



Australian Government

Department of Education, Employment and Workplace Relations

CPPFES2050A Monitor storage operations for scheduled gaseous fire-extinguishing agents

Release: 1

CPPFES2050A Monitor storage operations for scheduled gaseous fire-extinguishing agents

Modification History

Revised unit

Unit updated and equivalent to PRMPFES50A Monitor storage operations for ozone depleting substances and synthetic greenhouse gases

Unit Descriptor

This unit of competency specifies the outcomes required to monitor and control minor environmental hazards and security incidents in ozone depleting substance (ODS) and synthetic greenhouse gas (SGG) storage areas.

Application of the Unit

This unit of competency supports fire protection technicians responsible for:

- monitoring storage areas for ODS and SGG emissions and detecting and identifying emission sources
- identifying and assessing the risk of hazards within storage areas
- monitoring storage area security systems and identifying security incidents
- responding to identified emissions and security incidents
- measuring, controlling and reporting environmental hazards and security incidents
- participating in investigations of detected emissions and security incidents conducted by internal and external regulatory bodies.

Note: The unit covers recognising and controlling environmental hazards and security incidents. It does not include the control of significant incidents which are either part of emergency response competencies or the role of management personnel.

Licensing/Regulatory Information

The unit supports one or more extinguishing agent handling licences (EAHL) 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.

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 monitoring operations for ODS and SGG storage areas. | 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 extinguishing agent</i> legislative and industry requirements is applied to monitor environmental and security needs of ODS and SGG storage containers. |
| | | 1.3 | Compliance requirements are checked and <i>action</i> is taken according to <i>organisational policies and procedures</i> , and ODS, SGG and occupational health and safety (OHS) policies and procedures. |
| 2 | Identify hazards in monitored area. | 2.1 | Potential hazards in storage area are identified. |
| | | 2.2 | Leak detection equipment and <i>security systems</i> are assessed to identify hazards present, using leak detection and security monitoring procedures. |
| | | 2.3 | Type and scope of unresolved hazards and their likely impact are identified. |
| 3 | Assess and address risk of identified hazard. | 3.1 | Risk is evaluated and level of risk determined. |
| | | 3.2 | <i>Actions</i> are identified and options to eliminate or minimise risk are considered and referred to relevant persons. |
| | | 3.3 | <i>Safety information and procedures</i> are applied |

			throughout operations.
		3.4	Course of action to eliminate or minimise risk is implemented.
4	Monitor ODS and SGG emissions and detection system.	4.1	Leak detection test equipment and emission detection system components are identified.
		4.2	Emission detection system information is interpreted.
		4.3	Causes or sources of detected emissions are identified.
		4.4	Action is taken to respond to detected emissions.
		4.5	Participation in investigations of detected emissions complies with organisational requirements.
		4.6	Improvements to emission detection system are recommended.
		4.7	Documentation is completed according to work procedures.
5	Perform leak detection test.	5.1	Leak detection test is performed on storage container, connections, valves and gauges.
		5.2	Changes in storage container pressure are monitored and identified.
		5.3	Action is taken to address identified storage container leakage.
		5.4	Documentation is completed according to work procedures.
6	Track and audit storage container movements.	6.1	Audits are scheduled to minimise disruption to the workplace.
		6.2	Storage container movements are audited according to work procedures.
		6.3	Movements of storage containers and other audit requirements are recorded according to work procedures.
		6.4	Record management system is updated.

- 6.5 **Non-compliance** reports are created, including options for system improvements, and forwarded to relevant persons.
- 7 Monitor storage container security.
 - 7.1 Security system components are identified.
 - 7.2 Security system information is interpreted.
 - 7.3 Causes or sources of detected security incidents are identified.
 - 7.4 Action is taken to respond to detected security incidents.
 - 7.5 Participation in investigations of detected security incidents complies with organisational requirements.
 - 7.6 Improvements to security system are recommended according to work procedures.
 - 7.7 Documentation is completed according to work procedures.

