

Report for IRCC meeting May 2011

Australian Building Code Requirements for Aged Care Facilities and Housing

1. Aged Care Facilities

In the 1990s, the Building Code classification for a building accommodating the aged was generally either a Class 3 or Class 9a depending upon the care needs of the intended residents.

A Class 9a building was intended to accommodate residents that require nursing care or medical supervision and was commonly used for nursing homes. A Class 3 building was intended to accommodate residents that do not require nursing care or medical supervision and was commonly used for hostels.

There were several substantial differences between the technical provisions of the two classifications. These differences were in the provisions for fire resistance levels, the type and extent of fire and smoke compartmentation, active fire suppression systems, location of exits, and the type and number of sanitary facilities, among others.

The two classifications generally reflected the requirements of residential aged care under Commonwealth legislation that was in force up until October 1997.

However, the *Aged Care Act 1997* introduced reforms to Commonwealth funded aged care provision which ended the previous sharp distinction between “hostels” and “nursing homes” and necessitated a review of the Building Code classifications and provisions relating to aged care.

Prior to 1997, the provision of Commonwealth funded residential aged care and accommodation was administered under two separate Acts. The superseded legislation distinguished between nursing homes, in which high levels of care including nursing care were provided, and hostels in which lower levels of care were provided.

Two separate methods of assessing residents’ care needs were used. The Resident Classification Instrument (RCI) assessed the care needs of and determined the amount of Commonwealth subsidy for those seeking entry to nursing homes. The Personal Care Assessment Instrument (PCAI) performed the same function for those seeking entry to hostels.

The dual system gave rise to two distinct types of aged care facility, nursing homes and hostels, each of which were built to meet the operational and construction requirements of providing care, safety and security appropriate to the assessed dependency levels of residents. The two building types were reflected in the building classifications of the Building Code of Australia as it related to aged care.

The dual system did not recognise that many residents progress through a continuum of care needs from low to high. Many older people enter residential care with low care

needs, but, as they age, require higher levels of care. In the dual system, such progression often necessitated the transfer of a hostel resident to a nursing home. This frequently has negative consequences for the health and well-being of the resident, for whom the hostel accommodation was home. It also led at times to the separation of couples with differing care needs.

The *Aged Care Act 1997* provides a legislative base for a unified aged care system. It removes the distinction between nursing homes and hotels. Both are treated as residential aged care facilities. Further, the Act replaces the previous two resident care needs assessment instruments with a single Resident Classification Scale (RCS). In the RCS there are eight levels of care need, ranging from RCS8 (lowest care need) to RCS1 (highest care need).

RCS levels 8 to 5 correlate approximately with the care levels provided in hostels. RCS levels 4 to 1 correlate approximately with the care levels provided in nursing homes.

There was a need for building regulations that would allow the construction of multi-use residential aged care buildings, that is, buildings capable of accommodating older people who enter residential care as low care residents and who wish to remain in the service as their care needs increase.

It was argued that aged care services become the permanent home of residents and should provide a “residential” rather than an “institutional” environment, consistent with the need for safety and the provision of personal and nursing care.

The Commonwealth Department of Health and Aged Care on behalf of the aged care sector accordingly requested the ABCB to review the BCA classifications and provisions with a view to developing provisions for a multi-use aged care facility.

The principal stages in the development of the proposal were as follows:

1. Analysis of the provisions relating to Class 3 and Class 9a with a view to determining where they differ.
2. Consideration of information relevant to the aged care accommodation including,
 - care needs of residents as these are classified under the Resident Classification Scale,
 - a resident care profile of a facility capable of accommodating the full range of dependency,
 - staff profiles suitable for a facility capable of accommodating the full range of dependency,
 - current trends in the operation of facilities,
 - market trends in relation to residents’ expectations of residential aged care accommodation, and

