



Fire Safety Guideline
Childcare Facilities in Multi-storey Buildings

MFS Fire Safety Guideline for Childcare Facilities in Multi-storey Buildings

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GLOSSARY

AS	Australian Standard
BCA	Building Code of Australia
BES	MFS Built Environment Section, Community Safety & Resilience Department
DtS	Deemed-to-Satisfy (refer Definitions)
FRL	fire resistance level (as defined by the NCC)
MFS	South Australian Metropolitan Fire Service
NCC	National Construction Code
WIP	warden intercom point

REFERENCED DOCUMENTS

The following documents are referred to in this Guideline:

AS 1668.1	Australian Standard 1668.1 – <i>The use of ventilation and air conditioning in buildings – Part 1: Fire and smoke control in buildings</i>
AS 1670.1	Australian Standard 1670.1 – <i>Fire detection, warning, control and intercom systems – System design, installation and commissioning – Part 1: Fire</i>
AS 2118.1	Australian Standard 2118 – <i>Automatic fire sprinkler systems, Part 1: General systems</i>
AS 3745	Australian Standard 3745 – <i>Planning for emergencies in facilities</i>

Australian Building Codes Board, *National Construction Code, Guide to Volume One*, (Edition applicable at the time of Development Approval), Australian Building Codes Board, Canberra.

Australian Building Codes Board, *National Construction Code, Volume One, Building Code of Australia*, (Edition applicable at the time of Development Approval), Australian Building Codes Board, Canberra.

Children’s Services Act 1985 (SA)

Children’s Services (Child Care Centre) Regulation 1998 (SA)

Planning, Development and Infrastructure Act 2016 (SA)

DEFINITIONS

Deemed-to-Satisfy (DtS) Provisions has the meaning as defined in the National Construction Code.

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1 PURPOSE

The purpose of this guideline is to provide advice specifying the recommendations of the South Australian Metropolitan Fire Service (MFS), being a relevant fire authority under the South Australian *Planning, Development and Infrastructure Act 2016*, in regard to childcare facilities in multi-storey buildings.

The recommendations made within this guideline are in addition to other relevant legislative requirements, including those of the National Construction Code (NCC), the South Australian *Children's Services Act 1985* and the South Australian *Children's Services (Child Care Centre) Regulations 1998*.

2 SCOPE

This guideline applies to childcare facilities located in multi-storey buildings. In this guideline, childcare facility means any place or premises where children are, for monetary or other consideration, cared for on a non-residential basis apart from their guardians.

3 REGULATORY REQUIREMENTS

Any childcare facility and the building in which it is located must comply with the NCC.

The MFS is of the opinion that the Deemed-to-Satisfy (DtS) Provisions of the NCC do not fully address the risks to occupants of a childcare facility where these facilities are located above ground level.

NCC Volume 1 Clause E2.3 *Provision for special hazards* states that additional smoke hazard management measures may be necessary for some buildings due to, among other things, the function or use of the building. Furthermore, the Guide to Volume 1 of the NCC gives a number of examples where this clause may apply, the first of these examples being where "A child care centre is located above the ground floor level or within a commercial building".

The following is an excerpt from the Guide to Volume 1 of the NCC (2016) and further reinforces the view that childcare facilities are not addressed in the NCC when they are located above ground level:

Examples

E2.3 may be applicable in situations where:

- *A child care centre is located above ground floor level or within a commercial building. Safety of children is paramount. They will need assistance to evacuate. As egress arrangements depart from providing exits direct to a road or open space, (usually provided at ground floor level) so does the potential for things to go wrong. The BCA does not specifically address child care centres at other than the ground floor.*

Hence the recommendations made in this guideline are intended to address the Performance Requirements of the NCC for life safety.

Approval for the development of a childcare facility, or proposed alterations or expansions to an existing facility, requires the lodgement of a development application with the relevant council authority in accordance with the *Planning, Development and Infrastructure Act 2016*.

Licensing approval for operation of a childcare facility, or alterations or expansions to an existing facility, requires the lodgement of an application to the Director in accordance with the *Children's Services Act 1985*. Under Section 8 of the

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Children's Service Act 1985, the Director must not approve plans and specifications unless the Director is satisfied that children cared for at the proposed childcare facility "will not be exposed to any undue threat to their health or safety arising from the nature of the premises or their environs".

It is the opinion of the MFS that following the recommendations made in this guideline will assist in ensuring childcare facilities maintain a high standard of amenity and fire safety.

The MFS acknowledges that the Australian Building Codes Board (ABCB) is currently investigating changes to the NCC DTS Provisions in relation to early childhood centres and that further relevant DTS Provisions may be introduced. It is the intent of this Guideline to enhance the requirements of the NCC in relation to childcare centres in multi-storey buildings.

