



Australian Government

NWPTRT028 Operate and control reclaimed water irrigation

Release: 1

NWPTRT028 Operate and control reclaimed water irrigation

Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

Application

This unit involves the skills and knowledge required to operate and control reclaimed water irrigation.

It includes assessing sites for reclaimed water irrigation and quality of reclaimed water for irrigation. It also includes implementing reclaimed water irrigation, responding to water or soil quality issues and compiling reclaimed water irrigation records.

This unit applies to staff members with a specific responsibility for analysing the critical aspects of reclaimed water reuse management relating to a project or site and implementing reclaimed water reuse irrigation. Those undertaking this unit would work under appropriate supervision, performing routine tasks in a familiar context, and ensuring minimum damage to the environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Treatment

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Assess sites for reclaimed

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Identify soil and water interactions and soil properties

water irrigation		important for plant growth	
		1.2	Identify soil sampling sites, collect samples and conduct soil testing according to workplace procedures
		1.3	Classify soils using field texture, pH and structure analysis
		1.4	Monitor and determine the water holding capacity of soil
2	Assess quality of reclaimed water for irrigation	2.1	Sample and test reclaimed water and interpret quality parameters
		2.2	Determine crops suitable for the quality of reclaimed water and worksite conditions
3	Implement reclaimed water irrigation	3.1	Identify features of irrigation systems
		3.2	Operate and maintain irrigation equipment according to manufacturer instructions
		3.3	Identify and apply irrigation scheduling options for reclaimed water
		3.4	Produce water budgets using crop factors and climate data
		3.5	Apply irrigation water and collect and monitor tail water or runoff
4	Respond to water or soil quality issues	4.1	Develop irrigation management options to respond to water quality issues
		4.2	Identify and apply requirements and options for soil ameliorants
		4.3	Monitor infiltration and drainage
5	Compile reclaimed water irrigation records	5.1	Compile reports from system data according to workplace procedures
		5.2	Report observations outside defined parameters for further action to relevant personnel

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to NWPTRT062 Operate and control reclaimed water irrigation.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

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Assessment Requirements for NWPTRT028 Operate and control reclaimed water irrigation

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes:

- analysing critical aspects of reclaimed water reuse management relating to the project or site
- applying environmental policies, plans and procedures
- assessing environmental risks at the worksite
- identifying environment, health and safety risks and impact on soil, stock and operators
- identifying soil groups
- implementing reclaimed water reuse irrigation
- monitoring and managing soil
- monitoring, operating and controlling reclaimed water irrigation
- participating in and contributing to reviews of reclaimed water reuse procedures
- sampling and testing soil and water
- solving operational problems
- using safety and personal protective equipment (PPE)

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of:

- best management practices for the use of reclaimed water for irrigation purposes
- community and agency roles and responsibilities in monitoring water quality
- effects of weather and conditions on operation of site or plant
- environmental, landscape and ground structure of work area
- equipment operation, capacity and limitations
- interpretation and use of safety data sheets
- key characteristics of reclaimed water
- key principles of irrigation practices, including irrigation scheduling
- primary agencies involved in drinking water quality management
- reclaimed water usage licensing procedures and requirements
- relevant legislative requirements
- soil groups

- water hazardous agents and preventative strategies
- water quality performance indicators
- water supply system
- workplace procedures

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

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