7.9 Fire risk management for multi-storey housing
Acknowledgments

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Disclaimer

The purpose of these fire risk management guidelines is to provide appropriate levels of fire safety for occupants of a building subject to these Guidelines by enabling appropriately qualified professional advisers, such as registered fire safety engineers and building surveyors, to:

- audit and assess fire risk
- recommend steps to minimise fire risk
- assess and report on acceptable standards of fire safety
in specific settings.

The use of the Guidelines is subject to the following:

a) The Guidelines do not constitute all of the possible fire safety matters that may apply to a specific situation but are provided for assistance in determining appropriate fire safety measures. It is up to individuals acting with appropriate professional advice to determine their application to particular situations.

b) Guidelines 7.3 to 7.10 must be used for purposes only within the range set out in the ‘Introduction’ section at the start of each document.

c) In addition to the fire safety requirements and standards in the Guidelines, owners, occupiers and operators of facilities may be subject to various other statutory, common law and contractual obligations. They must seek advice, including legal advice, on the existence and scope of these obligations.

The Department of Human Services and organisations/individuals involved in the preparation of these documents make no representation that the Guidelines are suitable for any particular situation, and accept no responsibility for any loss or damage arising out of any decision to apply the Guidelines to any particular situation.

Definitions

Defined terms are in *italics* when first used in each guideline. A list of all definitions can be found in Appendix 1 of Guideline 7.1.
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1 Introduction

1.1 General

1.1.1 This document provides guidance for fire risk management for all new and existing multi-storey housing owned by the Director of Housing, Department of Human Services (the Department), which are typically considered to be of Class 2 Occupancy as defined in the Building Code of Australia (BCA).

1.1.2 Multi-storey housing provides residential accommodation for tenants, who are considered to be broadly representative of the general community.

Where the department is aware of or has established, client management plans that identify clients with the potential for exhibiting fire lighting behaviour and other fire related risks including the potential to inflict self harm, then reference must be made to the PSAM Emergency Unit. Additional precautions may be required for these buildings.

This guideline does not apply to residential care buildings, as defined in the BCA, or buildings or parts of buildings used for community housing with outreach support or community residential facilities providing group housing.

1.2 Occupant and staff profiles

1.2.1 Occupant profile and staff profile are defined in the Department of Human Services Capital Development Guideline 7.1: Fire Risk Management Policy and Procedures. The typical range of occupant profile and staff profile expected in high-rise buildings covered by this guideline is summarised below:

- Occupant profile: Type 1
- Staff profile: Type 1.

1.3 Background

1.3.1 Most buildings used for public housing are not places of work, rather residences in which people live without any support from Housing & Community Building or other Department of Human Services staff. The following points need to be considered when determining if it is practicable to address a particular hazard:

- the rights of the tenants to quiet enjoyment of the property
- the limited control that Department of Human Services can exercise over the activities of its tenants (that is, tenants have the right, to a certain degree, to set their own fire safety standards within their own home and therefore must take some responsibility for the safety of themselves and their families).

1.3.2 The building regulations have evolved over the years, reflecting higher community expectations for fire safety and developments in building and fire safety technology, although generally the building regulations have not required retrospective upgrades unless

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1 Assumes at least one ambulant Type 1 occupant in a (sole occupancy unit (SOU); for example, young children and other persons under the care or supervision of an ambulant Type 1 occupant in a family environment might not be ambulant Type 1 but are considered under the parental control and responsibility of that primary carer.
significant building works are undertaken or the building use changes.

1.3.3 Department of Human Services high-rise buildings that were constructed prior to 1988, were not required to comply with the building regulations, but were generally constructed in accordance with the technical provisions of the building regulations in force at the time. There are 44 traditional high-rise blocks and they are listed here.

<table>
<thead>
<tr>
<th>ID</th>
<th>TYPE</th>
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<th>ADDRESS</th>
<th>SUBURB</th>
<th>POSTCODE</th>
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<td>166</td>
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<td>159</td>
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<td>94 ORMOND STREET</td>
<td>KENSINGTON</td>
<td>3031</td>
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</table>
1.3.4 In order to satisfy fire prevention and fire safety (emergency) management expectations in relation to traditional high-rise blocks, the Department of Human Services has developed, and included in this Guideline, a fire safety strategy in conjunction with the Metropolitan Fire Brigade (MFB) for a fire safety upgrade in all existing high-rise residential buildings owned by Housing & Community Building.

