

# Guidance on Performance Standards for Specified Systems

The following provides guidance on performance standards required for specified systems and how these may be referenced on a building consent and compliance schedule. It is suggested to first read MBIE's Compliance Schedule Handbook to understand the wider framework and certain terms or references for compliance schedules and specified systems before reading this guidance.

A BCA is required to state performance standards for the specified systems that are required by the building code when issuing a building consent. Currently, this is displayed on AC1129 'List of approved specified systems included in the building consent' as an attachment to the building consent (Form 5). This describes what level of performance the specified systems will need to achieve before a code compliance certificate can be issued and for the life of the building as this is also contained on the buildings compliance schedule.

MBIE's Compliance Schedule Handbook describes a performance standard as:

*The term 'Performance standard' for a specified system is not defined by the Building Act. However, it can be interpreted as the level of performance a specified system was intended to meet, and to continue to meet, at the time it was designed and installed in a building.*

*The Building Act requires that a specified system must be inspected and maintained in order to ensure that it performs, and continues to perform, to that standard.*

*If a specified system is designed and installed to an Acceptable Solution, Verification Method, Standard or specific documentation, this will set the performance standard for that specified system. An example is the level required by NZS 4541 for sprinkler systems*

Specifying a performance standard is the role of the system designer. Often inspection and maintenance standards are confused with performance standards where many of the standards referenced in the 'Compliance Schedule Handbook' are misused as performance standards. Also, it appears many have just assumed a performance standard needs to be a referenced standard due to the word 'standard'. It does not need to be an actual standard i.e. NZSXXX as it should be thought of as the *level of performance* a specified system must achieve. The level of performance for a system could be a detailed reference to an acceptable solution, verification method, specific design or manufactures technical literature. Inspection maintenance and reporting procedures are what ensures a specified system will be able to achieve this level of performance for the life of a building.

There are only a small number of specified systems where standards holistically cover system performance, design, installation, certification and inspection & maintenance. These are referenced as acceptable solutions and can be used to describe both the performance standard and inspection maintenance & reporting procedures, such as:

- SS 1/1 Automatic sprinkler systems: NZS 4541:2013 Automatic Fire Sprinkler Systems.
- SS 2/1 Automatic or manual emergency warning systems for fire: NZS 4512:2010 Fire detection and alarm systems in buildings.
- SS 6 Riser mains: NZS 4510:2008 Fire hydrant systems for buildings.

A suitable level of design information is still required on these systems to determine the level of performance specially required for the system to a particular building i.e. for a sprinkler system; fire load (hazard classification) against available water supply would determine if booster pumps are required for building code compliance of the system.

There are also specified systems that have no referenced standard for either performance or inspection and maintenance procedures, where a specific design from the system designer is required to detail these requirements (although in the case below, clauses from fire design acceptable solutions could be referenced for performance level of a system).

- SS 3/2 Access controlled doors

This means that most specified systems will require performance standards to be detailed by the system designer along with more detailed inspection and maintenance requirements, which is not a simple exercise as it may depend on a number of factors of both building and system.

The level of performance a specified system must achieve should be part of the system's design documentation demonstrating building code compliance. There is no requirement under the Building Act for the applicant to declare a 'performance standard' on a building consent application form (Form 2), however, we believe that it is prudent to do so to achieve a more efficient consenting experience.

It will likely be difficult to locate a specified system's stated performance, but the examples below are where you will **NOT** find performance standards:

- Previous compliance schedule section of the building consent application form (AC2130) as this is only the inspection maintenance and reporting procedures.
- A PS1 or PS2 generically confirming compliance with a building code clause as it does not confirm the level of performance a specified system must achieve.
- Fire designs that generically reference acceptable solutions or other standards (aside from fire alarms, sprinkler systems and riser mains) as they are not detailed enough to confirm the level of performance a specified system must achieve. It is also noted that most (if not all) fire designs do not cover the design of the specified systems they require for building code compliance as it is generally not the fire engineer's role to undertake this detailed design work.
- General or tender specifications only noting the design and construction requirements of the systems.

