



Addendum to Fire and Safety Design Requirements for Schools (2008)

Title: Amendments to the requirements for sprinklers, compartmentation, and fire alarm systems

Date: June 2018

Purpose

1. The Ministry of Education (the Ministry) has made some changes to the ***Fire and Safety Design Requirements for Schools (2008)*** (‘fire policy’) document pertaining to the requirements for sprinklers, compartmentation, and fire alarm systems. This Addendum sets out those changes.
2. The Addendum should be read in conjunction with the fire policy (2008) document and where indicated, substitute the wording with that set out in this Addendum.

Scope

3. The changes relate primarily to the following sections of the fire policy (2008):
 - 2.2: Active fire alarm systems;
 - 2.4: Use of sprinklers;
 - 2.5: Choosing the correct alarm type;
 - 2.7: Use of smoke detectors;
 - 2.8: Fire and smoke separations for property protection: and
 - 2.9: Fire and smoke separation for Building Code requirements.

Background

4. The changes form part of a staged review of the Ministry’s fire policy, which last underwent a full review in 2008.
5. In July 2017, changes to the fire policy were set out in an Addendum in respect of the calculation of separation distances between Ministry school buildings by adopting the Enclosing Rectangle Method (ERM), including removal of the minimum Fire Resistance Rating (FRR) of 60/60/60. The shift to the performance-based ERM replaced the previous approach of mandatory minimum separation distances.

The policy changes

6. Throughout the document

Replace NZFS with FENZ.

7. Section A, 2.2 Active fire alarm systems

Remove the textbox.

Delete the text “or the ministry’s School Fire Alarm Specification (MOE SFA1)”

8. Section A, 2.4 Use of sprinklers, 1 Sprinklers in new schools

Replace the text with the following:

“A sprinkler protection system shall be provided in new buildings under any of the following circumstances:

1. The school has an existing sprinkler system where the capacity of the infrastructure can support such an extension.
2. Where a building has a gross floor area above 2,400m².
3. Where the building is multi-level with an escape height¹ being greater than 10m, regardless of the size and shape of the building.

Sprinklers are recommended in school buildings where the practice of having sleepovers in school is likely to be a key part of the school culture or curricula.”

9. Section A, 2.4 Use of sprinklers, 2 Sprinklers in existing schools

Replace the text with the following:

“A sprinkler protection system shall be provided in existing buildings under any of the following circumstances:

1. Where the completed building will have a total floor area greater than 2400m² after extension or substantial alteration to the building.
2. Where the alteration will increase the escape height of the building from under 10m to over 10m, regardless of the size and shape of the building.
3. The school has an existing sprinkler system that has sufficient capacity to support a substantial alteration or redevelopment of existing buildings.”

10. Section A, 2.4 Use of sprinklers, 3 Sprinklers in special needs schools and special needs units

Replace the text with the following:

“When a special needs school or special needs unit is being built or substantially altered, a sprinkler system is to be installed to NZS 4541 ‘Automatic fire sprinkler systems’, unless all of the following requirements are met:

1. The unit is always situated on the ground floor of a building.
2. Any difference in height between ground floor and the level of final exit is less than 2m, and the exit route does not consist of steps or stairs.
3. More than one escape route is provided from the unit;
4. The open path travel distance direct to the outside is not greater than 20m.
5. Irrespective of other compartmentation requirements for the building, the unit forms its own firecell with a two-way Fire Resistance Rating (FRR) of (60)/60/60.

¹ Escape height is as per defined in the Building Code Handbook, which is the height between the floor level in the firecell being considered and the floor level of the required final exit which is the greatest vertical distance above or below that firecell.

6. The school can demonstrate compliance at all times with the Fire Safety and Evacuation of Buildings Regulations 2006, the 2008 amendments, FENZ Act 2017 and FENZ Evacuation Regulations in evacuating people with disabilities who require assistance to reach an external place of safety.”

