

Title	Demonstrate knowledge of maintenance, testing, inspections, and surveys of special hazards fixed fire protection systems		
Level	4	Credits	7

Purpose	<p>This unit standard is for personnel in the fire protection industry and covers the knowledge of routine tests, maintenance, and surveys of special hazards fixed fire protection systems.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of:</p> <ul style="list-style-type: none"> • general requirements for maintaining special hazards fixed fire protection systems in compliance and good working order; • routine tests, maintenance, and inspection of fixed fire protection systems; • routine surveys for fixed fire protection systems; <p>and describe:</p> <ul style="list-style-type: none"> • the process required to reinstate systems to be operational on completion of maintenance, testing, inspections, and surveys for fixed fire protection systems; • the documentation required for reporting after routine tests, maintenance, and surveys of special hazards fixed fire protection systems and complete examples of each.
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Classification	Mechanical Engineering > Fixed Fire Protection Systems
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:
 Building Act 2004,
 Building (Forms) Regulations 2004,
 Ministry of Business, Innovation and Employment (MBIE) *Acceptable Solutions (AS) and Verification Methods (VM)*,
 MBIE New Zealand Building Code Handbook,
 AS 1851:2012, *Routine service of fire protection systems and equipment*,
 AS 4214:2018, *Gaseous fire extinguishing systems*,
 AS 4587:2020, *Water mist fire protection systems - System design, installation, and commissioning*,
 National Fire Protection Association, NFPA 15:2022, *Water spray fixed systems for fire protection*,
 NFPA 16:2019, *Installation of foam-water sprinkler and foam-water spray systems*,
 NFPA 17:2024, *Dry chemical extinguishing systems*,

NFPA 17A:2021, *Wet chemical extinguishing systems*,
NFPA 750:2023, *Water mist fire protection systems*,
NFPA 2001:2022, *Clean agent fire extinguishing system*.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

2 Definitions

Inspection refers to an organised examination of characteristics of fire protection systems against established standards.

Maintenance refers to the carrying out of preventive maintenance and repairs at specific intervals necessary to assure the continuing reliability of fire safety systems and equipment in accordance with relevant standards.

Special hazards fixed fire protection systems refer to systems designed and installed to AS 4214:2018, AS 4587:2020, NFPA 15:2022, NFPA 16:2019, NFPA 17:2024, NFPA 17A:2021, NFPA 750:2023, or NFPA 2001:2022 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 4214:2018, AS 4587:2020, NFPA 15:2022, NFPA 16:2019, NFPA 17:2024, NFPA 17A:2021, NFPA 750:2023, and NFPA 2001:2022.

Systems documentation refers to the documentation required to be maintained by the relevant special hazards fixed fire protection system standards, including logbook, 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.

Tests refer to the carrying out of operations, measurements, or functions to confirm correct function or performance of components and systems in accordance with the standards.

Workplace procedures refer to the documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, charging of time and materials, management of drawings and documentation, procedures to comply with legislative and local body requirements.

3 Assessment information

All activities must be done in accordance with applicable aspects of relevant standards, NZS 4541:2020, and applicable systems documentation, and workplace procedures.

4 Recommended skills and knowledge:

Unit 17732, *Demonstrate knowledge of special hazards and non-standard fixed fire protection systems*, or demonstrate equivalent knowledge and skills.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of general requirements for maintaining special hazards fixed fire protection systems in compliance and good working order.

Performance criteria

- 1.1 General requirements for maintaining systems in compliance and good working order are identified.
- 1.2 Relationship between system owner and maintainer is outlined.
- 1.3 Procedures to be followed in the event of defects discovered during testing are outlined.
- 1.4 Safety requirements for the systems are identified and referenced to the systems documentation.

Outcome 2

Demonstrate knowledge of routine tests, maintenance, and inspection of fixed fire protection systems.

Performance criteria

- 2.1 Routine tests, maintenance, and inspections are identified.
- 2.2 Routine tests, maintenance, and inspections are explained.

Outcome 3

Demonstrate knowledge of routine surveys for fixed fire protection systems.

Performance criteria

- 3.1 Surveys are identified.
- 3.2 Surveys are explained.

Outcome 4

Describe the process required to reinstate systems to be operational on completion of maintenance, testing, inspections, and surveys for fixed fire protection systems.

Performance criteria

- 4.1 Process for reinstatement of systems after completion of maintenance, testing, inspections, and surveys is described.

Outcome 5

Describe the documentation required for reporting after routine tests, maintenance, and surveys of special hazards fixed fire protection systems and complete examples of each.

Performance criteria

- 5.1 Documentation required by the relevant standards and by typical testing companies is described and examples of each are completed.

Planned review date	31 December 2029
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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
Review	2	26 March 2007	31 December 2017
Review	3	15 October 2015	31 December 2026
Review	4	27 June 2024	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>.

Comments on this unit standard

Please contact the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.