This will require Lodgment Technical Coordinators to ensure building consent applications are made with enough information attached for specified system designs. It will also most likely require Project Assessors to request further information from the applicant for the system designers to provide information of what performance is required to achieve building code compliance for each specified system and more detailed inspection and maintenance procedures for the proposed system. While this could be done in several ways, a good way of capturing this information could be a 'design features report' by the system designer. It is also suggested that specific inspection and maintenance procedures are covered by this report to confirm any additional inspection or maintenance requirements that are not covered by standards that are generically referenced.

If specified systems are being designed to Acceptable Solutions or Verification Methods, the level of performance a system needs to achieve are typically contained in relevant sections or paragraphs of those documents. It is important the system designer provides this information so that they can be added to the attachment (AC1129) which will accompany your Form 5 Building Consent.

Care must be taken when referencing a performance standard where year, version of the document must be included along with relevant sections or paragraphs relating to the system's performance. As noted in the example below, referencing one part of a paragraph over another will change the level of performance required for a system. This way of referencing is also to ensure that the installed system is not required to be upgraded should the document be updated later.

In the event there is no document to reference (such as a standard or acceptable solution) for the level of performance a specified system must achieve, this will need to be detailed by the system designer to describe how the system is required to operate to ensure building code compliance.

## Example with SS4 Emergency lighting systems.

The following information is provided to give an example of what a performance standard may look like for a specified system and provides useful information at each stage of the consent application & approval, inspection and certification & compliance schedule compilation.

### Consent application and approval

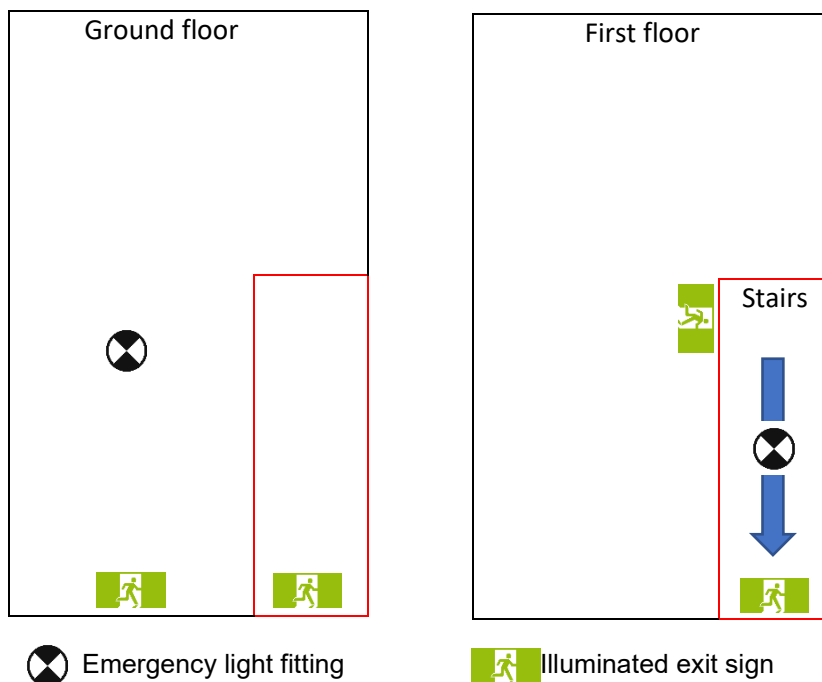
If an emergency lighting design is presented stating compliance with F6/AS1 then there is a requirement for:

- full technical justification of the design,
- the method of checking the illuminance of the completed design, and
- the method of checking ongoing compliance for the life of the building

The design should also cover the level of performance the system needs to achieve and reference this back to the relevant clauses of the acceptable solution used.

The method of checking ongoing compliance for the life of the building should be incorporated into the proposed inspection procedures to be included in the compliance schedule for the building.

For this example, we have a two-level office building where the first floor requires illuminated exit signs leading to a safe path stair where the stair requires emergency lighting. The ground floor requires both emergency lighting & illuminated exit signs to account for travel distances and final exits.



