



Australian Government

Department of Education, Employment and Workplace Relations

CPPFES2025A Inspect, test and maintain gaseous fire-suppression systems

Release: 1

CPPFES2025A Inspect, test and maintain gaseous fire-suppression systems

Modification History

Revised unit

Unit updated and equivalent to PRMPFES25C Inspect, test and maintain gaseous fire suppression systems

Unit Descriptor

This unit of competency specifies the outcomes required to complete mechanical inspection, testing and maintenance tasks on installed gaseous fire-suppression systems.

Application of the Unit

This unit of competency supports fire protection technicians responsible for inspecting, testing and maintaining gaseous fire-suppression systems. This unit does not apply to any installation, replacement, maintenance and repair functions that are restricted to licensed trades or occupations (subject to relevant state and territory regulations).

Licensing/Regulatory Information

Work in this area must be completed according to relevant legislative, industry, customer and organisational requirements, including policies and procedures relating to occupational health and safety (OHS), and where needed, to ozone depleting substances (ODS) and synthetic greenhouse gases (SGG) emissions.

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

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

Candidates are advised to check for regulatory limitations.

This unit does not cover all the requirements of AS 1851 Maintenance of fire protection systems and equipment.

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

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|---|--|-----|---|
| 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 | Knowledge of <i>ODS and SGG materials</i> and legislative and industry requirements is applied when inspecting and testing gaseous fire-suppression systems. |
| | | 1.3 | Knowledge of operation of fire protection systems is applied to determine system <i>key functional requirements</i> and operation within design limitations. |
| | | 1.4 | <i>Compliance requirements are checked</i> and <i>action</i> is taken according to <i>organisational policies and procedures</i> . |
| 2 | Research layout and components of gaseous fire-suppression system to be inspected. | 2.1 | Relevant <i>gaseous fire-suppression system information</i> is gathered. |
| | | 2.2 | Gaseous fire-suppression system application and method of operation are identified. |
| | | 2.3 | Gaseous fire-suppression system <i>components</i> are identified and located on <i>installation drawings</i> . |
| | | 2.4 | <i>Isolation devices</i> and interface controls to other systems are identified and located on installation drawings. |
| 3 | Prepare to inspect, test and maintain gaseous fire-suppression systems. | 3.1 | Necessary <i>work permits</i> are obtained prior to entering customer premises. |
| | | 3.2 | Relevant persons and occupants are advised of intended tests and associated procedures. |

- 3.3 System and surrounding work area are assessed for **hazards** and relevant precautions are taken.
 - 3.4 Relevant **tools, equipment and testing devices** are identified and assembled according to work procedures and organisational requirements.
 - 3.5 Alarm signalling equipment (ASE) is switched to test mode in **back-to-base facilities**.
 - 3.6 Equipment is physically isolated to ensure testing or maintenance procedures do not cause discharge of extinguishing agent.
 - 3.7 Equipment and interface controls to other systems are electrically isolated to ensure no alarms or actions are unduly generated.
 - 3.8 Test equipment is installed and calibrated to verify operation of components and system.
- 4 Inspect and test installed gaseous fire-suppression system.
- 4.1 System components are identified and located on site, and exact correspondence of system layout to installation drawings is verified and anomalies reported.
 - 4.2 **Mechanical inspection tasks** specified for **maintenance schedule periods** in relevant **maintenance information** are safely completed.
 - 4.3 **Mechanical test tasks** specified for maintenance schedule periods in relevant maintenance information are safely completed.
 - 4.4 Inspection and testing results are recorded and faulty equipment is reported according to organisational and legislative requirements.
 - 4.5 Relevant **documentation** is completed according to organisational and **customer requirements**.
- 5 Conduct preventive maintenance on installed gaseous fire-suppression system.
- 5.1 **Mechanical preventive maintenance tasks** specified for maintenance schedule periods and described in relevant maintenance information are safely completed.
 - 5.2 Faulty equipment is repaired or replaced according to organisational, legislative and customer requirements.

- 5.3 Transportation and refilling of gaseous agent containers by authorised refilling station are organised.
 - 5.4 Preventive maintenance activities, including repairs and replacements of faulty equipment, are recorded according to organisational, legislative and customer requirements.
 - 5.5 Relevant documentation is completed according to organisational and customer requirements.
- 6 Reinstall installed gaseous fire-suppression system.
- 6.1 Installed gaseous fire-suppression system is ***reinstated*** as fully operational.
 - 6.2 Customer premises are left in a clean and tidy condition on completion of work.