1.3.5 The fire safety strategy was developed using fire safety engineering assessment methods to achieve an acceptable level of fire safety, taking into account the typical building...
characteristics, fire hazards and effectiveness of potential fire safety provisions for this type of building. More detailed information can be accessed from the following document including subsequent amendments: Fire Safety Strategy for Office of Housing High-Rise Buildings (30 January 2004).
2 Mandatory fire safety measures

2.1 General

2.1.1 Table 2.1 provides a summary of the fire safety precautions and measures that are applicable to existing multi-storey housing. This list is not necessarily exhaustive.

Table 2.1: Summary of fire safety precautions and measures.

<table>
<thead>
<tr>
<th>Fire Safety Provision</th>
<th>Category*</th>
<th>Specific Requirements and Recommendations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>High-Rise Buildings (&gt; 25m)</td>
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<tr>
<td>Automatic smoke detection</td>
<td>Mandatory</td>
<td>Refer to Sections 2.2.1 to 2.2.3 for guidance.</td>
</tr>
<tr>
<td>Automatic fire sprinklers</td>
<td>Mandatory†</td>
<td>Refer to Sections 2.2.4 to 2.2.9 for guidance.</td>
</tr>
<tr>
<td>Electrical protection</td>
<td>Mandatory</td>
<td>Refer to Sections 2.2.10 to 2.2.11 for guidance.</td>
</tr>
<tr>
<td>Record keeping and documentation</td>
<td>Mandatory</td>
<td>Refer to Section 2.2.12 for guidance.</td>
</tr>
<tr>
<td>System maintenance</td>
<td>Mandatory</td>
<td>Refer to Sections 2.2.13 to 2.2.15 for guidance.</td>
</tr>
<tr>
<td>Safety Inspections</td>
<td>Mandatory</td>
<td>Refer to Sections 2.2.16 for guidance.</td>
</tr>
<tr>
<td>Building occupant alarm and warning system</td>
<td>Mandatory</td>
<td>Refer to Sections 3.2.1 for guidance.</td>
</tr>
<tr>
<td>Construction requirements</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.2 to 3.2.7 for guidance.</td>
</tr>
<tr>
<td>Manual fire fighting equipment</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.8 to 3.2.13 for guidance.</td>
</tr>
<tr>
<td>Egress provisions</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.14 to 3.2.15 for guidance.</td>
</tr>
<tr>
<td>Emergency lighting</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.16 to 3.2.17 for guidance.</td>
</tr>
<tr>
<td>Emergency exit signage</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.18 to 3.2.19 for guidance.</td>
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<tr>
<td>Manual call points</td>
<td>Must Consider</td>
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<td>Appliance safety</td>
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<tr>
<td>Active smoke control systems</td>
<td>Need to be demonstrated by risk assessment</td>
<td>Refer to Sections 3.2.22 to 3.2.23 for guidance.</td>
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<tr>
<td>Fire control centre</td>
<td>Must Consider</td>
<td>Refer to Sections 3.2.24 to 3.2.25 for guidance.</td>
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<tr>
<td>Fire Safety Provision</td>
<td>Category*</td>
<td>Specific Requirements and Recommendations</td>
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<tr>
<td>Fire prevention/management</td>
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<td>Refer to Section 4 and Guideline 7.2 for guidance.</td>
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<td></td>
<td></td>
<td>Refer to Section 4 and Guideline 7.2 for guidance.</td>
</tr>
<tr>
<td>Emergency control organisation</td>
<td>Must Consider</td>
<td>Requirements derived from risk assessment in consultation with facility management.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Requirements derived from risk assessment in consultation with facility management.</td>
</tr>
<tr>
<td>Fire emergency procedures and training</td>
<td>Must Consider</td>
<td>Refer to Section 4 for guidance.</td>
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<td>Refer to Section 4 for guidance.</td>
</tr>
<tr>
<td>Fire orders and evacuation plans</td>
<td>Must Consider</td>
<td>Refer to Section 4.7 for guidance.</td>
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<td>Refer to Section 4.1.14 for guidance.</td>
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<td>Occupant capability</td>
<td>Must Consider</td>
<td>Refer to Section 4.2 and Guideline 7.1 for guidance.</td>
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<tr>
<td></td>
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<td>Requirements derived from risk assessment.</td>
</tr>
</tbody>
</table>

* ‘Mandatory’ indicates there are minimum standards specified in the guideline.

*Must Consider’ indicates that the fire safety provisions need to be considered in the risk assessment and requirements are derived from the assessment.

† Automatic fire sprinklers are mandatory for buildings with more than 3 storeys. For low-rise buildings having 3 storeys or fewer, the requirement must be determined by the fire risk assessment.

