Australian Government

Department of Education, Employment and Workplace Relations

CPPFES3044A Interpret installation requirements for gaseous fire-suppression systems

Release: 1

CPPFES3044A Interpret installation requirements for gaseous fire-suppression systems

Modification History

Revised unit
Unit updated and equivalent to PRMPFES44A Interpret installation requirements for gaseous fire suppression systems

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 required to identify plans and drawings and their functions, recognise commonly used symbols and abbreviations, identify key features and specifications on design documentation and installation drawings, read job specifications and recognise document status and amendment details.
The unit supports one or more extinguishing agent handling licences prescribed under the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989.

Application of the Unit

This unit of competency supports fire protection technicians responsible for interpreting installation requirements for gaseous fire-suppression systems.

Licensing/Regulatory Information

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

1	Interpret installation drawings and check compliance.	1.1	Knowledge of ***system design requirements*** and Australian standards is applied to interpretation of ***installation drawings*** for gaseous fire-suppression systems.
		1.2	Potential and actual breaches of system design requirements and Australian standards are identified and ***action*** is taken according to ***organisational requirements***.
2	Identify types of drawings and their functions.	2.1	Main ***types of drawings*** used in fire protection industry are identified.
		2.2	***Key functions of each drawing type*** are identified.
		2.3	***Key users of each drawing type*** are identified.
		2.4	Company ***quality requirements*** are identified and followed.
3	Recognise commonly used symbols, abbreviations and amendments.	3.1	Commonly used ***fire protection symbols and abbreviations*** are identified.
		3.2	Drawing legend is located and symbols and abbreviations are interpreted.
		3.3	Amendments to drawings are checked and verified.
		3.4	Amendments to specifications and currency of information are checked.
		3.5	Drawing is checked and verified as latest amendment.

4	Locate and identify key features on a site installation drawing.	4.1	***Installation drawing is oriented*** with site.
		4.2	***Key features of installation site*** are identified and located.
		4.3	Installation site is accessed and main installation features and services are identified.
		4.4	Site measurements are identified on installation drawing and checked against site.
5	Read and interpret job specifications.	5.1	Job specifications are identified from design documentation, installation drawings, notes and descriptions.
		5.2	Purpose of job specifications is identified.
		5.3	Standards of work, finishes and tolerances are identified from design documentation, installation drawings and specifications.
		5.4	Material attributes are identified from job specifications and drawings.

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 standards, installation plans, drawings and specifications
  - read and record measurements
  - record and report information neatly and legibly
  - understand and comply with work instructions and specifications
- interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds
- planning and organising skills to:
  - estimate time to complete activities
  - prioritise tasks
- technical skills to:
  - check installation drawing measurements and calculations against actual site values
  - use measurement tools accurately
  - work effectively and safely with others

Required knowledge

- location and application of relevant information, standards and specifications, such as:
  - AS 4214 Gaseous fire extinguishing systems
  - ISO 14520 Gaseous fire-extinguishing systems – Physical properties and system design
- methods used to convert units of measurement
- occupational health and safety (OHS) regulations
- organisational policies and procedures, including quality requirements
- ozone depleting substance (ODS) and synthetic greenhouse gas (SGG) regulations, where required
- relevant federal, state or territory legislation that affects organisational operations, including:
  - anti-discrimination and diversity
  - equal employment opportunity
- site safety plan
- state and territory legislation applicable to workplace operations

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 verbal questioning relating to the interpretation of installation drawings and work specifications for two different gaseous fire-suppression system installation projects.

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:
	• locate, interpret and apply relevant information, standards and specifications
	• comply with site safety plan, OHS regulations 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
	• read and interpret installation drawings in two different projects, including:
	  • confirming amendment status and currency of drawings
	  • confirming 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
	  • identifying six construction dimensions, levels and locations from the installation drawings
	  • identifying six ancillary works dimensions, levels and locations from the installation drawings
	• read and interpret two formal specifications, including:
	  • identifying dimensions
	  • material requirements and processes to be followed.

Context of and specific resources for assessment	Assessment of essential underpinning knowledge may be conducted 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 • necessary tools and specialist equipment • range of design documentation, installation drawings, and other related drawings and specifications • relevant manuals and other documentation, including Australian standards.

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.

System design requirements may include:	• coordination of system equipment location with location of other services, such as water or gas pipes • hazard level of room contents • need to check the accuracy of drawing dimensions against the ‘as built’ environment • room volume.
Installation drawings may include:	• amendments • installation site measurements • isometric drawings • isometrics • key features of installation site • legends • material attributes

	• notes and descriptions • orientations • references to secondary documentation, such as calculations • standards of work, finishes and tolerances • title panels.

Action may include:	• advising customer • documenting non-compliance • making equipment safe • reporting, as required.
Organisational requirements may include:	• documentation and information systems and processes • insurance requirements • legal and organisational policies and guidelines, including personnel practices and guidelines outlining work roles, responsibilities and delegations • legislation relevant to installation operation • OHS policies, procedures and programs • procedures and work instructions to prevent emission of ODS and SGG in the workplace • use of electronic job scheduling and communication devices.
Types of drawings may include:	• detail and specification drawings providing illustrations and dimensions • elevation drawings • installation drawings • sectional drawings and elevations • site drawings.

Key functions of each drawing type may include:	• details of hazard, including:
	  • dimensions
	  • number of exits
	  • volumes
	• details of key equipment, such as:
	  • container fill and size
	  • manufacturers' type
	  • nozzle size and orifice
	  • type of actuator
	• general layout of equipment
	• location of key equipment, including:
	  • containers
	  • local control station
	  • nozzles
	  • pipework.

Key users of each drawing type may include:	• colleagues • customers and their employees • fire engineers • fire system designers • installation technicians • insurers

	• project managers • site managers • team leaders and supervisors • various trade personnel.

Quality requirements may include:	• internal company quality policies and standards
	• manufacturers' specifications, where specified
	• relevant regulations, including Australian standards, such as:
	  • AS 4214 Gaseous fire extinguishing systems
	  • ISO 14520 Gaseous fire-extinguishing systems – Physical properties and system design
	• workplace operations and procedures.

Fire protection symbols and abbreviations:	• are those described in SAA HB 20 Graphical symbols for fire protection drawings.
Orienting installation drawing may include:	• currency of drawing • relationship between drawing and site • relationship to north.
Key features of installation site may include:	• clearance distance • dimensions • easements • existing buildings and structures • geographical features • geological features • heritage and cultural features • location of plant and equipment • powerlines and transmission lines • proposed buildings • railways • roads • service layouts and requirements • services • shape of structure or building • site shape and orientation • type of structure • vertical and horizontal measurements.

Unit Sector(s)

Fire protection equipment

Custom Content Section

Not applicable.