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
 - interpret information on engineering drawings, such as installation drawings
 - 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
- skills to work safely when:
 - applying workplace housekeeping procedures
 - handling and transporting gaseous containers according to legislation (including ODS and SGG requirements), manufacturer and work procedures
 - using hand and power tools
- technical skills to:
 - conduct:
 - function system tests with other system interfaces as specified in AS 1851
 - routine mechanical maintenance on equipment as specified in AS 1851
 - visual mechanical inspection, testing and maintenance tasks as specified in AS 1851
 - identify whether gaseous agent is still suitable for existing occupancy risk
 - operate:
 - actuators to determine that operation is within design parameters for installed equipment
 - manual controls of gaseous fire-suppression system
 - standardised control functions on a fire alarm panel that interfaces with the gaseous system to conduct functional tests as specified in AS 1851
 - remove and replace:
 - container actuators (note: the fire protection technician may require manufacturers' endorsement for specific actuators)
 - containers from container bank manifold

- verify visually that system complies with original installation requirements

Required knowledge

- difference between total flooding and local application systems
- difference between various types of extinguishing gaseous agents used
- 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 penetration within and through protected area enclosures influence the holding time of a gaseous agent
- industrial relations issues applicable to inspecting, testing and maintaining gaseous fire-suppression systems
- industry best practice methods used to isolate actuators to prevent ODS and SGG emissions in the workplace
- key features of legislation, regulations, codes and standards, including ODS and SGG, applicable to inspecting, testing and maintaining gaseous fire-suppression systems, including:
 - action to take when a breach of OHS, ODS and SGG or other policy occurs
 - container handling, moving and transporting requirements
 - environment protection authority, ODS and SGG emission requirements
 - implications of not applying legislative requirements to job functions
- manufacturers' requirements and standards applicable to inspecting, testing and maintaining gaseous fire-suppression systems
- occupational hazards of gaseous agent 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 extinguishant agent
- pressures generated during release of gaseous agents, pressure rating requirements of pipework and fittings, and the need for adequate support bracing
- reasons for preventing ODS and SGG emissions in the workplace
- relevant federal, state or territory legislation that affects organisational operations, including:
 - anti-discrimination and diversity
 - equal employment opportunity

- safety requirements relevant to inspect, test and maintain procedures
- types of:
 - gaseous fire-suppression agents and how they extinguish fire, including concentration and holding time requirements
 - gaseous fire-suppression systems, including:
 - working principles
 - pre-engineered
 - engineered
- use of flooding factors to check extinguishing agent quality

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 at least two different practical demonstrations of inspecting, testing and maintaining gaseous fire-suppression systems at customers' premises.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>A person who demonstrates competency in this unit must be able to provide evidence of the required skills and knowledge specified in this unit.</p> <p>In particular the person should demonstrate the ability to:</p> <ul style="list-style-type: none"> • locate, interpret and apply relevant information, standards and specifications • comply with OHS and ODS and SGG regulations (where required), and state and territory legislation applicable to workplace operations • comply with organisational policies and procedures, including quality requirements • communicate and work effectively and safely with others. <p>Competency must be demonstrated in a minimum of two different settings, including:</p> <ul style="list-style-type: none"> • identifying potential hazards and risks • identifying risk-reduction measures • adhering to safety procedures during inspect, test and maintain procedures • identifying installed gaseous fire-suppression systems • identifying and locating system components • identifying, selecting and using tools, equipment and materials effectively to perform inspect, test and maintain procedures on an installed gaseous fire-suppression system • matching installed system to installation drawings • identifying isolation devices and interface controls to other systems • switching alarm signalling equipment to test mode • physically isolating equipment and gaseous fire-suppression systems • electrically isolating equipment and interface controls to other systems • installing and calibrating test equipment • completing specified mechanical inspection tasks, documenting results and reporting faulty equipment

	<ul style="list-style-type: none">• completing specified mechanical test tasks, documenting results and reporting faulty equipment• completing specified mechanical preventive maintenance tasks, repairing or replacing faulty equipment, and documenting results• reinstating system to operational state• completing workplace housekeeping requirements.
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Context of and specific resources for assessment	<p>Assessment of essential underpinning knowledge may be conducted in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements.</p> <p>Resource implications for assessment include:</p> <ul style="list-style-type: none"> • access to customer premises or a simulated workplace environment • assessment documentation • necessary tools, specialist equipment, manuals and relevant documentation, including ODS and SGG policies and work procedures • training and assessment record books.
Method of assessment	<p>Assessment methods must:</p> <ul style="list-style-type: none"> • 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 assessment	<p>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.</p> <p>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.</p> <p>This unit could be assessed on its own or in combination with other units relevant to the job function.</p>