2.2 High-rise buildings (over 25 metres in effective height — approximately 8 storeys)

Smoke detection systems

2.2.1 Each Sole Occupancy Unit (SOU) must have smoke alarms complying with AS 3786, Building Control Commission Practice Note 2006-27 and the relevant Housing & Community Building guidelines. The smoke alarms must be mains powered with battery backup.

2.2.2 Smoke detection in common public areas may be omitted to the satisfaction of the relevant building surveyor, if the likelihood of vandalism and/or deliberate false alarms is considered high.

2.2.3 Consideration must be given to provision of specific alarms for hearing impaired occupants where necessary.

Automatic fire sprinkler systems

2.2.4 All high-rise residential buildings must have an automatic sprinkler system. A residential sprinkler system in general accordance with AS 2118.4 with the following features may be used, in lieu of a sprinkler system complying with AS 2118.1.

2.2.5 Residential sprinklers must be provided in all SOUs and fast response sprinklers in common areas such as offices, community rooms, etc., except sprinkler coverage may be
omitted in corridors, stairs or plant rooms.

2.2.6 The sprinkler system can be combined with the fire hydrant system and share the same water supply, pumpsets, booster assembly and risers (refer to the hydrant requirements in 3.2.9). Combined hydrant/sprinkler system complying with AS2118.6.

2.2.7 The pump can be initiated by a flow switch at each level in lieu of a pressure switch arrangement.

2.2.8 Monitored isolation valves incorporating a check valve and flow switch must be provided on each level. The valves can be located in hose reel cabinets on each level, constructed of 16 gauge metal to minimise the potential for vandalism.

2.2.9 System signage for valves, boosters, etc., must be provided in accordance with the relevant Australian Standards to the satisfaction of the Chief Officer, except that sprinkler control valve label on cabinets may be omitted to minimise the potential for vandalism.

**Electrical protection**

2.2.10 Earth leakage protection employing cut-off devices must be provided to:

- all buildings that are proposed to be fully upgraded
- all buildings at the time of electrical re-wiring.

2.2.11 Housing & Community Building has established the following electrical safety regime for its public housing properties.

- Replacement of any older wiring, i.e. original braided cotton or toughened rubber sheeting (TRS) with new AS compliant wiring.
  Note: Where braided cotton wiring or TRS cannot be replaced, those properties will have electrical wiring checks at a frequency not exceeding five years.

- Electrical inspection prior to letting of all vacant H&CB residential properties comprising:
  - Check all electrical systems including power outlets, lights and appliances;
  - Check and repair wiring
  - Megger test the whole installation, including main earth;
  - Clean switchboard and reload fuses/circuit breaker; and
  - Test RCD’s and smoke alarms.

- For all upgraded properties, provision of a new circuit breaker board complete with one RCD for the power circuit and one RCD for the lighting circuit (unless already existing).

- Where required a full rewire including new mains, sub-mains and switchboard.
  Note: Switchboard shall not be of the circuit breaker type with main switch and one RCD for the power and one RCD for the lighting circuit.

- Responsive maintenance for any reported faults within:

- 24 hours for urgent electrical faults
- 7 days for priority electrical repairs.

**Record keeping and documentation**

2.2.12 The Department of Human Services must keep records of:

- all fire safety installations including schematics and as built drawings of all the fire protection systems
- reported fire incidents and alarms
- maintenance and testing undertaken
- inspection and checks carried out
- details of fire safety issues reported, action required and evidence that actions have been completed satisfactorily
- essential safety measures records/reports
- other information required by *Capital Development Guideline 7.1; the Fire and Emergency Response Procedures and Training Framework*; or resulting from the fire risk assessment.

**System maintenance**

2.2.13 All fire protection systems, measures and associated building services must be maintained in accordance with the appropriate Australian Standards and Part 12 of Building Regulations.

2.2.14 Maintenance contracts must be in place so that the required performance levels are being maintained.  
**Note:** Where maintenance contracts are renewed, measures must be in place to ensure that test/maintenance procedures and frequencies for a system continue to satisfy the relevant requirements.

2.2.15 Checks on smoke alarms (dusting and testing) are requested to be undertaken by tenants on a monthly basis and must be defined in the tenancy agreements together with a requirement to report any suspected faults.