*Note: the above diagram is only a representation and is not intended to be an actual design compliant with F6/AS1*

The design standard of the system would be: *AS 2293.1:1995 Emergency evacuation lighting for buildings System design, installation and operation*. This design standard cannot be used as a performance standard as the wording in *AS 2293.1:1995* refers to *NZBC F6* for performance of emergency lighting, such as duration.

The standard for the designer to reference for inspection maintenance and reporting procedures would be: *AS/NZS 2293.2:1995 Emergency evacuation lighting for buildings – Part 2: Inspection and maintenance*. This standard cannot be used as a performance standard as it does not relate to performance of a system but inspection and maintenance of an installed system.

In this case the performance standard may be: *Acceptable Solution F6/AS1 (Amendment 4, 1 January 2017) Clauses 1.3.1, 1.5.1 (b-c) & 1.6.1(c)*.

The above referencing would cover illuminance (including 1 Lux to stairs), startup & light output requirements and duration (30 minutes) for this building, which are all how the system needs to perform. If you refer to these

paragraphs in F6/AS1 you will see that a different building would require distinct referencing as the performance requirements would differ i.e. a tall building would likely need to perform to 1.6.1(b)(ii) for a duration of 90 minutes. This will result in making a compliance schedule using this referencing 'site specific' as the stated performance requirements can be verified by using the referenced acceptable solution.

It is vitally important the AC1129 document carries appropriate performance standards as these must also appear on the building's compliance schedule and can only be changed by amending the building consent if not correct. As noted before council are not the designers so cannot apply a different performance standard to an issued consent without the applicant amending their building consent. Below is an example of how the AC1129 form may be completed to display this information (note: formatting of form may differ from example below)

Specified System & Performance Standard (Performance standard required if new or altered)		Inspection, maintenance & reporting procedures (Tick relevant-standard)	Existing system No change	New	Altered	Removed
4	Emergency lighting systems	<input checked="" type="checkbox"/> AS/NZS 2293.2:1995 <input type="checkbox"/> NZS 6104:1981 <input type="checkbox"/> .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Performance Standard: Acceptable Solution F6/AS1 (Amendment 4: 1 January 2017) Clauses 1.3.1, 1.5.1 (b-c) & 1.6.1(c).					

Documentation to confirm the installation of the system meets the approved design would be detailed on AC1174 *Schedule of inspections and documentation required for compliance*, where due to the lower complexity of the building and design in the example above, the documents noted below may be appropriate:

- Producer Statement Construction (PS3) for the Emergency Lighting from the electrical contractor confirming compliance with the consented design & NZBC F6
- Duration test results for each emergency light fitting from the electrical contractor
- As Built plan including model of systems installed

### Inspection

At a final inspection it would be expected for the emergency lighting system to be placed on test so the field surveyor can generally witness operation of the system. The field surveyor can also take the opportunity to view the warning labels (required by AS 2293.1:1995) to test switches and confirm the light fittings are the same type as those detailed on the emergency lighting design and in the same location.

### Certification & compliance schedule compilation

Based on the above, the applicant should have enough information on the issued building consent to understand what level of documentation to supply with the CCC application.

For certification of the completed system, CCC Assessors refer to AC1174 to establish the documentation required and ensuring this is completed accurately by the installer/ certifier to confirm that the specified system is capable of performing to the performance standards set out in the building consent. CCC Assessors will also be referring to AC1129, the approved plans and certification information to compile a site-specific compliance schedule for each specified system.

If there is a previously issued building consent that does not contain appropriate performance standards, an administrative amendment to the consent is required through the request for further information process at CCC

stage to amend this before the CCC can be processed and compliance schedule issued correctly. As a CCC contains a statement that the 'specified systems are capable of performing to the performance standards set out in the building consent' we first need to establish the performance standards to compare against the certification documentation supplied.

When performance standards are correct on the issued building consent, it should only be a matter of copying the information from the AC1129 to the compliance schedule and adding information relating to make and location of the system together with any additional system specific inspection procedure requirements provided at consent stage.

