



Australian Government

Department of Education, Employment and Workplace Relations

PRMPFES06C Prepare for installation and servicing operations

Release: 1

PRMPFES06C Prepare for installation and servicing operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required for a service technician in the field to select and use tools and equipment to install and service fire protection equipment, systems and products and to access information given in relevant Australian standards to carry out servicing procedures. Understanding and knowledge of the legal and regulatory framework relating to installation and servicing operations are required as all preparatory work must be completed in accordance with relevant legislative, industry and organisational requirements, including policies and procedures relating to occupational health and safety (OHS), ozone depleting substances (ODS) and synthetic greenhouse gases (SGG).

Application of the Unit

Application of the unit

This unit of competency supports one or more extinguishing agent handling licences prescribed under the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Not Applicable

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | |
|--|---|
| <p>1 Interpret and comply with legal and industry requirements relating to service operations.</p> | <p>1.1 Apply knowledge and understanding of legislative and industry requirements, including relevant state and territory building codes, to work procedures and clarify where necessary with relevant persons.</p> <p>1.2 Apply knowledge and understanding of ODS and SGG emission legislative and industry requirements in the preparation for installation and servicing operations.</p> <p>1.3 Identify potential and actual breaches of legislative and industry requirements and take action according to organisational requirements, and ODS, SGG and OHS policies and procedures.</p> |
| <p>2 Use Australian standards to access information in relation to installation and servicing procedures for fire protection equipment.</p> | <p>2.1 Identify current Australian standards according to fire protection equipment installation and servicing procedures.</p> <p>2.2 Access information according to required work procedures.</p> <p>2.3 Interpret key principles from Australian standards relating to work procedures and comply with legislative and organisational requirements and customer requirements.</p> |
| <p>3 Prepare work area for installation or servicing procedure.</p> | <p>3.1 Assess surface and surrounding work area for hazards.</p> <p>3.2 Prepare intended work area for installation or servicing procedure according to organisational requirements and OHS policies and procedures.</p> |
| <p>4 Identify, select and use tools and equipment effectively to perform installation and servicing procedures on fire protection equipment.</p> | <p>4.1 Identify relevant tools and equipment to suit the required installation or servicing procedure.</p> <p>4.2 Identify appropriate hardware required for product installation or servicing procedure.</p> <p>4.3 Use relevant tools and equipment for installation or servicing procedure according to organisational requirements, and ODS, SGG and OHS policies and procedures.</p> |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- identify hazards in the work area in preparation for service operation
- select and use equipment appropriately for the task at hand
- use tools and equipment safely
- access and use information
- plan and organise work in order to estimate time to complete activities and prioritise tasks
- remove any debris in the work area caused by installation or servicing operation.

Required knowledge:

- key features of legislation, regulations and codes applicable to fire protection equipment installation and servicing procedures
- purpose of the Building Code of Australia (BCA), occupancy permits and service bulletins from manufacturers
- implications of not applying legislative requirements to job functions
- reasons for preventing ODS and SGG emissions
- methods used to prevent ODS and SGG emissions
- action to take when a breach of health, safety and other policies occurs
- purpose, function and structure of Australian standards
- awareness of on-site work permit requirements
- selection of appropriate tools and equipment for fire protection equipment installation and servicing operations
- types and purposes of relevant hardware items
- methods of using liquid adhesives for attaching location signs
- types of electrical safeguards used to protect persons and property
- maintenance requirements for relevant hand and power tools
- safety requirements for using tools and equipment
- methods of holding work when using power tools
- methods of using detection equipment for finding hidden utilities
- methods of converting basic units of measurement and pressure
- relevant federal, state or territory legislation that affects organisational operations, including:
 - anti-discrimination and diversity
 - equal employment opportunity
 - industrial relations.

KEY COMPETENCIES

The seven key competencies represent generic skills considered necessary for effective participation by an individual in the workplace.

Performance level 1 - at this level the candidate is required to undertake tasks effectively.

Performance level 2 - at this level the candidate is required to manage tasks.

Performance level 3 - at this level the candidate is required to use concepts for evaluating and reshaping tasks.

