



Review of South Australia's Development Approval Processes for Private Bushfire Shelters

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OVERVIEW

With bushfire season fast approaching, a comprehensive review of private bushfire shelters in South Australia was conducted to assess the effectiveness of the development approval process.

The review found that a robust statutory approval process is essential to ensure the safety and functionality of these shelters.

The South Australian statutory approval process allows for a detailed technical review of private bushfire shelters by an accredited professional – building followed by an independent review by the Building Technical Panel ultimately allowing for the approval of bushfire shelters.

Adequate documentation is crucial for the successful approval of a private bushfire shelter. The documentation must allow relevant authorities to thoroughly assess the application against the National Construction Code's performance provisions. Both the accredited professional and the Building Technical Panel have a statutory responsibility to ensure compliance with relevant legislation. The quality and completeness of the submission documentation are essential for informed decision-making.

The Planning, Development, and Infrastructure Act 2016 provides an effective framework for approving private bushfire shelters in South Australia. While the process is effective, minor improvements could be made, such as requiring a certificate of occupancy and implementing mandatory ongoing maintenance requirements. These enhancements would further strengthen the system for property owners seeking to install private bushfire shelters.

All stakeholders agreed that private bushfire shelters are a high-risk structure and should be used as a last resort. Residents and users must be prepared, and the message of "leave early" should be prioritised during bushfires. Bushfires are unpredictable and private bushfire shelters are an unproven solution. While they may save lives, there is no guarantee. Even shelters built to the Australian Building Code Board's Performance Standard do not guarantee survival during a bushfire and should be considered as one part of a comprehensive bushfire risk management strategy.

GLOSSARY OF TERMS

ABCB	Australian Building Code Board
BCA	Building Code of Australia
BTP	SA Building Technical Panel
NCC	National Construction Code
PDI	Planning, Development and Infrastructure Act and Regulations
VBA	Victorian Building Authority
VBRC	Victorian Bushfires Royal Commission
CodeMark	The CodeMark Certification Scheme is a voluntary third-party building product certification scheme, administered by the Australian Building Codes Board. It supports the use of new or innovative building products in specified circumstances in Australia, by providing a nationally accepted process for demonstrating compliance with the National Construction Code.

1.0 BACKGROUND

Tecon Australia was engaged to evaluate South Australia's development approval process for private bushfire shelters to identify potential barriers to approval as well as opportunities to refine and streamline the process.

Installing a private bushfire shelter in South Australia requires development approval, which includes both planning consent (in some cases) and building consent (in all cases).

The National Construction Code (NCC) classifies a private bushfire shelter as a Class 10c building. Private bushfire shelters are required to comply with Performance Requirement H7P6 of Volume Two of the National Construction Code (current version is 2022). There are no deemed-to-satisfy provisions for private bushfire shelters.

“H7P6 Private bushfire shelters

A private bushfire shelter must be designed and constructed to provide a tenable environment for occupants during a design bushfire with an annual probability of exceedance not more than 1:200 years, appropriate to the—

- (a) location of the private bushfire shelter relative to fire hazards including—*
 - (i) predominant vegetation; and*
 - (ii) adjacent buildings and structures; and*
 - (iii) allotment boundaries; and*
 - (iv) other combustible materials; and*
- (b) occupancy of the private bushfire shelter; and*
- (c) bushfire intensity having regard for the bushfire attack level; and*
- (d) fire intensity from adjacent buildings and structures, allotment boundaries and other combustible materials; and*
- (e) ready access to the private bushfire shelter from the associated dwelling and occupant egress after the fire; and*
- (f) tenability within the private bushfire shelter for the estimated maximum period of occupancy; and*
- (g) generation of smoke, heat and toxic gases from materials used to construct the private bushfire shelter; and*
- (h) structural and fire loads and actions to which it may reasonably be subjected, appropriate to—*
 - (i) the topography between the private bushfire shelter and the predominant vegetation or other fire hazards; and*
 - (ii) the distance between the private bushfire shelter and the predominant vegetation or other fire hazards; and*
 - (iii) the size of the potential fire source and fire intensity; and*
 - (iv) wind loading; and*
 - (v) potential impact from debris such as falling tree limbs; and*
- (i) degree of external signage identifying the location of the private bushfire shelter; and*
- (j) degree of internal signage identifying the design capacity and maximum period of occupancy; and*
- (k) degree of occupant awareness of outside environmental conditions; and*
- (l) degree of essential maintenance.*

Notes

NCC Volume Two and the ABCB Housing Provisions do not contain any Deemed-to-Satisfy Provisions for H7P6, however the ABCB Performance Standard for Private Bushfire Shelters contains guidance for H7P6.” (ABCB, NCC 2022, Volume 2, H7P6)

A Performance Standard published by the Australian Building Codes Board (ABCB) provides guidance on achieving compliance with H7P6.

