

Title	Demonstrate knowledge of special hazards and non-standard fixed fire protection systems		
Level	4	Credits	6

Purpose	<p>This unit standard is for personnel in the fire protection industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of special hazards fixed fire protection systems and non-standard fixed fire protection systems.</p>
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Classification	Mechanical Engineering > Fixed Fire Protection Systems
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Available grade	Achieved
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Explanatory notes

- References

Building Act 2004
 Ministry of Business, Innovation and Employment (MBIE) *Acceptable Solutions (AS) and Verification Methods (VM)*. Available at <http://www.dbh.govt.nz/AS/VM-documents>
 AS 4214:2006, *Gaseous fire extinguishing systems*
 AS 4587:2003, *Water mist fire protection systems – System design, installation and commissioning*
 NFPA 12:2011, *Carbon dioxide extinguishing systems*
 NFPA 15:2012, *Water spray fixed systems for fire protection*
 NFPA 16:2011, *Installation of foam-water sprinkler and foam-water spray systems*
 NFPA 17:2013, *Dry chemical extinguishing systems*
 NFPA 17A:2013, *Wet chemical extinguishing systems*
 NFPA 750:2010, *Water mist fire protection systems*
 NFPA 2001:2012, *Clean agent fire extinguishing systems*.
 NZS 4541:2013, *Automatic fire sprinkler systems*
- Definitions

Fixed fire protection system refers to engineered sets of components that work together to detect fires, alert occupants, and extinguish fires, and may include fixed or automatic systems, such as those described by the standards listed in the references, used for controlling or putting out fires.

Non-standard fixed fire protection systems are those systems that have features that do not meet all the requirements of NZS 4541:2013, but that do however meet the specific fire problems for which they are designed.

Special hazards fixed fire protection systems refer to systems designed and installed to AS 4214:2006, AS 4587:2002, NFPA 12:2011, NFPA 15:2012, NFPA 16:2011, NFPA 17:2013, NFPA 17A:2013, NFPA 750:2010, or NFPA 2001:2012 standards. They may

include but are not limited to: carbon, inert gas; dry chemical; wet chemical; foam, foam-water, water mist; and explosion suppression types of systems.

Standards refer to AS 4214:2006, AS 4587:2002, NFPA 12:2011, NFPA 15:2012, NFPA 16:2011, NFPA 17:2013, NFPA 17A:2013, NFPA 750:2010, and NFPA 2001:2012.

Systems documentation refers to the documentation required to be maintained by the relevant special hazards fixed fire protection system standards, including log book, test reports, equipment details and drawings, specifications, contract agreement, additions and alterations, fire reports, building consents standards, codes of practice, installation instructions, test and commissioning procedures, test and maintenance records.

3 Assessment

Use of standards listed in the references by candidates during assessment is encouraged.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of special hazards fixed fire protection systems.

Evidence requirements

- 1.1 The principles of operation of special hazards fixed fire protection systems are identified and explained with reference to components in accordance with relevant standards.
- Range system type – water based, chemical, clean agent gas flood systems;
system components – extinguishant, extinguishant containers, control valves, isolating valves, pipe work, outlets, fixings, seismic restraints.
- 1.2 Commissioning procedures for a typical system are outlined with reference to systems documentation.
- 1.3 General safety requirements for the installation of special hazards fixed fire protection systems are identified in accordance with systems documentation.
- 1.4 Certification procedures applicable to special hazards fixed fire protection systems are identified in accordance with the relevant standards.

Outcome 2

Demonstrate knowledge of non-standard fixed fire protection systems.

Evidence requirements

- 2.1 The principles of operation of non-standard fixed fire protection systems are identified and explained with reference to components in accordance with relevant standards.

- 2.2 Commissioning procedures for a typical system are outlined with reference to systems documentation.
- 2.3 General safety requirements for the installation of non-standard fixed fire protection systems are identified in accordance with systems documentation.
- 2.4 Certification procedures applicable to non-standard fixed fire protection systems are identified in accordance with the relevant standards.

Planned review date	31 December 2020
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	31 December 2000	31 December 2017
Revision	2	17 May 2001	31 December 2017
Review	3	26 March 2007	31 December 2017
Review	4	15 October 2015	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact Competenz at qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.