Below is an example of how this may be displayed on a compliance schedule using the example above:

<b>Specified System</b>	<b>Emergency lighting systems</b>
<b>Description:</b>	<b>SS 4 Emergency lighting systems</b>
<b>Type</b>	Non maintained LED Emergency Exit Signs & Recessed LED Emergency Satellites
<b>Make/Model:</b>	Legrad G2 LED Slide Connect & Legrad 685102LI
<b>Location</b>	Exit signs on exit doors to both levels, Emergency Satellites to ground floor and safe path stairs (refer emergency plans recorded on building consent BCO10234567)
<b>Performance Standard:</b>	Acceptable Solution F6/AS1 (Amendment 4: 1 January 2017) Clauses 1.3.1, 1.5.1 (b-c) & 1.6.1(c).
<b>Inspections Procedure:</b>	In accordance with AS/NZS 2293.2:1995 Emergency evacuation lighting for buildings – Part 2: Inspection and maintenance  Six Monthly by competent and qualified personnel Annual inspections by Independent Qualified Persons (IQP)
<b>Interface testing</b>	The emergency lighting system is not interfaced with any other specified system.
<b>Maintenance Procedure:</b>	Planned preventative maintenance and responsive maintenance should be carried out in accordance with  AS/NZS 2293.2:1995 Emergency evacuation lighting for buildings – Part 2: Inspection and maintenance  By competent and qualified personnel
<b>Reporting:</b>	All (Hard/Soft Copy) records must be kept and maintained confirming inspections and maintenance, as applicable to this Specified System, have been carried out by the individuals responsible for inspecting and maintaining the systems or features (including but not limited to Owners, Service Technicians and Independent Qualified Persons) for a period of 2 years.

## Appendix A: Possible performance standards & inspection maintenance and reporting procedures

The following section provides helpful information on possible performance standards for each specified system. It is only intended to highlight where there may be information in acceptable solutions or standards for use as a performance standard or where it is believed the system designer is required to provide specific and detailed information on the level of performance a system needs to achieve. If paragraphs from acceptable solutions are noted, they are referenced below generically and should not be applied in this manner (refer above example on emergency lighting for information on referencing and why this matters). It is very important to check any standard or acceptable solution to ensure the paragraphs and sections are appropriate for the design (*Do not copy and paste examples below to any building consent or CCC application*). If the design was to a previous version of an acceptable solution or document noted below you will need to check that specific version to ensure the paragraphs and sections relate to performance (*Do not copy and paste examples below to any building consent or CCC application*) Please note that the examples below are only one possibility (typically the most common) where other standards or specific design can be provided for any system. Also, standards and acceptable solutions are routinely updated or amended so information below may be out of date relatively quickly so *do not copy and paste examples below to any building consent or CCC application*.

Separate information is provided on possible inspection, maintenance, and reporting (IMR) procedures, it is required that specific (IMR) procedures are supplied with the plans and specifications with the consent application. If a standard could form the *basis* for inspection and maintenance, there should still be detailed information from the applicant on how it is proposed to inspect and maintain the system and by whom (as the standard may not hold all relevant information for simple referencing). The Compliance Schedule Handbook holds further guidance information on Inspection and Maintenance procedures.

<b>Specified System</b>	<b>SS 1/1 Automatic sprinkler systems</b>
<b>Possible Performance Standard</b>	NZS 4541:2013 Automatic Fire Sprinkler Systems
<b>Possible IMR procedures</b>	Part 12 of NZS 4541:2013 Automatic Fire Sprinkler Systems
<b>Specified System</b>	<b>SS1/2 Automatic fire suppression systems (gas and foam flood systems)</b>
<b>Possible Performance Standard</b>	Specific design required detailing level of performance (dependent on type of system being proposed)
<b>Possible IMR procedures</b>	Section 7 of AS 1851: 2012 could be used as the basis for inspection maintenance and reporting procedures for gas suppression systems  NFPA 16 2011 could be used for the basis for inspection, maintenance and reporting procedures of foam systems
<b>Specified System</b>	<b>SS 2/1 Automatic or manual emergency warning systems for fire</b>
<b>Possible Performance Standard</b>	NZS 4512:2010 Fire detection and alarm systems in buildings.
<b>Possible IMR procedures</b>	Part 6 of NZS 4512:2010 Fire detection and alarm systems in buildings.

