



Australian Government

Department of Education, Employment and Workplace Relations

CPPFES2037A Inspect and test fire hydrant systems

Release: 1

CPPFES2037A Inspect and test fire hydrant systems

Modification History

Revised unit

Unit updated and equivalent to PRMPFES37A Inspect and maintain fire hydrants

Unit Descriptor

This unit of competency specifies the outcomes required to complete six-monthly and yearly inspections and test procedures to verify that hydrant systems function as intended.

The unit involves working safely, conducting compliance tests, visually inspecting, identifying non-compliance defects, fulfilling mandatory reporting requirements, as well as isolating and resetting the hydrant system.

Application of the Unit

This unit of competency supports fire protection technicians responsible for functional testing of water-based fire protection systems.

It does not apply to water supply proving tests on hydrant systems, or inspection and testing functions associated with pressure-reducing equipment in high rise buildings, fire pumpset systems or water supply tanks.

Individuals operate within the scope of their defined roles and responsibilities and perform the inspections and testing as part of their work duties to verify that equipment functions as intended, according to work procedures and Australian standards.

The unit must be applied strictly according to relevant state or territory legislative and industry requirements.

Licensing/Regulatory Information

The service technician is not permitted to undertake any installation, replacement, maintenance and repair functions that are restricted to licensed trades or occupations (subject to relevant state and territory regulations).

Different states and territories may have regulatory mechanisms that apply to this unit.

Candidates are advised to check for regulatory limitations.

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

- | | | | |
|---|--|-----|---|
| 1 | Apply rules and regulations to service operations. | 1.1 | Requirements of relevant <i>rules and regulations</i> are <i>confirmed</i> and applied to <i>work procedures</i> . |
| | | 1.2 | <i>Compliance requirements are checked</i> and <i>action</i> is taken according to <i>organisational policies and procedures</i> . |
| 2 | Inspect fire hydrant system. | 2.1 | Work permits are obtained prior to entering customer premises. |
| | | 2.2 | <i>Fire hydrant system</i> is inspected according to inspection schedule of relevant Australian standard and <i>customer requirements</i> . |
| | | 2.3 | Defects are reported according to work procedures and technical specifications. |
| | | 2.4 | Potential and actual impediments to performance of fire hydrant system are identified and reported. |
| | | 2.5 | Documentation is completed and distributed according to organisational requirements. |
| 3 | Conduct testing and record results. | 3.1 | Pumpset and other system interfaces to be isolated are identified, to enable testing activity according to legislative and industry requirements. |
| | | 3.2 | Test methods are implemented according to legislative and industry requirements. |
| | | 3.3 | Routine six-monthly and yearly testing procedures are conducted to verify that system functions according to legislative and industry requirements. |

- 3.4 Test results are compared with legislative and industry requirements.
- 3.5 Results are documented according to legislative and industry requirements.
- 3.6 Report is prepared and forwarded to relevant persons for action according to legislative and industry requirements.
- 3.7 System is reinstated to full operational condition according to organisational requirements.

Required Skills and Knowledge

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

Required skills

- customer service skills
- language, literacy and numeracy skills to:
 - communicate with others clearly and concisely, verbally and in writing
 - read and comply with work instructions and specifications
 - read and record measurements
 - record and report information neatly and legibly
- planning and organising skills to:
 - estimate time to complete activities
 - prioritise tasks
- interpersonal skills to relate to people from a range of social and cultural backgrounds
- technical skills to:
 - identify system components
 - operate valves, switches and levers to test system operation
- skills to work safely when applying workplace housekeeping procedures

Required knowledge

- basic principles of hydraulics, such as pressure scales (metric and imperial)
- general operation of hydrant system components, including:
 - backflow prevention devices
 - booster valve arrangements
 - control valves
 - interface connections to fire indicating panel and/or warning systems by pressure and flow switches
 - landing valves
 - pumpset and interface controls
 - towns main reticulated water supplies
 - valve anti-tamper controls
 - water pressure and flow through a system to activate pumpsets
 - water tank water supply infill and outlet valve arrangement
- hydrant system applications, as defined in AS 2419 and AS 2118, such as:
 - combined sprinkler and hydrant system
 - town main system hydrant points
- key features of legislation, regulations and codes applicable to inspecting and testing hydrant