Key competency	Example of application	Performance level
How are ideas and information communicated?	Discuss own role and responsibilities and confirm with work group compliance requirements of Australian standards and the organisation.	1
How can information be collected, analysed and organised?	Gather information from a number of sources, including Australian standards, relating to portable firefighting equipment so that accurate preparations occur.	2
How are activities planned and organised?	Prepare for maintenance activities especially with regard to assembling appropriate tools and hardware.	2
How is teamwork used?	Provide support and assistance within work groups.	1
How are mathematical ideas and techniques used?	Discuss basic mathematical techniques, including measuring pressure and adhering to designated timelines.	1
How are problem-solving skills applied?	Prepare activities identifying problem-solving techniques to ensure safeguards for persons and property.	2
How is the use of technology applied?	Discuss and apply technological principles to the preparation process.	2

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, the range statement and the Assessment Guidelines for this Training Package.

Overview of assessment

- This unit could be assessed on its own or in combination with other units of competency relevant to the job function, for example:
 - PRMPFES04B *Identify fire protection equipment*
 - PRMPFES05B *Use portable firefighting*

equipment.

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
 - complying with site safety plan, OHS regulations and ODS and SGG regulations (where required) and state and territory legislation applicable to workplace operations
 - complying with organisational policies and procedures, including quality requirements
 - communicating and working effectively and safely with others
 - in a minimum of two different settings:
 - identifying and interpreting Australian standards relevant to installation and servicing operations
 - demonstrating knowledge of the Building Code of Australia (BCA), occupancy permits and service bulletins from manufacturers
 - identifying risk reduction measures
 - preparing work area for installation and servicing operations
 - identifying, selecting and assembling hardware
 - identifying and selecting tools, equipment and hardware required to perform installation or servicing operations
 - using tools, equipment and hardware effectively to perform installation and servicing operations
 - adhering to safety procedures during preparation procedures
 - completing workplace housekeeping requirements
 - creating appropriate records and documentation.

Specific resources for assessment

- The candidate and the assessor should have access to the appropriate documentation and resources normally used in the workplace. This includes access to:
 - actual or simulated work environment

Context of assessment

- all necessary tools, specialist equipment, manuals, spare parts and relevant documentation, including Australian standards
- assessment documentation
- training and assessment record books.
- Where applicable, physical resources should include equipment modified for people with disabilities.
- Access must be provided to appropriate learning and/or assessment support when required.
- Assessment processes and techniques must be culturally appropriate, and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
- For valid and reliable assessment of this unit, competency should be demonstrated over a period of time and be observed by the assessor (or assessment team working together to conduct the assessment).
- Competency is to be demonstrated in a range of situations, reflecting the practical requirements of the workplace which may include customer and workplace interruptions and involvement in related activities normally experienced in the workplace.
- Assessment of competency may be made through practical demonstrations in the work environment or in a simulated work environment.
- Oral or written questioning methods may be used to assess understanding of underpinning knowledge areas. (In assessment situations where the candidate is offered a preference between oral questioning and written assessment, questions are to be identical.) Evidence of competency is best obtained by observing various activities involving preparations for installation and servicing operations.
- Supplementary evidence may be obtained by relevant authenticated written correspondence from supervisors, team leaders or management staff.
- Information derived from enterprise policies

and practices must be treated as commercial-in-confidence.

- In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.
- Questioning will be undertaken in such a manner as is appropriate to the oracy, language and literacy levels of the candidate and any cultural issues that may affect responses to the questions. It will reflect requirements of the unit of competency and the work being performed.
- Where assessment is for the purpose of recognition (RCC or RPL), the evidence provided will need to be authenticated and show that it represents current competency demonstrated over a period of time.
- Performance and assessment of this unit must be carried out within the relevant requirements of the following legislative and industry framework:
 - building Acts, regulations and codes
 - Australian and international standards identified as relevant to preparations for installation and servicing operations
 - environmental regulations
 - manufacturer specifications
 - organisational requirements, including policies and procedures relating to ODS, SGG and OHS
 - OHS legislation, codes and regulations.

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 in the performance criteria is detailed below. Add any 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.