<b>Specified System</b>	<b>SS 2/2 Automatic or manual emergency warning systems for other dangers</b>
<b>Possible Performance Standard</b>	Specific design required detailing level of performance (dependent on type of hazardous substance and system being installed)
<b>Possible IMR procedures</b>	Specific inspection, maintenance and reporting procedures would be required from the designer as likely dependent on manufactures maintenance requirements for system proposed
<b>Specified System</b>	<b>SS 3/1 Automatic doors</b>
<b>Possible performance standard</b>	For automatic sliding doors: Section 5 of NZS 4239:1993 Automatic sliding door assemblies  For revolving doors: Section 5 of AS 4290:2000 Design and installation of revolving doors  For powered opening doors: AS 5007:2007 Powered doors for pedestrian access and egress
<b>Possible IMR procedures</b>	Specific inspection, maintenance and reporting procedures would be required from the designer as may dependent on manufactures maintenance requirements for system proposed (reference to standards noted above for each type of door could form the basis of inspection requirements).
<b>Specified System</b>	<b>3/2 Access controlled doors</b>
<b>Possible performance standard</b>	Specific design required detailing level of performance  Could reference C/AS2 - Acceptable Solution for Buildings other than Risk Group SH, First edition 2019 (Paragraphs 3.15.2 & 3.15.7)
<b>Possible IMR procedures</b>	Specific inspection, maintenance and reporting procedures would be required from the designer as dependent on type of system installed
<b>Specified System</b>	<b>SS 3/3 Interfaced fire or smoke doors or windows</b>
<b>Possible performance standard</b>	Specific design required detailing level of performance  For door hold open devises: C/AS2 - Acceptable Solution for Buildings other than Risk Group SH (effective 27 June 2019)   First edition 2019 (Paragraphs 3.15.9 & 3.15.10)
<b>Possible IMR procedures</b>	AS 4178:1994 Electromagnetic door holders could be used as the basis for inspection maintenance and reporting procedures for door hold open devices  BS 7273-4:2007 Code of practice for the operation of fire protection measures – Part 4: Actuation of release mechanisms for doors could be used as the basis for inspection maintenance and reporting procedures for door hold open devices
<b>Specified System</b>	<b>SS 4 Emergency lighting systems</b>
<b>Possible performance standard</b>	Acceptable Solution F6/AS1 (Amendment 4: 1 January 2017) (Paragraphs 1.3.1, 1.5.1 & 1.6.1)
<b>Possible IMR procedures</b>	AS/NZS 2293.2:1995 Emergency evacuation lighting for buildings – Part 2: Inspection and maintenance

<b>Specified System</b>	<b>SS 5 Escape route pressurisation systems</b>
<b>Possible performance standard</b>	AS/NZS 1668.1:2015 The use of ventilation and air-conditioning in buildings Part 1: Fire and smoke control in multi- compartment buildings (Paragraph 8.3)
<b>Possible IMR procedures</b>	Specific inspection, maintenance and reporting procedures would be required from the designer where <i>AS1851.6:2012 Routine service of fire protection systems and equipment</i> could be used for the basis for inspection, maintenance and reporting procedures
<b>Specified System</b>	<b>SS 6 Riser mains</b>
<b>Possible performance standard</b>	NZS 4510:2008 Fire hydrant systems for buildings
<b>Possible IMR procedures</b>	NZS 4510:2008 Fire hydrant systems for buildings (Section 9)
<b>Specified System</b>	<b>SS 7 Automatic back-flow preventers</b>
<b>Possible performance standard</b>	Acceptable Solution G12/AS1 (Amendment 12, 27 June 2019) (Paragraphs 3.1,3.2 & 3.3) AS/NZS 2845.1:2010 Water supply - Backflow prevention devices - Part 1: Materials, design and performance requirements
<b>Possible IMR procedures</b>	For reduced pressure zone devices, double check valves and pressure vacuum breakers: AS 2845.3:2010 Water supply backflow prevention devices - Part 3: Field Testing and Maintenance of Testable Devices For Atmospheric vacuum breaker devices: Acceptable Solution G12/AS1 (Amendment 12, 27 June 2019) Paragraph 3.7.3
<b>Specified System</b>	<b>SS 8/1 Passenger carrying lifts</b>
<b>Possible performance standard</b>	NZS 4332:1997 Non-domestic passenger and goods lifts EN 81-20: 2014 Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Passenger and goods passenger lifts NZS 4334:2012 Platform lifts and low-speed lifts
<b>Possible IMR procedures</b>	<i>Specific inspection and maintenance checklists should be supplied to cover the lift</i> NZS 4332:1997 Non-domestic passenger and goods lifts EN 81-20: 2014 Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Passenger and goods passenger lifts NZS 4334:2012 Platform lifts and low-speed lifts Schindler Expert Plus Methodology E 2 Plus Checklist - MRL (J 42500001)
<b>Specified System</b>	<b>SS 8/2 Platform, low-speed and service lifts</b>
<b>Possible performance standard</b>	NZS 4332:1997 Non-domestic passenger and goods lifts EN 81-28: 2003 Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Remote alarm on passenger and goods passenger lifts