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:	<ul style="list-style-type: none"> • dangerous goods regulations • environmental regulations
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	<ul style="list-style-type: none">• licensing arrangements• OHS legislation, regulations and codes• relevant commonwealth and state or territory building Acts, regulations and codes, such as Building Code of Australia (BCA)• relevant Australian standards, such as:<ul style="list-style-type: none">• 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:<ul style="list-style-type: none">• international shipping codes• marine codes for different Australian States.
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Requirements may be <i>confirmed</i> with:	<ul style="list-style-type: none"> • colleagues • managers • supervisors • team leaders.
<i>Work procedures</i> may include:	<ul style="list-style-type: none"> • assignment instructions • equipment manufacturers' requirements • instructions from colleagues, supervisors and managers • personal protective equipment requirements • reporting and documentation requirements • specific customer requirements • work instructions to prevent the emission of ODS and SGG in the workplace.
<p><i>ODS and SGG extinguishing agents</i> may include:</p> <p>Note list format: product name (other names) use</p> <p>Check the latest amendments to the Ozone Protection and Synthetic Greenhouse Gas Management Act for the current list of ODS and SGG extinguishing agents.</p>	<ul style="list-style-type: none"> • ODS and SGG extinguishing agents commonly used in Australia: <ul style="list-style-type: none"> • FM200 (FE-227 Heptafluoropropane, HFC-227ea) used as a total flooding extinguishing agent and as a replacement for Halon 1301 • Halon 1211 (BCF, Halon 1211 BCF, Bromochlorodifluoromethane) used as a streaming agent – requires a special permit in Australia • Halon 1301 (BTM, Halon 1301 BTM, Bromotrifluoromethane) used as a total flooding agent – requires a special permit in Australia • NAF-P-III (HCFC Blend C) used as a streaming agent • NAF-P-IV (HCFC Blend E) used as a streaming agent • NAF-S-III (HCFC Blend A) used as a total flooding agent • SF6 (Sulfurhexafluoride) used as an inerting agent in sealed high voltage switchgear • ODS and SGG extinguishing agents not commonly used in Australia: <ul style="list-style-type: none"> • Blitz III (HCFC Blend D) used in flooding systems • CFC-11 (Trichlorofluoromethane) may be found as a propellant in some powder fire extinguishers (this product is banned in Australia but may be found on incoming foreign vessels) • FC-2-1-8 (CEA-308) used in flooding systems • FC-3-1-10 (CEA-410) used in flooding systems • FC-5-1-14 (CEA-614) used as a streaming agent • FE-13 (Trifluoromethane, HFC-23) used as a total flooding agent • FE-241 (Chlorotetrafluoroethane, HCFC-124) used as a total flooding agent for non-occupied spaces and as a streaming agent

	<ul style="list-style-type: none">• FE-25 (Pentafluoroethane, HFC-125) used in inerting and explosion suppression applications• FE-36 (Hexafluoropropane, HFC-236fa) used in portable fire extinguishers – is a replacement for Halon 1211 and Halon 1301• FM100 (HBFC-22B1) used in portable fire extinguishers• Halon 2402 (Dibromotetrafluoroethane) limited use in military systems – requires a special permit in Australia• Halotron I (HCFC Blend B or HCFC-123) used as a total flooding agent and streaming agent• Halotron II (blend of HFC-143a and HFC-125) used as a total flooding agent and as a replacement for Halon 1301• HCFC-22 (Chlorodifluoromethane) used as a propellant in some powder fire extinguishers (this product is banned in Australia but may be found on incoming foreign vessels)• HFC-134a (Unsymmetric tetrafluoroethane) used as a propellant in some powder fire extinguishers.
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Key functional requirements relate to interpreting the system functions within design limitations, such as:	<ul style="list-style-type: none"> gaseous flooding discharge time and holding time, and factors that can effect these key design requirements, including: <ul style="list-style-type: none"> nozzle location openings in protected enclosure orifices pipe blockages system is total flooding or local gaseous system suppression of fire mechanism in relation to fire triangle understanding of environmental and occupational hazards caused by gaseous agents.
Checking system compliance requirements may include:	<ul style="list-style-type: none"> 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:	<ul style="list-style-type: none"> advising customer documenting non-compliance making equipment safe reporting, as required.
Organisational policies and procedures may be located in quality assurance and procedures manuals relating to:	<ul style="list-style-type: none"> documentation and information systems and processes legal and organisational policies and guidelines, including personnel practices and guidelines outlining work roles, responsibilities and delegations legislation relevant to service operations ODS and SGG policies, procedures and programs OHS policies, procedures and programs use of electronic job scheduling and communication devices.
Gaseous fire-suppression systems may include:	<ul style="list-style-type: none"> synthetic gaseous fire-extinguishing agents (liquefied), such as: <ul style="list-style-type: none"> ODS and SGG materials Novec 1230 inert gaseous fire-extinguishing agents (non-liquefied), such as: <ul style="list-style-type: none"> Inergen Argonite nitrogen carbon dioxide.
Gaseous fire-suppression system information may include:	<ul style="list-style-type: none"> as installed drawings Australian standards design drawings manufacturers' manuals.
Components may include:	<ul style="list-style-type: none"> actuators: <ul style="list-style-type: none"> mechanical pyrotechnic