**Safety inspections**

2.2.16 The Housing & Community Building (H&CB) has established the following inspection regime for its public housing properties:

- Essential safety measures inspection, maintenance and reporting as required
- vacant maintenance inspection and works prior to re-letting of all vacant H&CB residential properties, comprising:
  - an electrical safety check of electrical systems, including:
    - checking all electrical systems including power outlets, lights and appliances
• checking all wiring and repair if necessary
• undertaking a high voltage insulation test of the whole installation, including the main earth
• cleaning the switchboard and reloading/resetting/testing fuses or circuit breakers
• testing all RCDs and smoke alarms.
  o a gas safety check
  o a building safety check including trips & falls hazards and appliance safety
  o any repairs and/or maintenance necessary to meet Residential Tenancies Act provisions.

• a property condition inspection of each property every 3 years including the structure, fixtures, fittings, services (including electrical wiring and smoke alarms) grounds and outbuildings
  Note: Any urgent works identified by property condition are actioned immediately through responsive maintenance.

• full inspection of each property undergoing major upgrade, including structure, fixtures, fittings, services (including electrical wiring and smoke alarms) grounds and outbuildings

• responsive maintenance, inspection and work, for any reported urgent faults within 24 hours, priority repairs within 7 days, and normal works within 14 days

• ad hoc home inspections when properties are visited by staff.

2.3 Low and medium-rise buildings

Low-rise buildings have 3 or fewer storeys. Medium-rise buildings have 4 to 8 storeys but are less than 25 metres in effective height.

Smoke detection systems

2.3.1 Each Sole Occupancy Unit (SOU) must have smoke alarms complying with AS 3786, Building Control Commission Practice Note 2006-27 and the relevant Housing & Community Building guidelines. The smoke alarms must be mains powered with battery backup.

2.3.2 Smoke detection in common public areas may be omitted to the satisfaction of the relevant building surveyor, if the likelihood of vandalism and/or deliberate false alarms is considered high.

2.3.3 Consideration must be given to provision of specific alarms for hearing impaired occupants where necessary.

Automatic fire sprinkler systems

2.3.4 Medium-rise buildings of more than 3 storeys must have an automatic sprinkler system. The sprinkler system design requirements specified for high-rise buildings (refer to 2.2.4 to
2.2.9) can be adopted.

2.3.5 For low-rise buildings of 3 storeys or fewer, an automatic sprinkler system is not mandatory. The need for sprinklers for these buildings may be determined by the fire risk assessment.

**Electrical protection**

2.3.6 Earth leakage protection employing cut-off devices must be provided to:

- all buildings that are proposed to be fully upgraded
- all buildings at the time of electrical re-wiring.

2.3.7 The Housing & Community Building has established the following electrical safety regime for its public housing properties.

- older wiring must be replaced; that is, original braided cotton or toughened rubber sheeting (TRS) with new AS compliant wiring
  **Note:** Properties where braided cotton wiring or TRS cannot practically be replaced will have electrical wiring checks at a frequency not exceeding five years.
- there must be responsive maintenance for any reported faults within:
  - 24 hours for urgent electrical faults
  - 7 days for priority electrical repairs.

**Record keeping and documentation**

2.3.8 The Department of Human Services must keep records of:

- all fire safety installations including schematics and as built drawings of all the fire protection systems
- reported fire incidents and alarms
- maintenance and testing undertaken
- inspection and checks carried out
- details of fire safety issues reported, action required and evidence that actions have been completed satisfactorily
- essential safety measures records/reports
- other information required by *Capital Development Guideline 7.1*; the Fire and Emergency Response Procedures and Training Framework; or resulting from the fire risk assessment.

**System maintenance**

2.3.9 All fire protection systems, measures and associated building services must be maintained in accordance with the appropriate Australian Standards and Part 12 of Building Regulations.
2.3.10 Where required, maintenance contracts must be in place so that the required performance levels are being maintained.

Note: Where maintenance contracts are renewed, measures must be in place to ensure that test/maintenance procedures and frequencies for a system continue to satisfy the relevant requirements.

2.3.11 Checks on smoke alarms (dusting and testing) are requested to be undertaken by tenants on a monthly basis and must be defined in the tenancy agreements together with a requirement to report any suspected faults.

Safety inspections

2.3.12 The Housing & Community Building (H&CB) has established the following inspection regime for its public housing properties:

- Essential safety measures inspection, maintenance and reporting as required
- vacant maintenance inspection and works prior to re-letting of all vacant H&CB residential properties, comprising:
  - an electrical safety check of electrical systems, including:
    - checking all electrical systems including power outlets, lights and appliances
    - checking all wiring and repair if necessary
    - undertaking a high voltage insulation test of the whole installation, including the main earth
    - cleaning the switchboard and reloading/resetting/testing fuses or circuit breakers
    - testing all RCDs and smoke alarms.
  - a gas safety check
  - a building safety check including trips & falls hazards and appliance safety
  - any repairs and/or maintenance necessary to meet Residential Tenancies Act provisions.

