

## Unit of Competency

### CPPFES2025 Inspect, test and maintain gaseous fire-suppression systems

#### Modification history

Release	Comments
1	Supersedes and is equivalent to CPPFES2025A Inspect, test and maintain gaseous fire-suppression systems. Unit updated to meet the Standards for Training Packages 2012. Updated licensing statement. This version first released with CPP Property Services Training Package Release 13.0.

#### Application

This unit of competency specifies the skills and knowledge required to complete the mechanical inspection, testing and maintenance of gaseous fire-suppression systems installed at client premises. Service activities are conducted according to the current Australian Standard for the maintenance of fire protection systems and equipment.

The unit does not apply to any installation, replacement, maintenance or repair functions that are restricted to licensed trades or occupations.

The unit is suitable for those with basic skills and knowledge undertaking routine work tasks under the direction of more experienced workers.

Ozone depleting substances (ODS) and synthetic greenhouse gases (SGG) are gaseous fire-extinguishing agents listed in Schedule 1 of the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 and by law, can only be handled by people who hold an appropriate extinguishing agent handling licence (EAHL). This unit supports one or more EAHLs prescribed under the Act. For further information, check with the relevant regulatory authority.

#### Unit Sector

Fire Protection Inspection and Testing

#### Elements and Performance Criteria

1. Apply rules and regulations to service operation.	1.1 Read work instructions to clarify type of gaseous fire-suppression system to be serviced, service timeframes, client needs, and site and equipment locations. 1.2 Discuss planned service procedures with relevant persons to clarify client needs and expectations. 1.3 Plan work activities to prevent ODS and SGG emissions and comply with relevant Australian Standards, regulations, work health and safety (WHS) and workplace requirements. 1.4 Identify potential and actual breaches of rules and regulations associated with work instructions and take required action to ensure compliance according to regulatory and workplace requirements. 1.5 Determine key system functions and operation within design limitations.
2. Research layout and	2.1 Gather relevant gaseous fire-suppression system information.

components of gaseous fire-suppression system to be inspected.	<p>2.2 Identify gaseous fire-suppression system application and method of operation.</p> <p>2.3 Identify gaseous fire-suppression system components and locate on installation drawings.</p> <p>2.4 Identify isolation devices and interface controls to other systems and locate on installation drawings.</p>
3. Prepare to inspect, test and maintain gaseous fire-suppression system.	<p>3.1 Arrange access to worksite and communicate with responsible entity and affected persons to advise duration and impact of planned service procedures and to ensure alternative safety arrangements are implemented.</p> <p>3.2 Select and use required personal protective equipment (PPE).</p> <p>3.3 Identify hazards in the work area and apply risk control measures according to workplace requirements.</p> <p>3.4 Identify and assemble required tools, equipment and testing devices according to workplace requirements.</p> <p>3.5 Switch alarm signalling equipment to test mode in back-to-base facilities.</p> <p>3.6 Physically isolate equipment to ensure testing or maintenance procedures do not cause discharge of extinguishing agent.</p> <p>3.7 Electrically isolate equipment and interface controls to other systems to ensure no alarms or actions are unduly generated.</p> <p>3.8 Install and calibrate test equipment to verify operation of components and system.</p>
4. Inspect and test installed gaseous fire-suppression system.	<p>4.1 Locate and identify system components on site, verify exact correspondence of system layout to installation drawings and report identified anomalies.</p> <p>4.2 Safely complete mechanical inspection tasks specified for the relevant maintenance schedule period according to Australian Standards, manufacturer and workplace requirements.</p> <p>4.3 Safely complete mechanical test tasks specified for the relevant maintenance schedule period according to Australian Standards, manufacturer and workplace requirements.</p> <p>4.4 Record inspection and testing results and identified faults according to regulatory and workplace requirements.</p>
5. Conduct preventive maintenance on installed gaseous fire-suppression system.	<p>5.1 Complete mechanical preventive maintenance tasks specified for the relevant maintenance schedule period according to Australian Standards, manufacturer and workplace requirements.</p> <p>5.2 Repair or replace faulty equipment according to regulatory and workplace requirements.</p> <p>5.3 Organise transport and refilling of gaseous agent containers by authorised refilling station according to workplace requirements.</p> <p>5.4 Record preventive maintenance results according to regulatory and workplace requirements.</p>
6. Finalise service operation.	<p>6.1 Reinstate gaseous fire-suppression system and check to confirm it is fully operational according to manufacturer and workplace requirements.</p> <p>6.2 Complete service records and report outstanding defects and recommended rectifications according to Australian Standards, regulatory and workplace requirements.</p> <p>6.3 Check tools and equipment for faults, wear or damage and rectify or report problems according to workplace requirements.</p>