	<ul style="list-style-type: none">• solenoid• fire alarm system interface components, such as:<ul style="list-style-type: none">• anti-tamper switches• gaseous system controls and indicators on control and indicating equipment (CIE), such as fire indicating panels (FIP) approved to:<ul style="list-style-type: none">• AS 1603 Automatic fire detection and alarm systems• AS 4428 Fire detection, warning, control and intercom systems – control and indicating equipment• positional monitoring switches• pressure switches• remote gas control points• warning system equipment, such as:<ul style="list-style-type: none">• alarm bells• warning lights and strobes• warning speakers.
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Installation drawings may include:	<ul style="list-style-type: none"> • installation drawings that meet the requirements of AS 4214 Gaseous fire extinguishing systems, and fire alarm standards: <ul style="list-style-type: none"> • in AS 1670.1 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Fire • in AS 1670.4 Fire detection, warning, control and intercom systems – System design, installation and commissioning – Sound systems and intercom systems for emergency purposes • including: <ul style="list-style-type: none"> • ‘for construction’ drawings • ‘as installed’ or ‘as built’ drawings.
Isolation devices may include:	<ul style="list-style-type: none"> • CIE, including: <ul style="list-style-type: none"> • FIP • gas control panels • mechanical isolation devices • pneumatic isolation devices.
Work permits may include permits to:	<ul style="list-style-type: none"> • ensure that specific OHS requirements are met before entering a work site • enter a restricted area within a work site • enter a work site • enter a work site at specific times.
Hazards may include:	<ul style="list-style-type: none"> • environmental hazards, such as improper use of ODS and SGG, hazardous materials and other chemicals • environmental risks from ODS and SGG emissions that could be caused by: <ul style="list-style-type: none"> • conducting interface tests between actuators, CIE and fire alarm system during inspect, test and maintain procedures • installing and removing container valve assembly, manifold connection components and actuators • servicing and maintaining container valve assemblies • transporting, storing and manual handling ODS and SGG containers • equipment in a work site • ergonomic, such as incorrect manual-handling methods • hazards associated with electrical or mechanical faults • obstructive, such as blocked access to emergency entry or exit points • people in a work site • sources of potential harm • situations with a potential to cause loss • work methods, plans and procedures.

<p><i>Tools, equipment and testing devices</i> may include:</p>	<ul style="list-style-type: none"> • fire equipment spare parts, including: <ul style="list-style-type: none"> • aerosol test smoke • anti-tamper seals • clamps • service tags • hand tools, including: <ul style="list-style-type: none"> • hammers • pliers • screwdrivers • spanners • spirit levels • power tools, including: <ul style="list-style-type: none"> • battery powered drills • hammer drills • manual-handling aids, including: <ul style="list-style-type: none"> • hand trucks • lifting straps • trolleys • servicing tools and testing devices, including: <ul style="list-style-type: none"> • actuator simulators • barcode readers • container contents-measurement equipment • electrical multimeter • recharging and pressurising equipment • safety equipment • scales • service tag punch.
<p><i>Back-to-base facilities</i> refer to:</p>	<ul style="list-style-type: none"> • monitoring equipment that is connected by ASE from the CIE to a communication path (telephone line or a radio link) and then to a monitoring centre • monitoring centres, which can be operated by or on behalf of a fire authority for the purposes of mobilising and directing firefighting resources to site where CIE is installed.
<p><i>Mechanical inspection tasks</i> may include:</p>	<ul style="list-style-type: none"> • actions to complete mechanical inspection tasks according to AS 1851, such as: <ul style="list-style-type: none"> • checking enclosure for changes in openings, for example any new, unsealed service penetrations • checking that gas discharge pipe lock-off valve (if fitted) is correctly labelled and accessible • checking that gas containers are secure, accessible and free from damage