- the profile of the staff working in an aged care facility. This extends to information such as the number of staff at the various times throughout a day, the staff/resident ratio, their training and experience and whether the staff are upright and awake or asleep at night.
3. Development of appropriate provisions for a multi-use building. It was decided to include the proposed provisions under a new classification, Class 9c.
 4. It was determined that Class 9c would include two optional solutions:
 - (a) a solution based on protection for the occupants by fire and smoke compartmentation and an early warning and alarm system, and
 - (b) a solution based on protecting the occupants by the provision a suitable sprinkler system and an early warning and alarm system.
 5. When the solutions for Class 9c had been developed, the provisions for Class 3 and Class 9a buildings were reviewed to ascertain whether any amendments should be made to existing requirements.
 6. Other issues considered included:
 - The use of door closers which inhibit the movement of frail elderly people,
 - The type of sprinkler system suitable for aged care facilities,
 - What concessions, if any, should be obtained for installing a sprinkler system,
 - Accessibility for people with a disability,
 - The number of sanitary facilities and the ratio of residents to sanitary facilities,
 - Requirements for baths,
 - The provision of natural light and ventilation,
 - Doorway widths consistent with safety and a more “residential” environment,
 - Fire Resistance Levels to walls bounding sole occupancy units,
 - Audibility of alarms and their potential to create confusion and distress in elderly people,
 - The applicability of fire compartmentation.

The safety of the residents remained the highest priority when considering new provisions for aged care facilities. Whilst the provisions associated with the proposed new Class 9c building were based on Class 3 and 9a provisions already in the BCA, regulators had to be satisfied that the level of safety of the residents in the new Class 9c Aged Care Facility was, in the event of fire, at least as good as that for residents in buildings complying with the previous Class 3 or 9a provisions.

The level of safety afforded to aged persons accommodated in Class 3 or Class 9a buildings satisfying the criteria in the BCA at that time was considered to be acceptable on the basis of historic evidence.

The ABCB undertook significant consultation as part of this project. The existing aged care provisions were reviewed by an Aged Care Facilities Working Group and the ABCB's Building Codes Committee (BCC).

The aged care working group consisted of representatives from the ABCB, Department of Health and Aged Care, representatives of the State and Territory building control authorities, aged care service providers and consumers. The Building Codes Committee is the ABCB's peak technical advisory body. It has responsibility for providing technical advice on reforming, maintaining and upgrading the technical content of Australia's building codes and standards.

As part of the development process a number of detailed documents were released publicly for the purpose of consultation. These documents were:

- ABCB position paper released in March 1999
- Discussion Paper which incorporated the proposed changes, published in August 1999
- Drafts Regulatory Impact Statement (RIS) in August 1999
- Regulation Document (December 2000) which outlined the proposed changes to the BCA
- Regulatory Impact Statement in January 2001 which costed the proposed changes outlined in the December 2000 Regulation Document

To ensure that the proposal developed by the Aged Care Facilities Working Group met the relevant fire-related performance requirements, a fire safety consultant was engaged to undertake a fire engineering analysis.

The assessment demonstrated the appropriateness of the proposed changes and was accepted by all relevant parties. The Building Codes Committee initiated a second report which was a sensitivity analysis of the original fire engineering assessment to determine whether the assumptions made in the fire engineering assessment were appropriate.

A fire risk assessment methodology was used, to determine if the proposal provided occupants with the same level of fire safety as is provided by the current deemed-to-satisfy buildings in the BCA. The study involved both a deterministic and probabilistic analysis.

The deterministic analysis used typical fire and evacuation models to determine the consequences of an event if it were to occur. The probabilistic analysis determined the frequency of that event occurring. The combination of the deterministic and probabilistic analysis provided the resultant risk level to the occupants.

The finding of the study showed that the proposal provided aged care building occupants with an equal or low level of risk from fire.

The fire safety engineering analysis was undertaken on the basis that a specific number of staff would be available during a fire and that they would assist in the evacuation of the residents along with closing the door to the room where the fire occurs. The effectiveness of staff actions in a fire situation is affected by their availability, location and training.