- a property condition inspection of each property every 3 years including the structure, fixtures, fittings, services (including electrical wiring and smoke alarms) grounds and outbuildings

  Note: Any urgent works identified by property condition are actioned immediately through responsive maintenance.

- full inspection of each property undergoing major upgrade, including structure, fixtures, fittings, services (including electrical wiring and smoke alarms) grounds and outbuildings

- responsive maintenance, inspection and work, for any reported urgent faults within 24 hours, priority repairs within 7 days, and normal works within 14 days

- ad hoc home inspections when properties are visited by staff.
3 Fire safety measures to be derived and verified by a fire risk assessment

3.1 General

3.1.1 The following fire safety measures and precautions must be considered by the fire safety engineer and building surveyor in deriving a fire safety strategy that satisfies the performance requirements of the BCA and other objectives prescribed in the Department of Human Services Guidelines. The BCA Deemed-to-Satisfy provisions may be used as the initial basis of a fire risk management strategy in some instances, but it is expected that they will require modification to satisfy the Department of Human Services objectives and provide cost-effective solutions.

The relevant building surveyor may determine that the application of the high-rise building fire safety strategy Fire Safety Strategy for Office of Housing High-Rise Buildings (30 January 2004) and subsequent amendments, developed by Department of Human Services in conjunction with Melbourne Fire Brigade is an example of such a cost-effective solution.

3.1.2 Other examples of typical design solutions for each fire safety measure or precaution are given for illustrative purposes only. These guidelines must not be interpreted as a benchmark.

3.1.3 It must be noted that the final solution may vary from one facility to another, being tailored to the specific circumstances and reflecting the uniqueness of each facility. The following list must therefore not be regarded as inclusive of all fire safety measures and precautions which need be considered.

3.2 High-rise buildings (over 25 metres in effective height)

Building emergency warning system

3.2.1 An emergency warning system must be provided to all high-rise residential buildings. The system must comply generally with AS 1670.4 or AS 2220 and consideration is to be given to the following:

- A generic risk assessment and report that is specific to high-rises development managed by H&CB and subject to the approval of the relevant building surveyor.
- An emergency control panel must be provided for fire brigade control.
- Warden intercom points may be omitted.
- The system must automatically initiate an alert tone to the floor of fire origin with a fire brigade override control to place the system into evacuation tone and/or cascade to other floors.
- One way communication via a public address facility must be provided for fire brigade intervention.
- The system must be designed to achieve a minimum sound pressure level of 95 dBA at the door of each Sole Occupancy Unit (SOU), measured on the corridor side at a
height of 1.6 metres above the door threshold. Where the ‘alert’ and ‘evacuation’ tones produce different sound pressure levels due to the change in frequency, the measurements corresponding to the ‘Evacuation’ tone must be used for compliance approval.

- Information system (dedicated emergency information book or similar) must be provided at the fire indicator panel to the satisfaction of the fire brigade.

**Construction requirements**

3.2.2 The buildings must have structural members and separating elements that will maintain structural stability and prevent fire spread during a fire to the degree necessary to satisfy the relevant objectives of the Department of Human Services Guidelines, as described in *Capital Development Guideline 7.1*. This may require predicting the likely fire severity and calculating the ability of the members to withstand exposure to the fire.

3.2.3 In some buildings, the installation of fire hose reels and sprinkler control valves may be housed within a cabinet abutting an SOU, which may be finished flush with the SOU wall to avoid obstruction to corridors, thereby penetrating the SOU wall. These cabinets must be constructed of 16 gauge metal, as minimum, to minimise vandalism and sealed to the SOU wall with a fire-rated mastic to minimise potential smoke spread. If the SOU is being refurbished, any walls containing the cabinet must be lined with a fire-resistant plasterboard system to reinstate the integrity of the wall.

3.2.4 Exit stairs must be enclosed by smoke-proof construction as a minimum. Alternative means of construction and/or fire safety provisions may be derived for minimisation of fire and smoke spread into the stair to satisfy the relevant objectives of the Department of Human Services Guidelines, as described in *Capital Development Guideline 7.1*.

Existing lining materials may remain. Where refurbishment replacement occurs, non-combustible wall and ceiling linings must be used. The floor, wall and ceiling linings must meet the fire hazard properties specified in Specification C1.10a of the BCA.

3.2.5 Where carpets are being replaced, thought must be given to selecting a carpet with low flammability, flame spread and smoke production characteristics. **Note:** A pure wool carpet or equivalent may be considered to exhibit low flammability and low flame spread characteristics in the context of floor coverings in buildings complying with the guideline.