	<ul style="list-style-type: none">• inspecting each container pressure indicator to check that pressure is within prescribed limits• where there is no container pressure indicator, checking that system discharged indicator has not operated• checking that release mechanisms, including drop weights, are undamaged, accessible and unimpeded• checking gas container enclosure is accessible, adequately illuminated, ventilated and secured against unauthorised entry• checking integrity of all pneumatic piping and fittings• checking that entire protected area enclosure complies with original design• checking that discharge nozzles are clear and unobstructed, correctly aimed and secured• checking actuating devices for any condition likely to adversely affect their operation, such as excessive deposits of dust or paint coating• inspecting all areas adjacent to protected area to ensure that migration of gas does not create a hazard to personnel• inspecting protected area to check that the risk has not changed from original design, such as computer room to combustible storage and equipment• checking that all pipework, flexible connectors and manifolds are free from damage and adequately secured• checking that discharge from all pressure relief devices and vent valves does not create a hazard to personnel• checking that all directional valves and check valves are correctly orientated• determining whether container valve overhaul is due• determining whether container hydrostatic pressure test is due according to AS 2030 Gas cylinders or AS 1851 Maintenance of fire protection systems and equipment• checking age of pyrotechnic actuator to determine if due for replacement.
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<i>Maintenance schedule periods</i> may be:	<ul style="list-style-type: none"> • monthly • six monthly • yearly • five yearly • ten yearly.
<i>Maintenance information</i> may include:	<ul style="list-style-type: none"> • Australian standards • manufacturers' specifications and recommended procedures • service manual instructions • service manuals and bulletins.
<i>Mechanical test tasks</i> may include:	<ul style="list-style-type: none"> • actions to complete mechanical test tasks according to AS 1851, such as: <ul style="list-style-type: none"> • simulating a system operation and confirming that discharge actuators and directional valves operate correctly • testing operation of all mechanical manual discharge release systems • testing operation of mechanical automatic discharge release systems not operated through CIE, such as fusible links • operating system lock-off valve and confirming that the system inoperative visual warning device (VWD) operates • confirming, by weighing, liquid level determination or pressure reading (inert gases only), that each gas container is charged with correct quantity of extinguishing agent • testing to ensure correct operation of all automatic pneumatic controls • simulating operation of agent release detection device and confirming indication of agent release at system control panel.
<i>Documentation</i> may include:	<ul style="list-style-type: none"> • application for credit forms • certificates of inspection • corrective action reports • customer recommendation forms • equipment recommendation forms • expense claims • job cards • maintenance record systems • motor vehicle fleet cards • petty cash vouchers • product documentation • service agreements • service test record logbooks.
<i>Customer requirements</i> may include:	<ul style="list-style-type: none"> • confirming or varying service instructions • following sign-in and sign-out procedures for entry to or exit

	<p>from premises</p> <ul style="list-style-type: none"> • providing non-routine or urgent services • providing routine services • sighting work permits • written or verbal confirmation of services provided and future maintenance schedule.
<p><i>Mechanical preventive maintenance tasks</i> may include:</p>	<ul style="list-style-type: none"> • actions to complete routine mechanical maintenance tasks according to AS 1851, such as: <ul style="list-style-type: none"> • checking operation of mechanical container actuator and lubricating as necessary • checking operation of remote mechanical release system and lubricating as necessary • checking operation of automatic mechanical release system and lubricating as necessary • replacing pyrotechnic container actuator that will exceed its listed lifetime prior to next scheduled maintenance • cleaning dampers and nozzles that are subject to deposit of contaminants, such as cooking oil, hot wax, etc. • actions to conduct non-routine maintenance, such as general isolation to CIE so that building works can be done, then resetting systems after works are completed.
<p><i>Reinstate</i> process may involve:</p>	<ul style="list-style-type: none"> • confirming all interface actuators are isolated and appropriate signage, documentation and lock-off are in place • removing transport caps on actuator outlets, plugs and locking devices according to manufacturer and organisational requirements • re-installing pneumatic actuators and pilot and slave tubes and fittings according to finalised design documentation and installation drawings • checking pneumatic actuator and pilot and slave tubes connection are free from kinks and physically checking for tightness • re-installing electrical and mechanical actuators according to finalised design documentation and installation drawings • physically checking tightness of electrical and mechanical actuators, and that they are correctly set to operate • re-installing manual actuators according to finalised design documentation and installation drawings • physically checking tightness of manual actuators, and that they are correctly set to operate with safety device engaged • activating all interfaced actuators and removing signage, documentation and lock-off for functional testing • advising relevant persons that system is fully operational and providing appropriate technical, maintenance or handover

	<p>instructions on operation of system</p> <ul style="list-style-type: none">• leaving work site clean and tidy with materials disposed of or recycled according to state or territory legislative and industry requirements.
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Unit Sector(s)

Fire protection equipment

Custom Content Section

Not applicable.