In undertaking the analysis, certain assumptions were used, including some related to staff such as the number available and their proximity to residents. The assumptions adopted in the analysis were developed following advice from the Working Group on the typical layout, operation of facilities, and information gained from audits of existing and proposed facilities. Therefore the level of safety afforded by the proposed provisions is directly linked to the staffing assumptions made during the development of the proposal.

The more significant changes in the proposal were:

Definition

The new aged care building definition described an aged care building as an accommodation building where residents are provided with personal care services and 24 hour assistance to evacuate.

Classifications

As mentioned earlier, the care need of residents was the basis of the proposed classification system. The BCA classifications generally correspond to the differing levels of care required by the various types of residents. This allows the distinction between the care needs to be identified so appropriate provisions can be incorporated in the building. The existing Class 3 and 9a classifications remain but were clarified in relation to aged care buildings. Multi-care level facilities were introduced and were clearly identified within the classification system by the addition of a new class 9c. The resultant classifications were:

- Class 3 - includes low-care level aged care buildings
- Class 9a - includes high-care level aged care buildings
- Class 9c - covers multi-care level aged care facilities

The structure addressed the concepts of the Aged Care Act by allowing operators of facilities to design and construct a building in accordance with the BCA that recognises the differences between the care needs and functional requirements of the facility.

Door closers

Door closers were not required to be provided to the resident's bedrooms or other areas used by the residents such as common rooms, bathrooms etc. The reasoning for this was the principle requirement for an aged care building not to have features that

would impede the residents when moving between bedrooms and other facilities. Hence, door closers on doors to bedrooms and other areas used by the residents were not required. This could mean a doorway to a bedroom or other area where a fire starts could be left open. It would be expected that, as part of the evacuation procedures, the first priority for staff after evacuating any residents from the room of fire origin would be to close the door. This cannot be guaranteed, however with sprinkler protection, early warning of fire and other smoke compartmentation provisions, the risk to life versus building functionality was considered acceptable.

Exit travel distances

For sprinkler protected Class 9c buildings, the exit travel distances are equivalent to the general requirements for Class 5 - 9 buildings. For class 3 and 9a aged care buildings exit travel distances were not altered.

Fire hose reels

Fire hose reels are not required to be provided in aged care buildings. It is recognised occupants close to the point of ignition often provide the most effective means of extinguishing a small fire before it grows. In this case staff or visitors, if not some residents could be effective in performing this function. To do this appropriate means of extinguishment would be a portable fire extinguisher or hose reel.

It was considered that portable extinguishers would provide adequate means for occupants to attack the fire and that the additional level of redundancy associated with the provision of hose reels was not necessary.

Also, it was not expected that the number of staff available would be able to fight a growing fire with hose reels. A fire which has become too large to be attacked with portable fire extinguishers would require staff to be closing doors and evacuating the residents

Smoke detection

In aged care buildings, a smoke detection system is required in all areas.

Sprinklers

A fire sprinkler system is required in all Class 9c aged care buildings, with a corresponding reduction in fire compartmentation than would otherwise be required.

2. Group homes

A Class 1b building, under the Building code of Australia, is a boarding house, guest house, hostel or similar with a total floor area not exceeding 300 m² and in which no more than 12 persons would ordinarily reside. A Class 3 building is a residential building which is a common place of long term or transient living for a number of unrelated persons.

A commonly used generalisation of a Class 1b building being a small Class 3 building with concessions has been questioned in recent years when applied to accommodation for the aged, children and people with a disability.

Currently there is divided opinion on whether a Class 1b building can or should be used as accommodation for such occupants, and concerns have been expressed by some about the level of fire safety provided, particularly in circumstances where occupants of a Class 1b building may need assistance to evacuate in the event of an emergency.

