



Australian Government

Department of Education, Employment and Workplace Relations

CPCPWT3007A Connect irrigation systems from drinking water supply

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit of competency specifies the outcomes required to connect irrigation and watering systems from a drinking water supply. It does not include the commissioning of backflow prevention devices or arrangements.

This unit of competency specifies the outcomes required to connect irrigation and watering systems from a drinking water supply. It does not include the commissioning of backflow prevention devices or arrangements.

Application of the Unit

Site location for work application may be either domestic or commercial, and may be a new work site or an existing structure being renovated, extended, restored or maintained.

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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

CPCPCM2003A

Carry out OHS requirements

Employability Skills Information

This unit contains employability skills.

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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.

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Elements and Performance Criteria

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Element	Performance Criteria
1 Prepare for work.	1.1 Plans and specifications are obtained. 1.2 Safety (OHS) requirements associated with connecting irrigation systems from a drinking water supply, and workplace environmental requirements , are adhered to throughout the work. 1.3 Quality assurance requirements are identified and adhered to in accordance with workplace requirements. 1.4 Tasks are planned and sequenced in conjunction with others involved in or affected by the work and statutory and regulatory authority requirements. 1.5 Tools and equipment for connecting irrigation systems, including personal protective equipment, are selected and checked for serviceability. 1.6 Work area is prepared to support efficient connection of irrigation systems from a drinking water supply.
2 Identify installation requirements.	2.1 Connection size and hazard rating are determined from plans, specification, standards and/or site inspection using relevant information . 2.2 Valve is sized in accordance with plans and

specification.

- 2.3 Back flow prevention devices are confirmed as being in accordance with hazard rating.
 - 2.4 **Materials** and equipment are identified, ordered and collected in accordance with workplace procedures.
 - 2.5 Materials and equipment are checked for compliance with standards, docket and order form, and for acceptable condition.
- 3 Connect and test system.
- 3.1 Excavation is set out and made in accordance with plans and specifications and undertaken with consideration to existing structures and services.
 - 3.2 Service pipe is isolated and cut to accommodate take off branch in accordance with authorities' requirements.
 - 3.3 Back flow prevention device is fitted in accordance with standards and manufacturer specifications.
 - 3.4 System is connected and flushed to required standard.
 - 3.5 Water supply is restored and system tested in accordance with standards.
 - 3.6 Ground surface is restored.
- 4 Clean up.
- 4.1 Work area is cleared and materials disposed of or recycled in accordance with state and territory legislation and workplace procedures.
 - 4.2 Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and workplace procedures.
 - 4.3 Documentation is completed in accordance with workplace requirements.

Required Skills and Knowledge

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

Required skills

Required skills for this unit are:

communication skills to:

cutting into a water supply and installing a take off branch and fitting valves and backflow prevention devices for an irrigation or watering system.

identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials

numeracy skills to apply measurements and calculations

organisational skills, including the ability to plan and set out work

teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities

technological skills to:

access information

complete workplace documentation

enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand

follow instructions

identify requirements

plan and sequence tasks with others

read and interpret:

use language and concepts appropriate to cultural differences

use and interpret non-verbal communication, such as hand signals

documentation from a variety of sources

drawings and specifications

access and understand site-specific instructions in a variety of media

use a range of mobile technology, such as two-way radio.

Required knowledge

Required knowledge for this unit is:

accessing information and the processes for calculating material requirements

characteristics and application of different pipes and fittings, including fixing and joining

techniques and methods

drinking water supplies and protection measures

implications of cross connections and air gaps

job safety analysis (JSA) and safe work method statements

process of connecting irrigation systems from a drinking water supply

properties of water, including pressure and flow rates

relevant statutory and authority requirements related to connecting irrigation systems from a drinking water supply

SI system of measurement

standards applicable to the connection

use of test equipment and procedures

various types of irrigation systems and types of materials used

workplace and equipment safety requirements.

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

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

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

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to connect an irrigation system from a drinking water supply
- applying safety requirements throughout the work sequence, including the use of personal protective clothing and equipment
- as a minimum the ability to, given the plans and specifications, connect an irrigation system to a drinking water supply, ensuring:
 - correct identification of location, design and details of proposed installations
 - correct selection and use of appropriate processes, tools and equipment
 - completing all work to specification
 - compliance with regulations, standards and organisational quality procedures and processes
- communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an

off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

an induction procedure and requirement

realistic tasks or simulated tasks covering the mandatory task requirements

relevant specifications and work instructions

tools and equipment appropriate to applying safe work practices

support materials appropriate to activity

workplace instructions relating to safe working practices and addressing hazards and emergencies

material safety data sheets

research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Integrated Framework Training Package

include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application

reinforce the integration of employability skills with workplace tasks and job roles

confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace

where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

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.

Safety (OHS) is to be in accordance with state and territory legislation and regulations and may include:

handling of materials
hazard control
personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
safe operating procedures, including recognising and preventing hazards associated with:
use of firefighting equipment
use of first aid equipment
workplace environment and safety.
hazardous materials and substances
other machines
surrounding structure and facilities
trees
trip hazards
underground services
uneven and unstable terrain
use of tools and equipment
work site visitors and the public
working at heights
working in confined spaces
working in proximity to others

Environmental requirements cover water quality management and may include:

clean-up protection
waste management.

Quality assurance requirements include:

Environment Protection Authority (EPA)
internal company quality assurance policy

and risk management strategy
International Standards Organisation
site safety plan
workplace operations and procedures.

Statutory and regulatory authorities shall include:

state or territory statutory authority
statutory plumbing authority.

Tools and equipment can include:

chain blocks
electrical bonding and bridging strap
elevated work platforms
forklifts
hand and power tools
hand excavation equipment
hand trolleys
hoists and jacks
lifting and load shifting equipment
measuring equipment
mechanical excavation equipment
rollers
scaffolding
silver solder and brazing equipment
trench shoring equipment.

Information includes:

charts and hand drawings
diagrams or sketches
instructions issued by authorised
organisational or external personnel
job drawings
manufacturer specifications and instructions
material safety data sheets (MSDS)
memos
organisation work specifications and
requirements
regulatory and legislative requirements,
particularly those pertaining to:

relevant Australian standards
safe work procedures relating to connecting
irrigation systems from a drinking water
supply
signage
verbal, written and graphical instructions
work bulletins
work schedules, plans and specifications.
building codes
OHS and environmental requirements
plumbing regulations

Materials may include:

backflow prevention devices
copper tube
fittings and connections
joints
polymer pipes
valves.

Unit Sector(s)

Plumbing and services
Plumbing and services

Functional Area

empty
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