11. Section A, 2.4 Use of sprinklers, 4 Sprinkler in residential units at schools

Remove the text in this section.

12. Section A, 2.4 Use of sprinklers, 6 Sprinkler system compliance

Replace all “Appendix D of Acceptable Solution C/AS1” to “Appendix B of Acceptable Solutions C/AS2-C/AS7”.

13. Section A, 2.5 Choosing the correct alarm type

Replace the text with the following:

“The selection of the fire alarm system shall be in compliance with the Building Code requirements, with the following additional requirements:

1. The minimum fire alarm system type shall be a Type 4 (i.e. an automatic fire alarm system activated by smoke detectors and manual call points). In areas that are prone to false alarms for smoke detectors, heat detectors can be used instead of smoke detectors, and a Type 3 system with supplementary smoke detectors is allowed. This fire alarm system requirement is not applicable to ancillary buildings and outbuildings - except boiler rooms, plant rooms, or buildings that are vital for the operation of the school.
2. In all new building or existing building being substantially altered or redeveloped which provide permanent sleeping accommodation, a minimum Type 5 fire alarm system shall be provided.
3. Direct FENZ connection is mandatory in all cases.
4. The fire alarm systems must be:
 - site wide integrated with a single point of access for monitoring and control;
 - analogue addressable;
 - of spare capacity to accommodate predicated growth (20% spare board capacity for expansion); and
 - integrated into a mimic alarm panel located at an appropriate place for ease of access by FENZ emergency response personnel upon arrival at site.”

14. Section A, 2.6 240 Volt Alarm Systems

Remove the text “or MOE SFA1”.

15. Section A, 2.7 Use of smoke detectors

Remove the paragraph.

16. Section A, 2.8 Fire and smoke separations for property protection

Replace the text after the textbox with the following:

“Except where sprinklered, all buildings shall be sub-divided to create firecells comprising a maximum of 800m² in area. However, there is relaxation of the requirement for assembly halls and gyms.

Unsprinklered assembly halls and gyms are allowed to have a maximum area greater than 800m² if fire separations will disrupt the intended use of the building. Adequate fire separations shall be provided to align with change in activity boundaries (such as between hall and administration) or where acoustic separations are to be installed.

The fire separations are to extend from floor slab to the underside of roofing or to the underside of any floor construction above.

Unless sprinkler protected, designated satellite or special needs units must form their own firecell with two-way FRR of (60)/60/60 irrespective of other compartmentation within the building.”

17. Section A, 2.9 Fire and smoke separation for Building Code requirements

After the textbox replace the text with the following.

“Provide a smoke control door at the base of any stair leading up from ground to upper level to ensure smoke separation. Fit with magnetic hold open devices as above.”

18. Section B, Q2 Are there extra requirements for special needs students?

Replace the text with the following.

“Special needs schools and units require specific consideration. Refer to Section A, paragraph 2.4 Paragraph 3 for specific advice in regard to the use of sprinklers”.

19. Section B, Q5 What about dormitories and wharenuī?

Replace the text with the following.

“Sprinklers are recommended in buildings containing dormitories and wharenuī.

In wharenuī with cooking facilities, an adequate hooded extract system should be provided in the cooking area to prevent false alarms.”

20. Section B, Q6 Should our buildings be sprinklered?

Replace the text with the following.

“Sprinklers are required in situations set out in paragraph 2.4 of Section A.”

21. Section B, Q12 How do we contact the FENZ in an emergency if the fire alarm is not automatically connected to them?

Replace the text with the following.

“It is required that all new fire alarm systems in the school buildings be automatically connected to FENZ. However, there will be existing buildings that do not have direct connection to FENZ.

The staff, students, and security personnel shall be aware that it is necessary to immediately telephone FENZ on 111 if an alarm operates. Access to a telephone must be available at all times to enable a 111 call to be made. This telephone should not be in a locked office.”