The issue of use of Class 1b buildings is closely related to national social policies. The aging population is on the increase and the Government is seeking new approaches of accommodating the aged and how to provide residential services for people who need assistance. The aged are encouraged to stay in non-institutional accommodation under "aging in place" policies. The question has been raised to what extent Class 1b buildings can provide this form of accommodation. Also a non-discriminatory approach to access to services including accommodation has to be taken in account when considering use of Class 1b buildings for such occupants.

To begin with, the original intent of the Class 1b building was to provide concessions for people to provide low capital cost accommodation. An upper limit was placed on the size of the floor area and the number of residents. The reasoning was that the smaller size of the building and its lower number of occupants represented reduced fire risks compared to the nature of a Class 3 building.

Class 1b buildings require the same level of facilities as a Class 1 building (a single dwelling) and that raises several matters:

- No additional toilet, bathroom or kitchen facilities are required for up to maximum of 12 occupants;
- Occupancy is not limited to short term or long term accommodation;
- No acoustic separation between the bedrooms;
- No fire or smoke separation between the bedrooms;
- Additional fire safety equipment or services are required (smoke alarms in every bedroom, corridor associated with bedrooms/area between bedrooms and on each storey and lighting to assist evacuation consisting of light incorporated in the smoke alarm and the lighting located in the corridor, hallway or area served by the smoke alarm);
- No exit or path of travel are required;
- People with special needs are not included or excluded from occupying a Class 1b building;
- People with special needs may or may not need assistance to exit the building in the case of an emergency;

A comparison of the fire safety requirements in the BCA for Class 1b and Class 3 buildings is at Attachment A.

Research and results from stakeholders and other organisations, strongly indicated that Class 1b and to an increasing extent, Class 1a buildings are currently being used

as group housing. This trend appears to be a result of the general deinstitutionalisation of larger Class 3 facilities both at Federal and State Government level. It was agreed in October 2007 that before any further consideration could be given to this project, evidence of occurrences of problems with BCA-compliant buildings would be necessary. The Australasian Fire Authorities Council undertook to seek evidence and provide statistics. However, no statistics have been provided to date and as a consequence, no changes are proposed to the BCA.

Appendix A – Comparison of Class 1b and Class 3 fire safety requirements

SECTION C FIRE RESISTANCE	
Class 1b building	Class 3 building
<p>Fire resistance construction for Class 1b is not determined by the number of storeys in a building. However there are fire resistance requirements for external walls in particular circumstances:</p> <p>If an <i>external wall</i> of a Class 1 building is less than—</p> <p>(a) 900 mm from an allotment boundary other than the boundary adjoining a road alignment or other public space; or</p> <p>(b) 1.8 m from another building on the same allotment other than an appurtenant Class 10 building or a detached part of the same Class 1 building;</p> <p>the wall (including gables), and any openings in that wall, must extend to the underside of a <i>non-combustible</i> roof covering or <i>non-combustible</i> eaves lining and must—</p> <p>(i) have an FRL of not less than 60/60/60 when tested from the outside; or</p> <p>(ii) be of masonry-veneer construction in which the external masonry veneer is not less than 90 mm thick; or</p> <p>(iii) be of masonry construction not less than 90 mm thick. (3.7.1.5)</p>	<p>One storey Class 3 building is required to be of Type C fire-resisting construction. (greater than 1.5m separation on FRL requirements)</p> <p>Two storeys Class 3 building is required to be of Type B fire-resisting construction.</p> <p>Three storeys (or more) Class 3 building is required to be of Type A fire-resisting construction.</p> <p>*Bounding walls of SOU are fire rated.</p> <p>*Fire isolated stairways. (D1.3)</p>