Required Skills and Knowledge

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

Required skills

- analytical skills to:
 - assess environmental risks and security incidents
 - determine risk level of hazard and take action to eliminate or minimise risk
 - identify hazards in work environment, including ODS and SGG emissions
- customer service skills
- language, literacy and numeracy skills to:
 - access, interpret and communicate information relating to operational hazards
 - communicate with others clearly and concisely, verbally and in writing
 - interpret temperature and pressure graphs for different agents to determine pressure at a given temperature
 - complete risk management process records and reports
 - interpret emission detection and security monitoring data
 - measure pressure of ODS and SGG storage containers
 - prepare non-compliance reports that include issues of non-compliance and provide suggestions for improvements
 - read and comply with work instructions and specifications
 - read and record measurements
 - read, interpret, apply and communicate technical information, rules and procedures
 - record storage container movements
 - record and report information neatly and legibly
 - update data in a record management system
- skills to work safely when:
 - manual handling
 - moving and storing ODS and SGG storage containers
 - selecting and using relevant personal protective equipment (PPE)
 - selecting and using tools, equipment and materials for specific tasks
- planning and organising skills to:
 - estimate time to complete activities
 - prioritise tasks
 - schedule and audit storage container movements
- interpersonal skills to relate to people from a range of social and cultural backgrounds
- problem-solving skills to resolve problems in practical and safe ways, including:
 - assessing movement paths for transporting and storing ODS and SGG storage containers

- selecting and using relevant communications and computing equipment when storing and moving ODS and SGG storage containers
- technical skills to:
 - identify causes or sources of detected emissions or security incidents and select appropriate action
 - identify emission and security incidents
 - investigate detected emissions and security incidents, and make recommendations for improvements
 - take action to address storage containers that cannot hold a steady pressure
 - undertake leak detection testing of ODS and SGG storage containers

Required knowledge

- action to be taken when a breach of OHS, ODS and SGG or other policy occurs
- causes of:
 - emissions from ODS and SGG storage containers
 - security incidents related to ODS and SGG storage containers
- correct manual-handling aids and techniques
- emission detection and security monitoring data
- key features of legislation, regulations and codes applicable to monitoring and storage of ODS and SGG in storage containers, including:
 - EABL requirements
 - implications of ignoring safety precautions used with emission monitoring, security incident identification and audit processing of storage containers
- methods for:
 - investigating detected emissions and security incidents
 - leak detection testing
 - preventing ODS and SGG emissions in the workplace
- personal risk assessment and control processes, from hazard identification through to action
- 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
- industrial relations issues relevant to monitoring storage operations for scheduled gaseous fire-extinguishing agents
- types of:
 - containers used for storage of ODS and SGG materials
 - labels, numbers and codes used on ODS and SGG storage containers
 - materials found in ODS and SGG storage containers
- workplace documentation used for emission and security monitoring, emission detection, security incident reporting and audit processing of storage container movements

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 monitoring activities in ODS and SGG storage areas in a workplace environment.
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: • communicate and work effectively and safely with others • comply with organisational policies and procedures, including quality requirements • comply with site safety plan, OHS regulations, ODS and SGG regulations (where required) and state and territory legislation applicable to workplace operations • monitor ODS and SGG storage on a minimum of two different occasions, including: • identifying, selecting and using documentation to monitor and audit detected emissions and security incidents for storage containers • using tools, equipment and materials effectively to complete monitoring and auditing processes • performing leak detection tests on storage container connections, valves and pipework • monitoring storage container pressure • repairing and topping up storage containers found to be losing pressure • transporting and storing storage containers • creating, modifying and updating workplace records and documentation • identifying hazards and risks at work site • assessing risks and implementing action to eliminate or minimise risk • using PPE and manual-handling techniques and aids • selecting and using workplace communication technologies and language in the workplace, including technical language • locate, interpret and apply relevant information, standards and specifications.
Context of and specific	Assessment of essential underpinning knowledge may be conducted

resources for assessment	in an off-site context. It is to comply with relevant regulatory or Australian standards' requirements. Resource implications for assessment include: • actual or simulated work environment • assessment documentation, including training and assessment record books • monitoring and audit documentation • necessary safety equipment and PPE • necessary tools, equipment and materials • range of containers to be used to store different ODS and SGG materials • relevant procedure manuals.
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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 assessment	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. 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.