	6.4 Leave client premises in a clean and tidy condition.
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### Foundation Skills

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

### Unit Mapping Information

Supersedes and is equivalent to CPPFES2025A Inspect, test and maintain gaseous fire-suppression systems.

### Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

## Assessment Requirements for CPPFES2025 Inspect, test and maintain gaseous fire-suppression systems

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### Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by inspecting, testing and maintaining two gaseous fire-suppression systems installed in different settings.

### Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- action to take when a breach of work health and safety (WHS), ozone depleting substances (ODS) and synthetic greenhouse gases (SGG) regulation or other policy occurs when inspecting, testing and maintaining gaseous fire-suppression systems
- difference between total flooding and local application systems
- difference between various types of extinguishing gaseous agents used in gaseous fire-suppression systems
- extent to which pressures and liquid levels in extinguishing agent containers vary according to temperature change
- fire-suppressant action of gaseous agents in terms of smothering, cooling and reacting chemically with the fire radical
- how building structures, services and service penetrations within and through protected area enclosures influence the holding time of gaseous agents
- industry best-practice methods used to isolate actuators to prevent ODS and SGG emissions in the workplace
- key features of legislation, regulations, codes and Australian Standards relevant to inspecting, testing and maintaining gaseous fire-suppression systems:
  - container handling, movement and transport requirements
  - extinguishing agent handling licence (EAHL) requirements
  - environmental protection, ODS and SGG emission requirements
  - maintenance schedules
  - records and documentation
- occupational hazards of gaseous agents in terms of:
  - no observable adverse effect level (NOAEL)
  - lowest observable adverse effect level (LOAEL)
  - products of combustion from fire and products of decomposition associated with some gaseous agents when extinguishing a fire

- operating principles of:
  - lock-off, directional and pressure-release valves
  - pneumatic and mechanical actuators interfaced with gaseous systems
  - fire alarm components interfaced with gaseous fire-suppression systems
  - gaseous agent discharge nozzles
- operation of different types of equipment used to store and release gaseous extinguishing agent
- pressures generated during release of gaseous agents, pressure rating requirements of pipework and fittings, and the need for adequate support bracing
- reasons and methods for preventing ODS and SGG emissions in the workplace
- types of gaseous fire-suppression agents and how they extinguish fire, including concentration and holding time requirements
- types and operating principles of gaseous fire-suppression systems:
  - total flooding
  - local application
  - engineered and pre-engineered
- types and purpose of tools, equipment and testing devices used when inspecting, testing and maintaining gaseous fire-suppression systems:
  - actuator simulators
  - barcode readers
  - container contents-measuring equipment
  - fire equipment spare parts:
    - aerosol test smoke
    - anti-tamper seals
    - clamps
    - service tags
  - hand and power tools
  - manual-handling aids
  - personal protective equipment (PPE)
  - scales
- workplace requirements for inspecting, testing and maintaining gaseous fire-suppression systems:
  - maintenance of tools and equipment
  - WHS, including hazard and risk identification and control.

### Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to drawings, documentation, tools, equipment and installed gaseous fire-suppression systems required to achieve the performance evidence.

## Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>