	NZS 4334:2012 Platform lifts and low-speed lifts
<b>Possible IMR procedures</b>	<p><i>Specific inspection and maintenance checklists should be supplied to cover the lift</i></p> <p>NZS 4332:1997 Non-domestic passenger and goods lifts</p> <p>EN 81-28: 2003 Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Remote alarm on passenger and goods passenger lifts</p> <p>BS EN 81-1:1998 Safety rules for the construction and installation of lifts - Part 1: Electric lifts</p>
<b>Specified System</b>	<b>SS 8/3 Escalators and moving walks</b>
<b>Possible performance standard</b>	EN 115-1:2008 Safety of Escalators and Moving Walks – Construction and Installation.
<b>Possible IMR procedures</b>	<p><i>Specific inspection and maintenance checklists should be supplied to cover the inspection and maintenance for the Escalators or Moving Walk</i></p> <p>EN 115-1:2008 Safety of Escalators and Moving Walks – Construction and Installation.</p>
<b>Specified System</b>	<b>SS 9 Mechanical ventilation or air conditioning systems</b>
<b>Possible performance standard</b>	<p>For air supply performance: NZS 4303:1990 Ventilation for acceptable indoor air quality</p> <p>For car parks, extract systems: AS 1668.2:2002 The use of ventilation and air-conditioning in buildings – Part 2: Mechanical ventilation in buildings</p> <p>For Fire Dampers Section 3 of AS/NZS 1668.1:2015 The use of ventilation and air-conditioning in buildings Part 1: Fire and smoke control in multi- compartment buildings</p> <p>For mechanical shutdown Section 6 (for Kitchen Hoods) Section 7 (for Mechanical Ventilation) of AS/NZS 1668.1:2015 The use of ventilation and air-conditioning in buildings Part 1: Fire and smoke control in multi- compartment buildings</p> <p>For spray booths: AS/NZS 4114.1:2003 Spray painting booths, designated spray-painting areas and paint mixing rooms – Part 1: Design, construction and testing</p>
<b>Possible IMR procedures</b>	<p><i>Operational and Maintenance Manuals should be supplied covering inspection and maintenance which could include the following standards:</i></p> <p>AS/NZS 3666.2:2011 Air-handling and Water Systems of Buildings - Microbial Control Part 2: Operation and maintenance</p> <p>If system has mechanical shut down on activation of fire alarm or any fire and smoke dampers: Section 13 of AS1851:2012 Routine service of fire protection systems and equipment could be used for the basis for inspection, maintenance and reporting procedures</p> <p>AS/NZS 4114.2:2003 – Spray painting booths, designated spray-painting areas and paint mixing rooms – Part 2: Installation and maintenance</p>
<b>Specified System</b>	<b>SS 10 Building maintenance units</b>

