



Information for councils, certifiers and industry on amendments to the Fire Sprinkler Standard

1. BACKGROUND

New laws, introduced on 1 January 2013, require the installation of automatic fire sprinkler systems in all Commonwealth Government accredited and new residential aged care facilities in NSW. These laws improve the level of safety provided to occupants of residential aged care facilities.

The legal documents and policies which currently apply to these laws are:

- Environmental Planning and Assessment Regulation 2000
- Fire Sprinkler Standard December 2013
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
- State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
- State Environmental Planning Policy (Infrastructure) 2007

2. FIRE SPRINKLER STANDARD

This Advisory Note focuses on the Department of Planning and Environment's Fire Sprinkler Standard (FSS) which came into effect on 14 February 2014.

Under clause 186M of the Environmental Planning and Assessment Regulation 2000 a fire sprinkler system must be installed in accordance with the FSS.

The FSS has been reviewed

As a result of a recent review of the standard, completed in collaboration with Fire and Rescue

NSW, amendments have been made. The key amendments to the FSS will provide greater flexibility in compliance options and assist to reduce costs for aged care facilities while still maintaining an adequate level of safety for occupants.

3. AMENDMENTS TO THE FIRE SPRINKLER STANDARD

This section identifies the amendments to the FSS, which came into effect on 14 February 2014.

Application

Clause 1.4

Clause 1.4 has been inserted to clarify that where the FSS states that compliance with Parts, Specifications or Clauses in the Building Code of Australia (BCA) must be achieved; it means that all of those Parts, Specifications or Clauses, as relevant, are requirements of the FSS unless stated otherwise.

Clause 1.5

Clause 1.5 has been inserted to clarify that unless otherwise stated all references to clauses and paragraphs throughout the document relate to provisions of the FSS.

Interpretation

Definitions

Carpark

The definition of carpark included in the FSS has the same meaning that it has in the BCA.

Note: Carparks located below resident use areas that contain more than three vehicles are required to be sprinkler protected because they are defined as a high fire hazard use area.



Concealed space

This definition has been removed because all reference to the term has been removed from the FSS.

Fire protective covering

The definition for fire protective covering included in the FSS has the same meaning that it has in the BCA, and is referenced in clause 5.10 of the FSS.

Fire resistance level (FRL)

The acronym “FRL” has been added to the existing definition of fire resistance level in the FSS and is referenced in clause 5.8 of the FSS.

High fire hazard use area

The definition of high fire hazard use area included in the FSS refers to:

- i) carparks;
- ii) kitchens and related food preparation areas with an aggregate floor area of more than 30m²;
- iii) laundries with equipment that are of a type that are potential fire sources such as laundries with gas fire dryers; and
- iv) storage rooms greater than 10m².

Integrity

The definition of integrity included in the FSS has the same meaning that it has in the BCA, and is referenced in clauses 5.8, 5.9 and 5.11 of the FSS.

Australian Standards

AS 1670.1 – 2004 Fire detection, warning, control and intercom systems – Systems design, installation and commissioning

AS 1670.1 has been included in the FSS and is referenced in clauses 5.12, 5.13 and 5.14. AS 1670.1 is also referenced in clause 5.15, where electrical rooms or enclosures which are not sprinkler protected must have an automatic smoke detection system installed.

In addition, a reference to AS 1670.1 includes any revisions incorporated in Amendment 1 to the Standard.

AS 1905.1 – 2005 Components for the protection of openings in fire-resistant walls – Fire resistant doorsets

AS 1905.1 has been included in the FSS and is referenced in clauses 5.8, 5.9, 5.11 and 5.15.

Compliance with Standard

There have been no changes made to this section of the FSS.

Performance Requirements

Clause 4.1

Clause 4.1 has been amended to remove the words “including any concealed space”.

The FSS requires sprinkler protection of concealed spaces only in accordance with the relevant Australian Standard. The inclusion of these words in the Performance Requirement may have implied that, under the FSS, all concealed spaces were required to be sprinkler protected, and that the exemptions provided under the relevant Australian Standard for concealed spaces did not apply.

Practitioners should consult the relevant Australian Standard to determine which concealed spaces require protection. See also the previous Advisory Note issued by DP&E to councils, certifiers and industry about concealed spaces dated July 2013.

Clause 4.2

The Performance Requirement in clause 4.2 has been amended to exempt certain non-resident areas located in the storey **immediately below** resident areas, from the requirement to be sprinkler protected, subject to certain conditions. This requirement allows for the non-resident area to be suitably fire separated from the resident area above. A fire detection system is also required to be installed in the non-sprinkler protected area to alert staff.



Note 1: The exemption **does not apply** to those uses which are defined as high fire hazard use areas.

Note 2: The term “resident area” is defined in the FSS and includes parts of the building that are evacuation routes.

Clause 4.2(c)

Clause 4.2(b) has been renumbered to 4.2(c) and the words “*other than a concealed space*” have been deleted. Refer above.

Clause 4.2(d)

This is a new clause that exempts electrical rooms or enclosures containing only dry (non oil filled) electrical equipment from the requirement to be sprinkler protected, provided that the room or enclosure is suitably fire and smoke separated from the remainder of the building and that staff are alerted to the presence of fire within the room/enclosure.

