

<b>Title</b>	<b>Demonstrate knowledge of interconnected control and fire detection and alarm systems</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	<p>This unit standard is for personnel employed in the fire protection industry, and covers knowledge of interconnected control and fire detection and alarm systems.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: sprinkler systems interconnected with fire detection and alarm systems; and ancillary services interconnected with fire detection and alarm systems.</p>
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<b>Classification</b>	Mechanical Engineering > Fire Protection Systems Technology
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<b>Available grade</b>	Achieved
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**Explanatory notes**

- 1 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>
  - National Fire Protection Association 72:2013, *National Fire Alarm Code*<sup>®</sup> (NFPA 72)
  - New Zealand Building Code
  - AS/NZS 3000:2007, *Electrical installations* (known as the Australian/New Zealand Wiring Rules)
  - NZS 4512:2010, *Fire detection and alarm systems in buildings*
  - NZS 4541:2013, *Automatic fire sprinkler systems*
  - AS 1851:2012, *Routine service of fire protection systems and equipment*.
  
- 2 *Control systems* of other building features or ancillary services that are interconnected with fire detection and alarm systems in this unit standard include the control panels and wiring for: sprinkler systems, mechanical extraction systems, air-handling systems, and emergency power and lighting systems.
  
- 3 Definitions
  - Ancillary services* refer to a variety of operations beyond fire detection and alarm systems that are required to maintain a life-safety application such as air handling and mechanical extraction systems, emergency power and lighting systems, lifts and escalators, smoke and fire doors, smoke curtains, and access control.
  - Enterprise 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.

*Fire detection and alarm systems* refer to installations of apparatus, which perform specified fire related functions in response to the operation of a detector, manual call point, or other input. It includes manual call points, detectors, control and indication equipment, alerting devices, interconnections, fittings, labels, energy sources, and remote signalling devices.

*Systems documentation* refers to the documentation required to be maintained by NZS 4512:2010 and other relevant standards, including log book, test reports, equipment details and drawings, specifications, contract agreement, software configurations and versions, additions and alterations, fire reports, building consents standards, codes of practice, installation instructions, test and commissioning procedures, and test and maintenance records.

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## Outcomes and evidence requirements

### Outcome 1

Demonstrate knowledge of sprinkler systems interconnected with fire detection and alarm systems.

#### Evidence requirements

- 1.1 Reasons for sprinkler systems being interconnected with fire detection and alarm systems are described in accordance with systems documentation, NZS 4512:2010, NFPA 72, New Zealand Building Code, the fire report, and specifications for given systems.
- 1.2 Descriptions of the methods of interconnecting the two systems, including hand drawn sketches of the wiring systems, are provided.
- 1.3 Operational and safety requirements when testing interconnected systems are identified.
- 1.4 Routine tests and checks as required by a procedural document or plan are described in accordance with systems documentation, NZS 4512:2010, the AS/VM documents, and enterprise procedures.

### Outcome 2

Demonstrate knowledge of ancillary services interconnected with fire detection and alarm systems.

Range ancillary services include but are not limited to – air handling and mechanical extraction systems, emergency power and lighting systems, lifts and escalators, smoke and fire doors, smoke curtains, access control.

#### Evidence requirements

- 2.1 Reasons for ancillary services interconnected with a fire detection and alarm system are identified and described in accordance with systems documentation, NZS 4512:2010, NFPA 72; New Zealand Building Code Section, the fire report, and specifications for given systems.
- 2.2 Descriptions of the methods of interconnecting systems, including hand drawn sketches of the wiring systems, are provided.
- 2.3 Operational and safety requirements when testing interconnected systems are identified.
- 2.4 Routine tests and checks as required by a procedural document or plan are described in accordance with systems documentation, NZS 4512:2010, the AS/VM documents, and enterprise procedures.

<b>Planned review date</b>	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
Review	2	26 March 2007	31 December 2017
Revision	3	23 April 2008	31 December 2017
Review	4	15 October 2015	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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.

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**Comments on this unit standard**

Please contact Competenz at [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.