SECTION C FIRE RESISTANCE	
Class 1b building	Class 3 building
No fire orders requirements for construction of Class 1b building in alpine areas.	<p>Fire orders requirements for construction of Class 3 building in alpine areas:</p> <p>Every Class 2, 3 or 9 building must display a notice clearly marked “FIRE ORDERS” in suitable locations near the main entrance and on each <i>storey</i>, explaining—</p> <ol style="list-style-type: none"> a) the method of operation of the fire alarm system and the location of all call-points; and b) the location and methods of operation of all fire-fighting equipment; and c) the location of all <i>exits</i>; and d) <u>the procedure for evacuation of the building. (G4.9)</u>
No requirements for provision for escape required for Class 1b building.	Provision for escape required to the external parts of <i>sole-occupancy units</i> in Class 3 building. (Part D1)

SECTION E SERVICES AND EQUIPMENT	
Class 1b building	Class 3 building
No fire fighting equipment required in Class 1b building.	<p>Fire fighting equipment required in Class 3 building:</p> <ul style="list-style-type: none"> • Fire hydrants for building having total floor area > 500 m²; • Fire hose reels if fire hydrants provided; • Sprinklers if the building has an effective height > 25 m; and • Fire control centres if the building has an effective height > 25 m. (Part E1)

SECTION E SERVICES AND EQUIPMENT

Class 1b building

For smoke hazard management Class 1b building must be provided with **smoke alarms** as follows:

In a Class 1b building, smoke alarms must be installed on or near the ceiling—

- (a) in every bedroom; and
- (b) in every corridor or hallway associated with a bedroom, or if there is no corridor or hallway, in an area between the bedrooms and the remainder of the building; and
- (c) on each other storey. (3.7.2.4)

Class 3 building

For smoke hazard management, Class 3 buildings (effective height less than 25m) **must be provided with a automatic smoke detection system** complying with Clause 4 if:

- (A) has a Class 3 part located more than 2 *storeys* above ground level; or
- (B) accommodates more than 20 residents and is used as a residential part of a *school* or accommodation for the aged, children or people with disabilities. ((Spec E2.2a 2.(ii))

This smoke detection system must be connected to a fire alarm monitoring system connected to a fire station/fire station dispatch centre. (Clause 7., Spec E2.2a)

Outside these limitations Class 3 buildings (effective height less than 25m) **are given option** to be provided with either:

- (B) a smoke alarm system complying with Clause 3; or
- (B) a smoke detection system complying with Clause 4; or
- (C) a combination of a smoke alarm system complying with Clause 3 within *sole-occupancy units* and a smoke detection system complying with Clause 4 in areas not within the *sole-occupancy units*. (Spec E2.2a 2.(i))

SECTION E SERVICES AND EQUIPMENT	
Class 1b building	Class 3 building
	Class 3 building (effective height more than 25m) must be provided with a automatic smoke detection and alarm system complying with Spec E2.2a.
SECTION E SERVICES AND EQUIPMENT CONTINUE	
Class 1b building	Class 3 building
In a Class 1b building, a system of lighting must be installed to assist evacuation of occupants in the event of a fire, and— (a) be activated by the smoke alarm <i>required</i> by 3.7.2.4(b); and (b) consist of— (i) a light incorporated within the smoke alarm; or (ii) the lighting located in the corridor, hallway or area served by the smoke alarm. (3.7.2.5)	<ul style="list-style-type: none"> • Emergency lighting complying with AS/NZS 2293.1 required in accordance with E4.2; • Exit signs complying with AS/NZS 2293.1 required in accordance with E4.5; • Emergency warning and intercommunication system complying where applicable with AS 1670.4 and AS 4428.4 must be installed— <p>in Class 3 building having a <i>rise in storeys</i> of more than 2 and used as—</p> <ul style="list-style-type: none"> (i) the residential part of a <i>school</i>; or (ii) accommodation for the aged, children or people with disabilities and <p>in Class 3 building used as a <i>residential aged care building</i>, except that the system—</p> <ul style="list-style-type: none"> (i) must be arranged to provide a warning for occupants; and (ii) in areas used by the residents, may have its alarm adjusted in volume and content to minimise trauma consistent with the type and condition of residents. (E4.9)