**Protection of openings**

3.2.6 Doors to SOUs must be either solid-timber core doors or fire doors with an FRL of -/60/30. Closers to SOU doors may be omitted.

3.2.7 Doors to other rooms opening to the public corridors must be either solid-timber core doors or fire doors with an FRL of -/60/30. Closers to these doors may be omitted.

**Manual fire fighting equipment**

3.2.8 Manual fire fighting equipment must be considered on a case by case basis, with the final requirements derived in consultation with the building surveyor and the fire authorities, as appropriate.

3.2.9 Fire hydrants must be provided in general accordance with AS 2419.1. However, the following may be acceptable in consultation with the fire brigade:
The hydrant system may be combined with the automatic fire sprinkler system and designed for at least 1 hydrant operating simultaneously with the sprinkler system.

A Grade 2 water supply comprising connection to 2 independent towns main may be provided in lieu of a Grade 1 water supply or static water tanks.

A single in-line electric pump in accordance with AS 2941 may be provided in lieu of a dual pumpset arrangement, with the pump connected to a separate switch on the main electrical switchboard in accordance with AS 3000 for fire control equipment. The pump must automatically start via the sprinkler flow switch and operation for the hydrant system may be via manual switch on the pump controller, initiated by the fire brigade if required.

Existing fire mains, including risers, of minimum 80 mm diameter may be retained in lieu of 100 mm and 150 mm diameter fire mains.

The hydrostatic test pressure may be 1400 kPa in lieu of 1700 kPa.

The booster assembly including at least 1 feed hydrant must be provided.

Isolation valves must be provided as follows:

- Each riser must be capable of independent isolation which permits the remainder of the system to remain operational.
- For combined systems, risers incorporating the sprinkler take-off connections must be provided with additional valving to enable a maximum of 4 levels to be isolated.
- All isolation valves must be monitored by the fire indicator panel (FIP) to initiate an alarm without brigade notification.

Storz couplings must be provided to all existing and new hydrants.

System signage for valves, hydrants, boosters, etc, must be provided in accordance with the relevant Australian Standards to the satisfaction of the Chief Officer.

A block plan showing all valve locations must be provided at the FIP.

3.2.10 Fire hose reels must be provided in accordance with the BCA and AS 2441. Any variations to these requirements will require consent from the fire brigade.

3.2.11 Water type fire extinguishers are not required where hose reels are provided. The requirements for portable extinguishers in public areas must be considered, taking into account the potential for vandalism and misuse of the extinguishers.

3.2.12 Within sole occupancy units (SOU), where an automatic residential sprinkler system has been provided, water type fire extinguishers and/or fire blankets are not required.

3.2.13 Appropriate signage must be provided to all manual fire fighting equipment.

**Egress provisions**

3.2.14 Egress provisions must comply generally with Part D of the Building Code of Australia as determined by the relevant building surveyor.
Door operation
3.2.15 All exit doors and doors in the egress path (other than doors to SOUs) must be readily openable by a single-handed downward or pushing action on a single device without a key from the side that faces a person exiting the building.

Emergency lighting
3.2.16 Emergency lighting must be provided in general accordance with Part E of the BCA and AS 2293.1 and in every:

- passageway, corridor, hallway and the like that is part of the path of travel from an SOU or common public area to a required exit
- stairway
- common public area.

3.2.17 Emergency lighting must also be provided where manual call points are located.

Exit signs
3.2.18 Illuminated exit signs must be provided in public areas above exit doors. Exit direction signs to direct occupants and visitors to exits must be provided such that they are clearly visible to persons approaching an exit from any point in a corridor. The mounting location of the exit signs must take into account their performance in an expected smoky environment.

3.2.19 Exit signs and exit direction signs must be provided in accordance with Part E of the BCA and AS 2293.1.

Manual call points (MCPs)
3.2.20 Consideration must be given to providing manual call points for occupants to raise a building-wide alarm, unless the likelihood of vandalism and/or deliberate false alarms is considered high.

Appliance safety
3.2.21 Individual heaters, where provided by Department of Human Services, must be fixed in position and be constructed, installed and guarded in accordance with appropriate Australian Standards, BCA, manufacturer’s instructions and other relevant acts and regulations.

Note: The Department of Human Services is unable to effectively control appliances brought into multi-storey housing by tenants.

Smoke control
3.2.22 Where demonstrated as necessary by the fire risk assessment, active smoke control or smoke venting measures must be implemented. Account must be taken of the reliability of any proposed systems.