4 LOCATION OF CHILDCARE FACILITIES

4.1 Facilities on Ground Level or One Level Above Ground

The MFS strongly recommends that, where childcare facilities are to be provided in multi-storey buildings, they are located on ground level.

The MFS recognises the commercial desirability of ground floor space and does not believe it is an unreasonable imposition that, where no other viable ground level location for a childcare facility can be found and the facility must be located on another level, then the facility should be located on the first level above ground. This position is based on the difficulties associated with evacuating potentially large numbers of high-dependency occupants who require physical assistance, to varying degrees, to evacuate.

Furthermore, as the height above ground level at which a childcare facility is located increases, and hence also the number of building levels below said childcare facility, the greater the life safety risk to the occupants of the childcare facility from a fire on a lower level due to the nature and tendency of fire and smoke to move vertically upwards.

4.2 Facilities Located Greater Than Once Level Above Ground Level

It is considered that childcare facilities should only be located higher than the first level above ground where there are no other viable alternatives for the location of the facility. In these situations, the MFS considers that childcare facilities should never be located at greater than 25 metres effective height, as defined in the NCC, as this is beyond the capabilities of the fire service to facilitate rapid access via aerial appliances.

Where childcare facilities are located higher than the first level above ground, the recommendations presented in Section 5.2 apply.

5 FIRE SAFETY & PROTECTION PROVISIONS

The MFS recommends that all childcare facilities be provided with an automatic detection and alarm system in accordance with AS 1670.1, monitored by the fire service, for early detection and warning of a fire.

5.1 Facilities on Ground Level or One Level Above Ground

Childcare facilities provided on ground level or the first level above ground should comply with the requirements of the NCC.

5.2 Facilities Located Greater Than One Level Above Ground Level

In addition to the requirements of the NCC, the recommendations of the MFS for childcare facilities located higher than first level above ground are as follows:

5.2.1 Construction

1. Construction should comply with Part C of the NCC (unless acceptable alternative solutions are applicable); and
2. A safe refuge area should be provided and constructed as per the recommendations specified in Section 5.3 of this guideline; and
3. The childcare facility should be separated into at least two fire compartments, each with direct access to the safe refuge area; and
4. When located above another occupancy, the floor should have an FRL of at least 60/60/60 construction if the building is not of Type A construction.

5.2.2 Egress Provisions

1. A safe refuge area should be provided, having direct access to a fire-isolated stair and a dedicated lift within its own fire-isolated shaft, and sized to accommodate the entire population of the child care facility (see Section 5.3 for details on refuge area requirements); and
2. Where lifts are provided, other than the dedicated refuge area lift, the lifts should be provided with a smoke lobby or lobbies as appropriate; and
3. Egress routes to fire-isolated stairs should be marked out on the floor in a different colour to clearly identify both the route and the area that must be kept clear of play equipment, etc; and
4. A suitably protected assembly area should also be provided at ground level to contain and protect children from other hazards such as traffic.

5.2.3 Fire Protection

The following fire protection systems should be provided throughout all areas of the building:

1. Sprinkler protection in accordance with AS 2118.1; and
2. Automatic smoke detection and alarm system in accordance with AS 1670.1; and
3. Zone pressurisation in accordance with AS 1668.1 (with detectors spaced and located in accordance with AS 1670.1).

Accessible hardstand areas suitable for fire service aerial appliances should also be provided.

5.3 Refuge Area Requirements

A refuge area should be provided within all childcare facilities in multi-storey buildings located higher than the first level above ground with the following recommended provisions:

1. Located centrally within the childcare facility; and
2. Having direct access to a fire isolated stair; and

3. Be served by a dedicated emergency lift, which connects and operates between the childcare facility and ground floor level, dedicated to the use of the childcare centre only. This lift may also be connected to any basement carpark levels, but smoke lobbies should be provided around the lift at those levels; and
4. Having a floor area calculated at a minimum rate of 0.5m² per person for the capacity of the childcare facility, including staff; and
5. Bounding construction of the refuge area, including floors and ceilings, to have a minimum FRL of 60/60/60; and
6. The refuge area and the fire isolated stair serving the refuge area should be served by a pressurisation system in accordance with AS 1668.1; and
7. Be provided with a warden intercom point (WIP) phone within the refuge area.

6 EMERGENCY EVACUATION PROCEDURES

Detailed emergency and evacuation procedures should be produced for all childcare facilities. Australian Standard AS 3745 should form the basis for evacuation planning.

Staff-to-child ratios should comply with the requirements of the *Children's Services Act 1985*.

The evacuation strategy should take into account any refuge area, as recommended in this guideline, and fire compartmentation within the childcare facility. Evacuating to these safe areas may form an appropriate part of the evacuation strategy.