



Australian Government

Department of Education, Employment and Workplace Relations

AHCIRG303A Measure irrigation delivery system performance

Release: 1

AHCIRG303A Measure irrigation delivery system performance

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of measuring pressures, flows and distribution uniformity of an irrigation system and defines the standard required to: apply measuring and testing techniques; measure pressures; flows and distribution uniformity of an irrigation system; calculate pressure differentials; flow rates and water usage; record and report system performance.
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Application of the Unit

Application of the unit	This unit is likely to be carried out under routine supervision within enterprise guidelines.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Measure irrigation system performance	<p>1.1. System pressures are measured and recorded in accordance with Occupational Health and Safety (OHS) and enterprise policy and procedures.</p> <p>1.2. Variations in pressures are identified and recorded in accordance with enterprise policy and procedures.</p> <p>1.3. Water flow rates are measured and recorded in accordance with enterprise policy and procedures.</p> <p>1.4. Variations in water flow and distribution are identified and recorded in accordance with enterprise policy and procedures.</p> <p>1.5. Pump performance parameters are measured as necessary and recorded in accordance with enterprise policy and procedures.</p> <p>1.6. Variations in pump performance parameters are measured where relevant and recorded in accordance with enterprise policy and procedures.</p> <p>1.7. Distribution and delivery systems are inspected and malfunctions in system are identified, fixed and actions recorded in accordance with enterprise policy and procedures.</p> <p>1.8. Factors external to the system that may cause interference are identified and recorded in accordance with enterprise policy and procedures.</p>
2. Monitor supply of equipment and spare parts	<p>2.1. Supply and part usage are recorded in accordance with enterprise policy and procedures.</p> <p>2.2. Spare parts meet demand.</p> <p>2.3. Purchases are within budget constraints.</p> <p>2.4. Parts requirements outside of budget constraints are reported.</p> <p>2.5. Purchases and orders are recorded in accordance with enterprise procedures and systems.</p>
3. Record and report system performance status	<p>3.1. System pressures and variations are recorded in accordance with enterprise policy and procedures.</p> <p>3.2. System flow rates and variations are recorded in accordance with enterprise policy and procedures.</p> <p>3.3. Distribution uniformity and mean application rates are calculated and recorded in accordance with enterprise policy and procedures.</p> <p>3.4. Watering depth is determined and recorded in accordance with enterprise policy and procedures.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- access and prepare data records for both print-based and computer-based data
- use computers for recording and reporting data
- identify adverse environmental impacts of irrigation activities and appropriate remedial action
- calculate pressure differentials, flow rates, crop yields, estimated water usage/actual water usage
- apply measuring and testing techniques
- implement and follow relevant enterprise OHS and environmental policies and 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 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

- OHS guidelines
- soil water retention testing techniques
- measuring and monitoring procedures for factors contributing to irrigation system delivery
- water authority standards and procedures
- environmental impacts of irrigation, using water from any ground or underground source
- enterprise policies and procedures.

Evidence Guide

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	<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"> • apply measuring and testing techniques • measure pressures, flows and distribution uniformity of an irrigation system • calculate pressure differentials, flow rates and water usage • record and report system performance.
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

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
System may include:	<ul style="list-style-type: none"> • pressurised irrigation systems such as micro-irrigation • spray irrigation • gravity fed irrigation systems.

Unit Sector(s)

Unit sector	Irrigation
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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