Apply work requirements for installation of pumps and flow control devices in irrigation systems from plans, specifications and instructions 1.2 Prepare work plans and identify OHS hazards to ensure safety within the workplace 1.3 Select and check equipment and tools to meet safety requirements of the task and site 1.4 Select, fit and use personal protective equipment (PPE)
2 Carry out installation tasks for pumps and flow control devices.	2.1 Carry out installation tasks as directed for pumps according to manufacturer guidelines and legislative requirements 2.2 Carry out installation tasks as directed for flow control devices according to manufacturer guidelines
3 Carry out maintenance tasks for pumps and flow control devices.	3.1 Carry out routine inspections of flow control and metering facilities in irrigation systems according to organisational procedures 3.2 Carry out preventative maintenance and service of equipment and facilities according to manufacturer guidelines and organisational requirements
4 Review, record and report activities.	4.1 Check, maintain and store equipment, tools and materials according to manufacturer guidelines and organisational procedures 4.2 Restore work site to meet environmental and organisational requirements 4.3 Record and report activities according to organisational procedures

Required Skills and Knowledge

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

Required skills include:

Ability to:

- follow plans, charts and instructions
- perform work-related calculations
- organise equipment and materials for installation work
- use power tools and hand tools
- handle materials safely
- install irrigation components
- identify hazards and adopt safe work practices
- identify and respond to operational problems
- communicate with work team members, supervisors, contractors and consultants
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge includes:

Knowledge of:

- types of pumps and their function and use
- types of flow control devices and their purpose
- basic principles of hydraulics and the operation of flows
- system layout
- principles of electricity and safe work procedures
- lock-out procedures for mechanical and electrical installations
- organisational communication systems
- effective workplace communication processes
- materials handling
- environmental, landscape and ground structure of work area
- risk factors and potential hazards
- equipment operation, capacity and limitations
- effects of weather and conditions on operation of system, site and plant
- flow measurement principles and procedures
- layout and performance of pipes and fittings
- function of control systems.

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:

- assemble equipment and materials for installation work
- assist with the installation of pumps and flow-control devices
- assist with maintenance tasks for pumps and flow-control devices
- identify basic faults related to pumping and flow control and fix or report.

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>Pumping and flow control systems</i> may include:	all types of pumps and pumping systems (including filters and valves) used to move water to or through an irrigation system
<i>Pumps</i> may include:	• centrifugal • Archimedes screw type • submersible • positive displacement
<i>Flow control devices</i> may include:	• flow directional gates • regulators • valves: • sluice • gate • blade • non-return • doors, drop structures and bars.
<i>OHS hazards</i> should be identified through site risk assessment and organisational procedures and may include:	solar radiation, dust, noise, air- and soil-borne micro-organisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, holes, and slippery and uneven surfaces.
Personal protective clothing and equipment (<i>PPE</i>) may include:	steel capped boots/shoes, overalls, gloves, sun hat, sunscreen lotion, safety goggles, face mask and hearing protection, and any protection required for the use of equipment.

Unit Sector(s)

Irrigation