3.2.23 The provision of stair pressurisation systems in existing high-rise residential buildings is not considered a cost-effective solution by the Department of Human Services.
Fire control centre facility

3.2.24 It is recognised that the provision of a separate fire control room may not be practical for an existing building. In this case, the lobby area in the main entry to the building must form the fire control centre. Where the building is over 50 metres in effective height, approval from the fire brigade will be required.

3.2.25 The FIP, tactical plans and fire safety system information must be provided in the fire control centre to facilitate fire brigade intervention.

3.3 Medium and low-rise buildings

Building occupant alarm and warning system

3.3.1 In addition to the smoke alarms within individual SOUs, any building occupant warning system that is provided, must activate upon a sprinkler activation to warn all occupants in the building of a potential fire incident.

3.3.2 However, the design of the system must give consideration to potential for nuisance alarms (accidents and deliberate), which can cause conflict between tenants and disrupt their peaceful enjoyment of the building.

Construction requirements

3.3.3 The buildings must have structural members and separating elements that will maintain structural stability and prevent fire spread during a fire to the degree necessary to satisfy the relevant objectives of the Department of Human Services Guidelines, as described in Capital Development Guideline 7.1. This may require predicting the likely fire severity and calculating the ability of the members to withstand exposure to the fire.

3.3.4 Stairs and shafts connecting two or more levels must be enclosed in construction having appropriate resistance to fire and smoke spread to the degree necessary to satisfy the relevant objectives of the Department of Human Services Guidelines, as described in Capital Development Guideline 7.1, and the Performance Requirements of the BCA.

Existing lining materials may remain. Where refurbishment occurs, non-combustible wall and ceiling linings must be used. The floor, wall and ceiling linings must meet the fire hazard properties specified in Specification C1.10a of the BCA.

3.3.5 Where carpets are being replaced, consideration must be given to selecting a carpet with low flammability, flame spread and smoke production characteristics.

Protection of openings

3.3.6 Doors to SOUs must be either solid-timber core doors or fire doors with an FRL of -/60/30. Closers to SOU doors may be omitted.

3.3.7 Doors to other rooms opening to the public corridors must be either solid-timber core doors or fire doors with an FRL of -/60/30. Closers to these doors may be omitted.

Manual fire fighting equipment

3.3.8 Manual fire fighting equipment must be considered on a case by case basis, with the final requirements derived by the fire safety engineer in consultation with the building surveyor and the fire authorities, as appropriate.
3.3.9 Fire hydrants must be provided in accordance with the BCA and AS 2419.1. However, variations similar to those developed for the high-rise buildings may be considered in consultation with the fire brigade.

3.3.10 Fire hose reels must be provided in accordance with the BCA and AS 2441. Any variations to these requirements will require consent from the fire brigade.

3.3.11 Water type fire extinguishers are not required where hose reels are provided. The requirements for portable extinguishers in public areas must be considered, taking into account the potential for vandalism and misuse of the extinguishers.

3.3.12 Appropriate signage must be provided to all manual fire fighting equipment.

**Egress provisions**

3.3.13 Egress provisions must comply generally with Part D of the Building Code of Australia as determined by the relevant building surveyor.

**Door operation**

3.3.14 All exit doors and doors in the egress path (other than doors to SOUs) must be readily openable by a single-handed downward or pushing action on a single device without a key from the side that faces a person exiting the building.

**Emergency lighting**

3.3.15 Emergency lighting must be provided in general accordance with Part E of the BCA and AS 2293.1 and in every:

- passageway, corridor, hallway and the like that is part of the path of travel from an SOU or common public area to a required exit
- stairway
- common public area.

3.3.16 Emergency lighting must also be provided where manual call points are located.

**Exit signs**

3.3.17 Illuminated exit signs must be provided in public areas above exit doors. Exit direction signs to direct occupants and visitors to exits must be provided such that they are clearly visible to persons approaching an exit from any point in a corridor. The mounting location of the exit signs must take into account their performance in an expected smoky environment.

**Manual call points (MCPs)**

3.3.18 Consideration must be given to providing manual call points for occupants to raise a building-wide alarm, unless the likelihood of vandalism and/or deliberate false alarms is considered high.

**Appliance safety**

3.3.19 Individual heaters, where provided by Department of Human Services, must be fixed in position and be constructed, installed and guarded in accordance with appropriate
Australian Standards, BCA, manufacturer’s instructions and other relevant acts and regulations. 
Note: The Department of Human Services is unable to effectively control appliances brought into multi-storey housing by tenants.