<b>Possible performance standard</b>	For suspended access equipment: BS 6037-1:2017 Planning, design, installation and use of permanently installed access equipment. Code of practice. Suspended access equipment  For travelling ladders and gantries: BS 6037-2:2004 Code of practice for the planning, design, installation and use of permanently installed access equipment. Travelling ladders and gantries
<b>Possible IMR procedures</b>	For suspended access equipment: BS 6037-1:2017 Planning, design, installation and use of permanently installed access equipment. Code of practice. Suspended access equipment  For travelling ladders and gantries: BS 6037-2:2004 Code of practice for the planning, design, installation and use of permanently installed access equipment. Travelling ladders and gantries
<b>Specified System</b>	<b>SS 11 Laboratory fume cupboards</b>
<b>Possible performance standard</b>	AS/NZS 2243.8:2014 Safety in laboratories Part 8: Fume cupboards (Clause 1.3.10)
<b>Possible IMR procedures</b>	AS/NZS 2243.8:2014 Safety in laboratories Part 8: Fume cupboards (Section 5.5)
<b>Specified System</b>	<b>SS 12/1 Audio loops</b>
<b>Possible performance standard</b>	AS 60118.4-2007 Hearing aids – Magnetic field strength in audio-frequency induction loops for hearing aid purposes
<b>Possible IMR procedures</b>	Specific inspection, maintenance and reporting procedures would be required from the designer <i>where AS 60118.4-2007 Hearing aids – Magnetic field strength in audio-frequency induction loops for hearing aid purposes</i> could form the basis of this
<b>Specified System</b>	<b>SS 12/2 FM radio frequency systems and infrared beam transmission systems</b>
<b>Possible performance standard</b>	Specific design required detailing level of performance
<b>Possible IMR procedures</b>	Specific inspection maintenance and reporting procedures required for the proposed system.

