



Australian Government

Department of Education, Employment and Workplace Relations

PRMPFES44A Interpret installation requirements for gaseous fire suppression systems

Release: 1

PRMPFES44A Interpret installation requirements for gaseous fire suppression systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to read and interpret plans, drawings and specifications relevant to the installation of gaseous fire suppression systems. The unit covers the skills and knowledge to identify different plans and drawings and their functions, recognise commonly used symbols and abbreviations, identify key features and specifications on design documentation and installation drawings, read written job specifications and recognise document status and amendment details.

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

Prerequisite unit

The unit of competency PRMPFES43A *Prevent ozone depleting substance and synthetic greenhouse gas emissions* must be assessed prior to this unit.

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
1 Interpret and comply with design requirements and Australian standards relating to gaseous fire suppression system designs.	1.1 Apply knowledge and understanding of system design requirements and Australian standards relating to interpretation of installation drawings for gaseous fire suppression systems. 1.2 Identify potential and actual breaches of system design requirements and Australian standards, and take action according to organisational requirements.
2 Identify types of drawings and their functions.	2.1 Identify main types of drawings used in the fire protection industry. 2.2 Identify key functions of each drawing type. 2.3 Identify key users of each drawing type. 2.4 Recognise and adhere to company quality requirements.
3 Recognise commonly used symbols, abbreviations and amendments.	3.1 Identify commonly used fire protection symbols and abbreviations. 3.2 Locate legend and correctly interpret symbols and abbreviations. 3.3 Check and verify latest amendments to drawing. 3.4 Check amendments to specifications and ensure currency of information. 3.5 Verify drawing used is the latest amendment.
4 Locate and identify key features on a site installation drawing.	4.1 Orientate installation drawing with site. 4.2 Identify and locate key features of installation site. 4.3 Access installation site and identify main installation features and services. 4.4 Identify site measurements on installation drawing and check against the site.
5 Read and interpret job specifications.	5.1 Identify job specifications from design documentation, installation drawings, notes and descriptions. 5.2 Identify purpose of job specifications. 5.3 Identify standards of work, finishes and tolerances from the design documentation, installation drawings and specifications. 5.4 Identify material attributes from job specifications and drawings.

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:

- read and interpret standards, installation plans, drawings and specifications
- check installation drawing measurements and calculations against actual site values
- use measurement tools accurately
- report and record information neatly and legibly when completing documentation
- plan and organise work in order to estimate time to complete activities and prioritise tasks
- use effective customer service skills and relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities
- work effectively and safely with others
- apply language, literacy and numeracy skills to:
 - communicate with others in a clear and concise manner in verbal, non-verbal and written modes
 - read, understand and comply with work instructions and specifications
 - read, understand and record measurements.

Required knowledge:

- location and application of relevant information, standards and specifications
- site safety plan, occupational health and safety (OHS) regulations, ozone depleting substance (ODS) and synthetic greenhouse gas (SGG) regulations (where required), and state and territory legislation applicable to workplace operations
- organisational policies and procedures, including quality requirements
- methods used to convert units of measurement
- 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 and confirm customer requirements in a clearly structured and defined manner. Complete administrative documentation accurately and clearly.	1

Key competency	Example of application	Performance level
How can information be collected, analysed and organised?	Gather information from a number of sources, including regulatory, manufacturer and organisational sources, ensuring that all work falls within installation technician's scope of responsibility. Collect information from customer so that accurate interpretation, inspection and checking activities occur.	2
How are activities planned and organised?	Organise and assemble installation drawings and appropriate tools on site. View, interpret and confirm installation drawings that meet customer and organisational requirements.	2
How is teamwork used?	Apply consultative and collaborative approaches through support and assistance provided to customers and work groups.	1
How are mathematical ideas and techniques used?	Apply mathematical techniques to installation drawings through interpretation, inspection, checking and calculation activities. Apply time management principles while adhering to designated work schedules.	2
How are problem-solving skills applied?	Identify potential problems throughout interpretation, inspection and checking activities, especially with regard to, ambiguous information received from information sources. Identify due processes to follow where installation drawing requirements cannot be confirmed.	1
How is the use of technology applied?	Use, organise, record and present information using available technology.	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 | <ul style="list-style-type: none">• Competency in this unit will underpin competency in other aspects of the candidate's role in managing their work tasks.• This unit could be assessed on its own or in combination with other units of competency relevant to the job function. |
| Critical aspects for assessment and evidence required to demonstrate competency in this unit | <ul style="list-style-type: none">• A person who demonstrates competency in this unit must be able to provide evidence of:<ul style="list-style-type: none">• 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 two different projects, reading and interpreting installation drawings, including:<ul style="list-style-type: none">• confirming amendment status and drawings• orientation of drawings to the ground• identifying six key features on a drawing and the actual features at the work site• confirming six items of information from the title block of the installation drawings• six construction dimensions, levels and locations from the installation drawings• six ancillary works dimensions, levels and locations from the installation drawings• two formal specifications, identification of the dimensions, material requirements and processes to be followed. |
| Specific resources for assessment | <ul style="list-style-type: none">• Resource implications for assessment include access to:<ul style="list-style-type: none">• actual or simulated work environment• a range of design documentation, installation drawings, and other related drawings and specifications• assessment documentation, including training and assessment record books• all necessary tools and specialist equipment• relevant manuals and other documentation, |