Smoke control
3.3.20 Where demonstrated to be necessary by the fire risk assessment, active smoke control or smoke venting measures must be implemented. Account must be taken of the reliability of any proposed systems.

Fire control centre facility
3.3.21 The provision of a fire control centre is not expected in a low or medium-rise building. In this case, were one to be considered, the lobby area in the main entry to the building may form the fire control centre.

3.3.22 The FIP, tactical plans and fire safety system information must be provided in the fire control centre to facilitate fire brigade intervention.
4 Other measures

4.1.1 The fire safety measures described in this section are applicable to both new and existing buildings.

Protection against external environmental hazards

4.1.2 If high-rise buildings are located in bushfire prone areas (as defined in the building regulations and the BCA) or in a wildfire management overlay in any planning scheme, the requirements of the BCA Volume 1 and Guideline 7.2 (for a bushfire safety risk assessment) must be complied with for all buildings, whether existing or new.

4.1.3 If high-rise buildings are located in alpine areas (as defined in the building regulations and the BCA) the requirements of the BCA Volume 2 must be complied with for all buildings, whether existing or new.

Occupant capability

4.1.4 Occupants of high-rise buildings are considered as representative of the general population housed in rental accommodation, except that there may be a higher proportion of non-English speakers housed. Therefore, information on fire safety precautions and responsibilities to be exercised by occupants must be made available in the most common community languages.

4.1.5 The occupants’ capability to respond in a fire emergency may vary significantly and will need to be addressed on a case by case basis. This must be considered during the fire risk assessment process.

Doors and locks

4.1.6 The H&CB policy is that deadlocks should not be installed to doors from SOUs. Where a tenant requests to install a deadlock as an insurance or security requirement, H&CB may allow this installation (at the tenants’ expense) subject to a H&CB assessment of risk and provision of advice to the tenant regarding the potential dangers of dead locks in the case of emergency. If approval is given, the type of deadlock installed must include visual indication of internal deadlock status (locked or unlocked) and have a safety release which automatically unlocks the internal knob upon entry.

Appliance safety

4.1.7 Individual heaters, where provided by the Department of Human Services, must be permanently fixed in position and installed in accordance with the manufacturer’s specifications, the relevant Australian Standards and the BCA. Note: The Department of Human Services is unable to effectively control portable appliances brought into SOUs by tenants.

Fire prevention and fire safety management

4.1.8 The Department of Human Services does not have the authority to control smoking within tenants’ homes, nor does it have the authority to control furnishings supplied by tenants. However, where the department supplies upholstered furnishings, mattresses, curtains and the like, they should be flame-retardant or treated with flame-retardants to minimise the risk of ignition.
4.1.9 Subject to availability, it is recommended that fillings and covering materials for furnishings should be tested in accordance with AS 3744.1 (smouldering cigarette) and AS 3744.2 (small flaming) ignition sources. Individual materials or composites should not have exhibited any of the nominated criteria in the Standards for ignition.

**Emergency plans and procedures**

4.1.10 Emergency procedures must be documented and reviewed at least annually in accordance with appropriate Standards and the Department of Human Services Framework document (see Guidelines 7.1 and 7.2).

4.1.11 Procedures covering fire and other building emergencies must be prepared and documented for each building or unit on a site. The procedures must include separate sections covering actions in the event of activation of a smoke or heat detector, discovery of a fire/smoke incident or suspect conditions by staff, evacuation procedures, fire notices and emergency plans. The procedures must be developed and documented specifically for each facility, taking account of the fire hazards and fire safety strategy in place.

4.1.12 Procedures must be prepared and reviewed according to the requirements of the Department of Human Services framework and meet the requirements of AS 3745. The procedures must be consistent with the fire safety strategy for the site.

4.1.13 A site-specific training program must be developed for each building. The program may comprise:

- a video training program
- a written training package including fire notices, emergency plans and fire prevention advice in a range of community languages. This must be supplied to tenants at the time of arrival
- an induction showing emergency exits and explaining what to do in an emergency.

**Fire orders and evacuation plans**

4.1.14 Building or site-specific fire orders suitable for each building must be developed, along with evacuation plans showing MCPs, fire extinguishers, egress routes and assembly points as appropriate, and must be displayed in prominent locations.

**Record keeping and documentation**

4.1.15 The Department of Human Services must keep records of:

- reported fire incidents and alarms
- maintenance and testing of fire safety equipment as described within this guideline
- electrical inspections as described in this guideline
- other inspection and checks carried out
- details of fire safety issues reported, action required and evidence that actions have been completed satisfactorily.