Legislative and industry requirements may include:

- relevant federal, state and territory building Acts, regulations and codes
- ODS and SGG legislation, codes and regulations

such as *Ozone Protection and Synthetic Greenhouse Gas Management Amendment Regulations, 1995*

- fire protection industry codes of practice
- OHS legislation, codes and regulations
- relevant current Australian standards, such as AS 1851 and AS 2444
- Building Code of Australia (BCA)
- dangerous goods regulations
- licensing arrangements, such as extinguishing agent handling licence
- environmental regulations
- building surveyor requirements, such as occupancy permit
- other relevant legislation relating to fire protection equipment, including international, shipping and marine codes
- Australian petroleum industry requirements.
- instructions from colleagues, supervisors and managers
- specific customer requirements
- assignment instructions
- equipment manufacturer requirements
- reporting and documentation requirements
- personal protective equipment (PPE) requirements
- work instructions to prevent the emission of ODS and SGG in the workplace.

Workplace procedures may include:

Relevant persons may include:

- team leaders
- supervisors
- managers
- colleagues
- customers.

ODS and SGG materials are listed using the format: Product name (other names); use. Check the latest amendments to the *Ozone Protection and Synthetic Greenhouse Gas Management Act* for the current list of ODS and SGG extinguishing agents which may include:

- **Blitz III** (HCFC Blend D); used in flooding systems
- **CFC 11** (trichlorofluoromethane, CCl₃F); may be found as a propellant in some powder fire extinguishers (this product is banned in Australia)
- **FC-2-1-8** (CEA-308, CF₃CF₂CF₃); used in flooding systems
- **FC-3-1-10** (CEA-410, C₄F₁₀); used in flooding systems
- **FC-5-1-14** (CEA-614, C₆F₁₄); used as a streaming agent
- **FE-227** (heptafluoropropane, HFC-227ea); used as a total flooding extinguishing agent - is a replacement for

Halon 1301

- **FE-25** (pentafluoroethane, HFC-125); used in inerting and explosion suppression applications and retro-fit to existing Halon 1301 systems
- **FE-36** (hexafluoropropane, HFC-236fa); used in portable fire extinguishers - is a replacement for Halon 1211 and Halon 1301
- **FE-13** (trifluoromethane, HFC-23); used as a total flooding agent
- **FE-241** (chlorotetrafluoroethane or HCFC-124); used as a total flooding agent for non-occupied spaces and as a streaming agent
- **FM100®** (HBFC-22B1); used in portable fire extinguishers
- **FM200®** (heptafluoropropane, HFC-227ea); used in chemical storage areas, clean rooms, communications facilities, laboratories, museums, robotics and emergency power facilities
- **Halotron** (HCFC Blend B); used as a total flooding agent and streaming agent
- **Halon 1211** (BCF); used as a streaming agent - requires a special permit in Australia
- **Halon 1301** (BTM); used as a total flooding agent - requires a special permit in Australia
- **Halon 2402 (dibromotetrafluoroethane, C₂Br₂F₄)**; limited use in military systems - requires a special permit in Australia
- **HCFC 22 (chlorodifluoromethane, CHClF₂)**; used as a propellant in some powder fire extinguishers (this product is banned in Australia)
- **HFC 134a** (unsymmetric tetrafluoroethane, CH₂FCF₃); used as a propellant in some powder fire extinguishers
- **NAF-S-III** (HCFC Blend A); used as a total flooding agent - is a replacement for Halon 1301
- **NAF-P-III** (HCFC Blend C); used as a streaming agent - is a replacement for Halon 1211
- **NAF-P-IV** (HCFC Blend E); used as a streaming agent
- **SF6** (sulfurhexafluoride, SF₆); used as an inerting agent for sealed high voltage switchgear.

Potential and actual breaches could be identified by:

- direct observation
- workplace quality assurance teams.

