Australian Government

Department of Education, Employment and Workplace Relations

CPCPFS2011A Connect static storage tanks for fixed fire protection systems

Release: 1

CPCPFS2011A Connect static storage tanks for fixed fire protection systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit of competency specifies the outcomes required to connect static storage tanks to fixed fire protection systems.

Application of the Unit

Application of the unit This unit of competency supports development of skills for connecting storage tanks to water services.
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.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCPCM2023A	Carry out OHS requirements

Employability Skills Information

Employability skills 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. Prepare for work.	1.1. Plans and specifications are obtained. 1.2. ***Safety*** (***OHS***) requirements associated with connection of static storage tanks 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. 1.5. ***Tools and equipment*** for connecting static storage tanks, including personal protective equipment, are selected and checked for serviceability. 1.6. Work area is prepared to support efficient connection of static storage tanks.
2. Identify installation requirements.	2.1. ***Materials*** required for the installation are determined from plans and specification. 2.2. Materials are selected that comply with standards and job specifications. 2.3. Quantities of materials required are calculated from plans. 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. Install and test storage tank.	3.1. Storage tank and associated pipework are set out in accordance with drawings, specifications and job instructions. 3.2. Pipe supports and fixings, compliant with standards, are installed to plans and manufacturer specifications. 3.3. Tank, piping and materials are installed in accordance with plans, specifications and standards. 3.4. Jointing systems are compliant with standards. 3.5. Installed system is subjected to pressure testing in accordance with standards or job specification. 3.6. Test data is recorded in format required by job specifications and quality assurance procedures. 3.7. Installation is backfilled in accordance with specifications.
4. Clean up.	4.1. Work area is cleared, with materials disposed of or recycled in accordance with state or territory

ELEMENT	PERFORMANCE CRITERIA
	statutory and regulatory authority legislation. 4.2. Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and workplace procedures. 4.3. ***Information*** is accessed and documentation completed in accordance with regulatory authorities and workplace requirements.

Required Skills and Knowledge

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:
  - access information
  - complete workplace documentation
  - determine requirements
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - follow and give instructions
  - plan and sequence tasks with others
  - read and interpret:
    - drawings and specifications
    - documentation from a variety of sources
  - record test results in writing
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
- determining system requirements, and installing and testing a water distribution system from a static storage tank to a fire protection 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

REQUIRED SKILLS AND KNOWLEDGE

abilities

- technological skills to:
  - access and understand site-specific instructions in a variety of media
  - use mobile communication technology.

Required knowledge

Required knowledge for this unit is:

- accessing information and the processes for calculating material requirements
- characteristics and application of different pipe fittings and fixture supports, including fixing and joining techniques
- excavation processes and procedures
- function and operation of a range of taps and valves
- job safety analysis (JSA) and safe work method statements (SWMS)
- levelling and alignment processes
- operation and components of fire sprinkler systems
- pressure test systems and procedures
- process of connecting static storage tanks
- relevant statutory and authority requirements related to the connection of static storage tanks
- SI system of measurement
- structural systems, building materials and building services
- workplace and equipment safety requirements.

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

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 static storage tanks
- applying safety requirements throughout the work sequence, including the use of personal protective clothing and equipment
- relating the connection of static storage tanks to backflow protection competencies
- as a minimum the ability to, given the plans and specifications of a fire protection system, connect and test an approved static storage tank to a water distribution pipe system, ensuring:
  - correct identification of requirements, design and details of the proposed installation
  - 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

EVIDENCE GUIDE

	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 minimum 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 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

EVIDENCE GUIDE

- 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 commonwealth, 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:
  - hazardous materials and substances

RANGE STATEMENT

- service lines
- surrounding structures and facilities
- trip hazards
- use of tools and equipment
- work site visitors and the public
- working at heights
- working in proximity to others

- use of firefighting equipment
- use of first aid equipment
- workplace environment and safety.

RANGE STATEMENT

Environmental requirements cover water quality management and may include:	• clean-up protection • stormwater protection • waste management.
Quality assurance requirements may include:	• Australian standards • Environment Protection Authority (EPA) • internal company quality assurance policy and risk management strategy • International Standards Organisation • site safety plan • workplace operations and procedures.
Tools and equipment may include:	• chain blocks • cutting and threading equipment • elevated work platforms • forklifts • hand and mechanical excavation equipment • hand and power tools • hand trolleys • hoists and jacks • ladders • lifting and load shifting equipment • rollers • scaffolds • testing equipment • trench shoring equipment • welding equipment.
Materials may include:	• copper, brass, PVC and cement lined cast iron pipes • fibre glass and steel and polyurethane storage tanks • galvanised and black steel pipes • other approved materials.
Statutory and regulatory authorities include:	• state or territory statutory authority • statutory plumbing authority.
Information may include:	• charts and hand drawings • diagrams or sketches • instructions issued by authorised organisational or external personnel • manufacturer specifications and instructions • material safety data sheets (MSDS)

RANGE STATEMENT

- memos
- organisation work specifications and requirements
- regulatory and legislative requirements, particularly those pertaining to:
  - building codes
  - OHS and environmental requirements
  - plumbing regulations
- relevant Australian standards
- safe work procedures relating to connecting static storage tanks
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Unit sector Plumbing and services

Co-requisite units

Co-requisite units Nil

Functional area

Functional area