<b>Specified System</b>	<b>SS 13/1 Mechanical smoke control</b>
<b>Possible performance standard</b>	AS/NZS 1668.1:2015 The use of ventilation and air-conditioning in buildings Part 1: Fire and smoke control in multi-compartment buildings
<b>Possible IMR procedures</b>	Section 13 of AS1851:2012 Routine service of fire protection systems and equipment could be used for the basis for inspection, maintenance and reporting procedures
<b>Specified System</b>	<b>SS 13/2 Natural smoke control</b>
<b>Possible performance standard</b>	Specific design required detailing level of performance
<b>Possible IMR procedures</b>	Section 13 of AS1851:2012 Routine service of fire protection systems and equipment could be used for the basis for inspection, maintenance and reporting procedures
<b>Specified System</b>	<b>SS 13/3 Smoke curtains</b>
<b>Possible performance standard</b>	BS EN 12101-1: 2005 Smoke and heat control systems. Specification for smoke barriers  Section 9 of AS/NZS 1668.1:2015 The use of ventilation and air-conditioning in buildings Part 1: Fire and smoke control in multi-compartment buildings
<b>Possible IMR procedures</b>	Section 13 of AS1851:2012 Routine service of fire protection systems and equipment could be used for the basis for inspection, maintenance and reporting procedures
<b>Specified System</b>	<b>SS 14/1 Emergency power systems</b>
<b>Possible performance standard</b>	NZS 6104:1981 Specification for emergency electricity supply in buildings
<b>Possible IMR procedures</b>	NZS 6104:1981 Specification for emergency electricity supply in buildings
<b>Specified System</b>	<b>SS 14/2 Signs relating to specified systems 1–13</b>
<b>Possible performance standard</b>	Generally Acceptable Solution F8/AS1 Amendment 4 (effective 1 January 2017)  However individual standards such as NZS4541: 2013 may have additional signage requirements not shown in F8/AS1 where the below is not an exhaustive list <ul style="list-style-type: none"> <li>• SS 1/1: Sign showing maximum storage heights (F8/AS1 Paragraph 5.4)</li> <li>• SS 2/1: Sign showing how to operate a fire alarm call point (F8/AS1 Paragraph 5.1)</li> <li>• SS 3/1: Sign showing location of accessible automatic door</li> <li>• SS 3/2: Sign showing location of an emergency door release on access control doors</li> <li>• SS 3/3: Sign showing and automatic closing fire or smoke door (F8/AS1 Paragraph 5.2.1)</li> <li>• SS 6: Sign showing location of hydrant riser (F8/AS1 Paragraph 5.5)</li> <li>• SS 8/1 &amp; SS 8/2: <ul style="list-style-type: none"> <li>○ Sign showing location of accessible lift</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Sign showing not to use the lift in event of fire (F8/AS1 Paragraph 5.3)</li> <li>○ Sign showing lift load ratings (F8/AS1 Paragraph 7.3a)</li> <li>● SS 8/3: Sign showing hazards to escalators and moving walks (F8/AS1 Paragraph 7.5)</li> <li>● SS12/1 &amp; SS 12/2: Sign showing symbol for deaf (assisted listening devices) (F8/AS1 Paragraph 6.3)</li> </ul>
<b>Possible IMR procedures</b>	<p>Specific inspection maintenance and reporting procedures required for the proposed system but generally:</p> <p>Illuminated signs</p> <ul style="list-style-type: none"> <li>a. continued effectiveness</li> <li>b. of the correct type</li> <li>c. present and in the right locations they are legible and illuminated</li> </ul> <p>Non-illuminated signs</p> <ul style="list-style-type: none"> <li>a. of the correct type</li> <li>b. present and in the right locations</li> <li>c. legible</li> </ul>
<b>Specified System</b>	<b>SS 15(a) Systems for communicating spoken information intended to facilitate evacuation</b>
<b>Possible performance standard</b>	<p>NZS 4512:2010 Fire detection and alarm systems in buildings.</p> <p>AS 2220.2—1989 Emergency warning and intercommunication systems in buildings Part 2: System design, installation and commissioning</p>
<b>Possible IMR procedures</b>	<p>NZS 4512:2010 Fire detection and alarm systems in buildings.</p> <p>AS1851:2012 Routine service of fire protection systems and equipment could be used for the basis for inspection, maintenance and reporting procedures</p>
<b>Specified System</b>	<b>SS 15(b) Final exits</b>
<b>Possible Performance Standard</b>	C/AS2 - Acceptable Solution for Buildings other than Risk Group SH, First edition 2019 Section 3.15 & Paragraph 3.12
<b>Possible IMR procedures</b>	Specific inspection maintenance and reporting procedures required for the proposed system that cover checking all aspects of the final exit doors
<b>Specified System</b>	<b>SS 15(c) Fire separations</b>
<b>Possible performance standard</b>	<p>For walls, floors and ceilings: Structural adequacy/ Integrity/ Insulation (for example 60/60/60) <i>Fire Resistance Rating</i> as defined by C/AS2 - Acceptable Solution for Buildings other than Risk Group SH, First edition 2019 Paragraph 4.9.2 &amp; Section 2.3</p> <p>For fire doors: Integrity/ Insulation (for example -/60/60) &amp; NZS 4520:2010 Fire resistant door sets</p>
<b>Possible IMR procedures</b>	<p>Specific inspection maintenance and reporting procedures required for the proposed system that cover checking all aspects of the fire separations</p> <p>Section 7, Appendix A &amp; Appendix C of NZS 4520:2010 Fire resistant door sets</p>

<b>Specified System</b>	<b>SS 15(d) Signs for communicating information to facilitate evacuation</b>
<b>Possible performance standard</b>	Solution F8/AS1 Amendment 4 (effective 1 January 2017) (Section 4)
<b>Possible IMR procedures</b>	Specific inspection maintenance and reporting procedures required for the proposed system that cover checking all exit signage
<b>Specified System</b>	<b>SS 15(e) Smoke separations</b>
<b>Possible performance standard</b>	Smoke control doors: C/AS2 - Acceptable Solution for Buildings other than Risk Group SH, First edition 2019 Appendix C, Section C6.1  Smoke Separations as defined by C/AS2 - Acceptable Solution for Buildings other than Risk Group SH, First edition 2019
<b>Possible IMR procedures</b>	Specific inspection maintenance and reporting procedures required for the proposed system that cover checking all smoke separations
<b>Specified System</b>	<b>SS 16 Cable Cars</b>
<b>Possible performance standard</b>	NZS 5270:2005 Cable cars for private residences – design, construction, installation and maintenance
<b>Possible IMR procedures</b>	NZS 5270:2005 Cable cars for private residences – design, construction, installation and maintenance