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, including ODS and SGG legislation, codes and regulations, such as: • Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 • fire protection industry codes of practice • material safety data sheets (MSDS) • OHS legislation, codes and regulations • other relevant legislation relating to ODS and SGG storage containers, including: • international shipping codes • marine codes for different Australian States • requirements of Australian petroleum industry • regulations and codes of practice for the handling and storage of
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	dangerous goods and hazardous substances • relevant Australian standards, including: • AS 2030 Gas cylinders • AS 4360 Risk management • note: Australian standards are frequently revised and users must always check for currency and amendments • relevant federal, state and territory building Acts, regulations and codes, such as Building Code of Australia (BCA) • relevant licence or permit requirements and associated regulations.
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Requirements may be confirmed with:	• colleagues • managers • supervisors • team leaders.
Work procedures may include:	• audit instructions • emergency requirements and instructions • equipment manufacturers' requirements and specifications • instructions from colleagues, supervisors and managers • manual-handling techniques • ODS, SGG and OHS requirements • PPE requirements • reporting and documentation requirements • specific customer requirements • workplace operating procedures, instructions and policies.
ODS and SGG extinguishing agents may include: Note list 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.	• ODS and SGG extinguishing agents commonly used in Australia: • 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: • 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 • 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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Action may include:	• advising customer • documenting non-compliance • making equipment safe • reporting, as required.
Organisational policies and procedures may include:	• audit policies and procedures • job scheduling systems and communication devices • personnel practices and guidelines outlining work roles, responsibilities and delegations • procedures and work instructions to prevent the emission of ODS and SGG in the workplace • recording and reporting documentation and systems • relevant OHS policies, procedures and programs • relevant rules and regulations • standard operating procedures, work instructions and manuals • use of electronic job scheduling and communication devices.
Security systems may include:	• bonded storage • cages with locks • electronic surveillance equipment, including: • closed circuit television • infra-red beams • ultrasonic movement detectors • fencing • security guards • storage container padlocks.
Actions may include:	• activating environmental or security alarms, where appropriate • controlling or containing environmental hazards or security incidents according to workplace procedures • first response type • following approved safety procedures and using PPE as specified in workplace procedures • making safe unplugged or uncapped ODS and SGG containers, including: • replacing pins • using relevant sealant to seal leaking containers • monitoring and measuring, where needed, detected emissions or security incidents according to workplace procedures • monitoring status of the environmental hazards or security incidents and communicating with appropriate personnel on an ongoing basis • responding to requests for information according to workplace procedures.
Safety information and	• codes of practice

<i>procedures</i> may be contained in:	• legislation and regulations • management plans and rules • manufacturers' instructions • OHS policies and procedures • procedures and instructions to prevent the emission of ODS and SGG in the workplace • relevant Australian standards, such as AS 4360 Risk management • safe working or job procedures or equivalent standard operating procedures.
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Leak detection tests:	• must be performed according to relevant current Australian standards, organisational requirements and environmental regulations, such as ODS and SGG • may be performed using: • hand-held devices • leak test solutions • ultrasonic liquid level indicator devices • may be performed on: • container connections, valves and gauges • connecting pipework and valves.
Investigations may include:	• cooperating with internal and external regulatory bodies • identifying solutions and developing options for improvements • making verbal, written or electronic reports about emission hazards or security incidents.
Documentation may include:	• audit records and reports • Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances • corrective action reports • customer and supplier instructions • dangerous goods declarations • emergency procedures • equipment manufacturers' specifications • goods identification numbers and codes • incident reports • investigation reports • job cards • MSDS • quality assurance plans and procedures • record management system • service agreements • workplace procedures and policies.
Non-compliance may include:	• corrosion or damage to container, connections and pipework • disconnection of monitoring equipment or components • documentation signed by unauthorised personnel • incorrect or incomplete information or documentation • malfunctioning or faulty monitoring system equipment and components • missing documentation.

Unit Sector(s)

Fire protection equipment

Custom Content Section

Not applicable.