including Australian standards.

- 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.

Context of assessment

- 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 over the full range of performance criteria may be made through practical demonstrations in the workshop environment. Consideration should be given to assessing consistency of outcome over an appropriate period of time.
- Candidates should also be given the opportunity to practise and undertake self-assessment of performance before requesting formal assessment.
- All safety requirements must be adhered to during all practical activities.
- Oral questioning or a written assessment may be used to assess underpinning knowledge. (In assessment situations, where the candidate is offered a preference between oral questioning and written assessment, questions are to be identical.)
- Assessment of evidence should establish the candidate's ability to perform the job to the standard required in the workplace.
- Supplementary evidence may be obtained from relevant authenticated correspondence or reports from supervisors or team leaders that demonstrate an understanding of both design documentation and installation drawings.

Note: The candidate should be encouraged to compile a portfolio of examples of completed documentation relevant to candidate's organisation. One accurate example of each completed document is suggested as sufficient to

infer competency and ability to transfer appropriate skills to each document type when required in the workplace. (Oral questioning may contribute as evidence of this ability.)

- 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 the required maintenance procedure
 - environmental regulations
 - manufacturer specifications
 - organisational requirements, including policies and procedures relating to ODS, SGG and OHS
 - OHS legislation, codes and regulations
 - ODS and SGG 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.

System design requirements • room volume

may include:

- hazard level of room contents
- need to check the accuracy of drawing dimensions against the 'as built' environment
- coordination of system equipment location with location of other services, such as water or gas pipes.

Installation drawings may include:

- title panel
- amendments
- legend
- orientation
- key features of installation site
- installation site measurements
- isometrics
- isometric drawings
- references to secondary documentation, such as calculations
- notes and descriptions
- standards of work, finishes and tolerances
- material attributes.

Potential and actual breaches could be identified by:

- direct observation
- workplace quality assurance teams.

Organisational requirements may include:

- legal and organisational policies and guidelines
- personnel practices and guidelines outlining work roles, responsibilities and delegations
- legislation relevant to installation operation
- OHS policies, procedures and programs
- insurance requirements
- procedures and work instructions to prevent emission of ODS and SGG in the workplace
- documentation and information systems and processes
- use of electronic job scheduling and communication devices.

Types of drawings may include:

- installation drawings
- site drawings
- elevation drawings
- sectional drawings and elevations
- detail and specification drawings providing illustrations and dimensions.

Key functions of each drawing type may include:

- general layout of equipment
- details of hazard, including:
 - dimensions
 - volumes
 - number of exits
- location of key equipment, including:
 - cylinders
 - nozzles

- pipework
 - Local Control Station
 - details of key equipment:
 - cylinder fill and size
 - nozzle size and orifice
 - type of actuator
 - manufacturers' type.
- Key users of each drawing type** may include:
- installation technician
 - fire system designer
 - fire engineer
 - site manager
 - project manager
 - insurers
 - team leaders or supervisors
 - colleagues
 - customers and their employees
 - various trade personnel.
- Quality requirements** may include:
- relevant regulations, including Australian standards
 - internal company quality policies and standards
 - workplace operations and procedures
 - manufacturer specifications, where specified.
- Fire protection symbols and abbreviations** may include:
- as described in SAA HB 20, *Graphical symbols for fire protection drawings* - chapters 4, 8 and 9.
- Orientate installation drawing** may include:
- relationship to north
 - currency of drawing
 - relationship between drawing and site.
- Key features of installation site** may include:
- site shape and orientation
 - proposed buildings
 - roads
 - railways
 - easements
 - existing buildings and structures
 - services
 - dimensions
 - geographical features
 - powerlines and transmission lines
 - heritage and cultural features
 - service layouts
 - type of structure:
 - shape of structure or building

- service requirements and layouts
- location of plant and equipment
- vertical and horizontal measurements
- clearance distance
- geological features.

Unit Sector(s)

Sector

Fire Protection Equipment

Competency field

Competency field

Asset Maintenance