systems

- systems and components, including:
 - circulation and system pressure relief valves
 - controls on pumpset controller panel, such as:
 - fuel gauges
 - indicators
 - main isolating switch
 - equipment that can be fitted to a landing valve, such as:
 - delivery lay flat hoses
 - types of couplings
 - flow switches and associated testing equipment
 - isolating valves associated with hydrant system
 - main water supply underground key-operated valve location
 - pressure gauges
 - pumpsets associated with hydrant system
 - pump starting switches
 - system block plan
 - system main alarm bell and/or alarm strobe
 - water-based fire-suppression system control and alarm valves and ancillary equipment for control and alarm operation indication/interface
 - water supply tanks, water level indicators and automatic inflow valves
- terminology used in relation to water-based fire-suppression systems, such as:
 - aggressive environments
 - control assembly and pump area
 - critical defect
 - frequency and tolerances of maintenance intervals
 - installation and system pressure
 - pressure-reducing valve
 - preventive maintenance
 - pump controller status
 - sprinkler system interface controls
 - stop cocks and main stop valves
 - system pressure gauge schedule
 - water supply proving tests
 - water supply stop valves
 - water supply tanks: atmospheric and pressure

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 by observation of practical demonstration of inspecting and testing specified fire hydrant systems.
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 the required skills and knowledge specified in this unit. In particular the person should demonstrate the ability to conduct inspection and testing tasks specified in the six-monthly and yearly schedule of AS 1851 (Section 4), excluding: - inspection and testing functions associated with pressure-reducing equipment in high rise buildings, fire pumpset systems or water supply tanks - water supply proving tests.
Context of and specific resources for assessment	Assessment of essential underpinning knowledge may be conducted in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements. Resource implications for assessment include: - operational hydrant system - adequate water supply and draining or recycling arrangements to operate hydrant system - pictures or cut-away sections of control assemblies and valves to show operation - necessary tools, specialist equipment, manuals and relevant documentation.
Method of assessment	Assessment methods must: - satisfy the endorsed Assessment Guidelines of the Property 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.
Guidance information for	Reasonable adjustments for people with disabilities must be made to

assessment	assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support. 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. This unit could be assessed on its own or in combination with other units relevant to the job function, for example: • CPPFES2030A Conduct basic functional testing of water-based fire-suppression systems • CPPFES2031A Inspect and test fire pumpsets • CPPFES3033A Conduct annual functional testing of complex water-based fire-suppression systems • CPPFES3034A Conduct functional water flow testing.
------------	---

-
-

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>Rules and regulations</i> may include:	• environmental regulations • OHS legislation, codes and regulations • relevant commonwealth and state or territory building Acts, regulations, and codes, such as Building Code of Australia (BCA) • relevant Australian standards, such as: • AS 1851 Maintenance of fire protection systems and equipment • note: Australian standards are frequently revised and users must always check for currency and amendments • other relevant legislation relating to fire protection equipment, including: • international shipping codes • marine codes for different Australian States.
<i>Requirements</i> may be <i>confirmed</i> with:	• colleagues • managers • supervisors • team leaders.

Work procedures may include:	• assignment instructions • equipment manufacturers' requirements • instructions from colleagues, supervisor or manager • personal protective equipment requirements • reporting and documentation requirements • specific customer requirements.
Checking system or equipment compliance requirements may include:	• applying inspection, test and survey requirements according to Australian standards • reviewing documentation to verify that installed systems comply with relevant rules and regulations.
Action may include:	• advising customer • documenting non-compliance • making equipment safe • reporting, as required.
Organisational policies and procedures may include:	• job scheduling systems and communication devices • personnel practices and guidelines outlining work roles, responsibilities and delegations • recording and reporting documentation and systems • relevant OHS policies, procedures and programs • relevant rules and regulations • standard operating procedures, work instructions and manuals.
Fire hydrant systems include:	• privately owned independent systems designed and installed for use by emergency personnel for fighting purposes, and: • designed, installed and commissioned to a ministerial specification or Australian standard, such as AS 2419 Fire hydrant installations • not forming part of a combined water-based fire-suppression system, as defined in AS 2118 Automatic fire sprinkler systems • not forming part of town's main reticulated water supply.
Customer requirements may include:	• confirming or varying service instructions • following sign-in and sign-out procedures for entry to or exit from premises • providing non-routine or urgent services • providing routine services • providing written or verbal confirmation of services provided and future maintenance schedule • sighting work permits.
Documentation may include:	• application for credit forms • certificates of inspection • corrective action reports • customer recommendation forms

	• equipment recommendation forms • expense claims • job cards • motor vehicle fleet cards • maintenance record system • petty cash vouchers • product documentation • service agreements.
--	---

Unit Sector(s)

Fire protection equipment

Custom Content Section

Not applicable.