Clause 4.3

This is a new clause which highlights the requirement to sprinkler protect high fire hazard use areas, which are located immediately **below** resident areas.

Deemed-to-Satisfy (DTS) Provisions

The DTS provisions have been amended to enable certain areas to be exempt from the requirement to be sprinkler protected (subject to certain conditions). These areas include:

- non-resident areas located **below** resident use areas (provided that those areas are not high fire hazard use areas), and
- electrical rooms or enclosures containing only dry (non-oil filled) electrical equipment.

Several new provisions have also been added as a result of the new exemptions.

Note: The term “resident area” is defined in the FSS and includes parts of the building that are evacuation routes.

It should be noted that non-sprinkler protected areas located on the **same storey as, or above,** a sprinkler protected area, and non-sprinkler protected areas **located below** sprinkler protected areas, are dealt with separately in the FSS.

Where a non-sprinkler protected area is located on the same storey as, or above, a resident area

Clause 5.8

Non-sprinkler protected parts located on the same storey as, or above a resident area must be separated from the resident area by construction that:

- has a FRL not less than -/120/120 (non-loadbearing) or 120/120/120 (loadbearing), and
- which satisfies the requirements of clause 2 (except subclause (c)) of Specification C2.5 of the BCA with regard to smoke-proof walls.

Any openings (except doorways) or penetrations in the fire and smoke barrier must be protected in accordance with Part C3 of the BCA.

Any doorways in the separating construction must be protected by a self closing -/120/30 fire door that complies with AS 1905.1, and is fitted with smoke seals. In addition, the door must not fail by radiation through any glazed part during the period specified for integrity in the required FRL of -/120/30.

Where a non-sprinkler protected area is located below a resident area

Clause 5.9

Non-sprinkler protected areas located **below** resident areas must be separated from the resident area by construction that:

- has a FRL not less than -/120/120 (non-loadbearing) or 120/120/120 (loadbearing), and
- any vertical elements of the fire and smoke barrier must also satisfy the



requirements of Specification C2.5 of the BCA with regard to smoke-proof walls.

Openings (except doorways) and penetrations in the barrier must be protected in accordance with Part C3 of the BCA.

Any doorways in the separating construction must be protected by a self closing -/120/30 fire door that complies with AS 1905.1 and is fitted with smoke seals. In addition, the door must not fail by radiation through any glazed part during the period specified for integrity in the required FRL of -/120/30.

Any other openings and penetrations in the separating construction not covered by clause 5.8 must be sealed against the spread of fire and smoke from the non-sprinkler protected part to the resident area, so as to maintain the performance of the separating construction.

Note: The exemption **does not apply** to those uses which are defined as high fire hazard use areas.

Clause 5.10

This new provision requires non-metal service pipes which are not fully charged with water and which penetrate the fire and smoke barrier referenced in clause 5.9, to be encased over its entire length in the non-sprinkler protected part by a fire protective covering.

Clause 5.11

This new clause requires sprinkler protected areas and non-sprinkler protected areas located **below** resident areas to be separated by construction in accordance with 5.8 (a), (b), (c) and (d) of the FSS. Alternatively, the entire area could be sprinkler protected.

Clause 5.12

This new clause requires an automatic smoke detection system complying with AS 1670.1 to be installed in non-sprinkler protected areas located **below** resident areas. Refer clause 5.14 also.

Clause 5.13

The automatic smoke detection system required by clause 5.12 must be connected to and automatically activate any occupant warning system and a smoke hazard management system if these systems are installed in the building, or alert the persons referred to in Clause 5.5 of the FSS.

Clause 5.14

This clause allows any other suitable detectors which satisfy AS 1670.1 to be installed, where the installation of smoke detectors in the non-sprinkler protected areas is likely to result in false alarms.

Rooms and enclosures containing electrical equipment

Clause 5.15

Electrical rooms and enclosures which contain only dry (non oil filled) electrical equipment are not required to be sprinkler protected provided that:

- the room or enclosure is separated from the sprinkler protected areas by walls, floors and ceilings that have an FRL not less than -/120/120,
- any penetrations in this separating construction must be protected in accordance with C3.15 of the BCA,
- doorways in the separating construction are protected by a self closing -/120/30 fire door that complies with AS 1905.1 and are fitted with smoke seals, and

the room or enclosure is fitted with an automatic smoke detection system in accordance with AS 1670.1. This smoke detection system must be connected to and automatically activate any existing occupant warning system and smoke hazard management system if these systems are installed in the building, or alert staff referred to in clause 5.5 of the FSS.



Summary of changes

The amendments focus on the following three main areas:

1. The removal of the need to provide sprinkler protection in certain non-resident areas which are not high fire hazard areas, provided suitable fire and smoke barriers and fire detection systems are installed.
2. The removal of the need to provide sprinkler protection in certain electrical rooms and enclosures, depending on the provision of suitable fire and smoke barriers and the installation of a smoke detection system.
3. Removal of the references to concealed spaces in the FSS to clarify that concealed spaces require sprinkler protection only where required by the relevant Australian Standard.

FURTHER INFORMATION

For further information in relation to this advisory note please call the fire sprinkler enquiry line on (02) 8575 4068.

Important note: This document does not constitute legal advice. Users are advised to seek professional advice and refer to the relevant legislation, as necessary, before taking action in relation to any matters covered by this document.

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