Organisational requirements may be located in quality assurance and/or procedures manuals and relate to:

- legal and organisational policies and guidelines
- personnel practices and guidelines outlining work roles, responsibilities and delegations
- legislation relevant to the service operation
- OHS policies, procedures and programs
- ODS and SGG policies, procedures and work

instructions to prevent ODS and SGG emissions in the workplace

- documentation and information systems and processes
- use of electronic job scheduling and communication devices.
- employer and employee rights and responsibilities
- the OHS hierarchy of control
- assessing the work site for hazards and risks prior to preparing it for the work procedure
- displaying signs and using barriers in work area
- hazard and risk identification and reporting
- risk assessment and control measures
- incident and accident investigation
- OHS audits and safety inspections
- safe operating procedures and instructions, including:
 - working safely around electrical wiring, cables and overhead powerlines
 - working safely around tools and equipment
 - working safely on ladders and raised platforms
 - risk and hazard recognition
 - emergency procedures
 - awareness of electrical hazards
 - following confined spaces procedures
 - using PPE, including:
 - safety glasses or goggles
 - safety boots or shoes
 - hard hats
 - earmuffs or plugs
 - appropriate gloves and overalls
 - sunhats
 - dust masks
 - equipment maintenance and use
 - use and storage of hazardous substances
 - first aid.

OHS policies and procedures may relate to:

- Australian standards*** include:
- delivery lay flat fire hoses
 - fire alarm monitoring systems
 - fire and smoke control features of heating, ventilation and air conditioning systems
 - fire blankets
 - fire detection systems

- fire hose reels
- fire hydrant installations
- fire pumpsets
- fire sprinklers
- fixed aerosol systems
- gas cylinder test stations
- gaseous fire suppression systems
- passive fire and smoke containment systems
- portable fire extinguishers
- dry powder fire suppression systems, including those where propellant gas is an ODS or an SGG
- road tank vehicles for dangerous goods
- smoke and heat alarms
- sound and intercom warning systems
- storage and handling of flammable and combustible liquids
- water mist systems
- wheeled fire extinguishers.

Fire protection equipment
may include:

- delivery lay flat fire hoses
- dry powder fire suppression systems
- fire alarm monitoring systems
- fire and smoke control features of heating, ventilation and air conditioning systems
- fire blankets and containers
- fire detection systems
- fire hose reels
- fire hydrant installations
- fire pumpsets
- fire sprinklers
- fixed aerosol fire extinguishing systems
- foam fire suppression systems
- gaseous fire suppression systems
- medium and high velocity water spray systems
- passive fire and smoke containment systems
- portable fire extinguishers
- portable foam generating equipment
- pyrogenic fire suppression systems
- smoke and heat alarms
- sound and intercom warning systems
- water mist fire suppression systems
- wet chemical fire suppression systems
- wheeled fire extinguishers.

Customer requirements may include:

- providing routine services
- providing non-routine or urgent services
- confirming or varying service instructions
- copy or details of occupancy permit
- sighting work permits
- sign-in and sign-out procedures for entry to or exit from premises
- written or verbal confirmation of services provided and future maintenance schedule.

Hazards may include:

- ergonomic, such as incorrect manual handling methods
- environmental, such as improper use of hazardous materials and chemicals, including ODS and SGG
- obstructive, such as blocked access to emergency entry or exit points
- hazards associated with electrical or mechanical faults
- any source of potential harm
- any situation with a potential to cause loss
- equipment in a work site
- people in a work site
- work methods, plans and procedures.

Tools and equipment relevant to cover range of installation and servicing procedures may include:

- fire equipment spare parts, including:
 - anti-tamper seals
 - hoses
 - labels
 - nozzles
 - pressure indicators
 - seals and gaskets
 - service tags
 - trigger pins
 - valves.
- hand tools, including:
 - hammers
 - spirit levels
 - pliers
 - screwdrivers
 - spanners.
- manual handling aids, including:
 - hand trucks
 - hooks

- lifting magnets and lifting straps
- suction grips
- trolleys
- wheelbarrows.
- non-licensed mechanical handling aids, including:
 - cranes
 - hoists
 - manually operated forklifts and pallet trucks.
- power tools, including:
 - battery-operated drills
 - hammer drills
 - nail guns.
- servicing tools and equipment, including:
 - hydrostatic test equipment
 - recharging and pressurising equipment
 - safety equipment
 - scales
 - service tag punch.

Hardware relevant to the wall surface and type of product to be installed or serviced may include:

- bolts
- double-sided tape
- explosive powered fasteners
- hanging brackets
- identifying signs
- liquid adhesives
- locks
- locksets
- nails
- plugs
- screws.

Unit Sector(s)

Sector

Fire Protection Equipment

Competency field

Competency field

Asset Maintenance