The performance-based standard details the design and construction requirements and was developed in response to the Victorian Bushfires Royal Commission (VBRC) investigation into the bushfires that affected parts of Victoria in early 2009.

1.1 STANDARD PATHWAY TO APPROVAL FOR PRIVATE BUSHFIRE SHELTERS

Section 118(5) of the Planning, Development and Infrastructure Act 2016 (the PDI Act) requires building work of a prescribed class, being a class 10c private bushfire shelter, to obtain concurrence from the State Planning Commission (the Commission) prior to the issuing of building consent. The Commission delegates this role to the Building Technical Panel (BTP).

Prior to the 2009 Victorian bushfires, private bushfire shelters did not have formal legislative standing. Out of these bushfires, the desire for people living in bushfire areas to have an alternative, if they are unable to evacuate early, gained momentum.

From the 2009 Victorian Bushfire Royal Commission it was determined “*as the fires of January–February 2009 burned fire agencies and individuals made crucial decisions in the context of an overarching policy for community safety in bushfires. That policy had become known colloquially as ‘stay or go’ but is more accurately described by its full title, ‘Prepare, Stay and Defend or Leave Early’.*” (2009 Victorian Bushfire Royal Commission)

“Leaving early is still the safest option. Staying to defend a well-prepared, defensible home is also a sound choice in less severe fires, but there needs to be greater emphasis on important qualifications” (2009 Victorian Bushfire Royal Commission)

Critically, *“The Commission heard that many people wait and see what happens before leaving in response to one or more of a range of ‘triggers’, such as a fire being in their area, the situation becoming dangerous, or being personally told to leave. For these people the lack of alternatives—**the provision of shelters and refuges** or evacuation—became critical as a fallback option.”* (2009 Victorian Bushfire Royal Commission)

The 2009 Victorian Bushfire Royal Commission future policy position was *“Providing more practical and realistic options such as community refuges, bushfire shelters and evacuation — including assisted evacuation of vulnerable people”* (2009 Victorian Bushfire Royal Commission & Recommendation 1)

Following the Interim Report of 24 November 2009 the ABCB noted the *“recommendations for the future regulation of certain building related matters, including the regulation of private bushfire shelters.”*

“In recognition of the absence of technical standards for private bushfire shelters within the BCA, the ABCB announced on 24 September 2009 its intention to develop a national performance-based standard for the design and construction of private bushfire shelters.” (2014 ABCB Performance Standard).

Prior to the introduction of a class 10c in the National Construction Code in 2011, there were no specific provisions relating to the design of private bushfire shelter structures. With the desire by owners to build “private bushfire shelters” a need for control over these structures was required. The ABCB performance standard was developed to help address this need.

It is clear from the literature that private bushfire shelters are not a standalone solution to the potential risks of bushfire events. It forms just one part of a bushfire risk management strategy. A private bushfire shelter is a last resort option. People may die in private bushfire shelters even when built to the highest standard.

The ABCB Performance Standard is a performance-based document, it must be clearly understood that there are no deemed to satisfy provisions in the National Construction Code for private bushfire shelters. Based on this, and the high risks of bushfires, private bushfire shelters require a more stringent assessment when considering an application to construct a private bushfire shelter.

It must be emphasized however that private bushfire shelters are not a stand-alone solution to mitigating life safety risk. Technical building standards are only one measure of a need for a comprehensive set of measures to counteract the effects of a bushfire event that include effective land-use planning, fuel management and emergency services strategies.

Therefore, it is not possible to guarantee that the installation of a private bushfire shelter built in accordance with the Design Requirements presented in this document will eliminate the risk of serious injury or fatality.

Based on evidence presented to the VBRC at the time, it concluded that it would appear that a well designed and constructed shelter can provide a level of protection from a bushfire while the fire front passes. The VBRC indicated that it can be a useful 'Plan B' when efforts to defend a house have failed, or when for some reason it has not been possible to leave the property.

Nevertheless, fire can be unpredictable and assistance from fire defence resources may not be available to individual properties. As the VBRC heard, even well prepared community members lost their lives in some instances.

The VBRC indicated that the evidence presented to it suggested extreme caution should be taken in the use of bushfire bunkers as part of a household's bushfire fire safety plan.

It advised that misplaced reliance on a bushfire bunker can be life threatening.

Extract from: ABCB (2014). *THE DESIGN AND CONSTRUCTION OF PRIVATE BUSHFIRE SHELTERS – PART 1.* Australian Building Codes Board.

1.2 ALTERNATIVE PATHWAY AS A BUILDING PRODUCT

The alternative approach is consideration of Section 237(1) of the Planning, Development and Infrastructure Act 2016 and Regulation 123 which enables a building product, building method, design, component, equipment or system to be accredited by the Minister or a person (or body) duly authorised under the CodeMark Scheme. The CodeMark Scheme is a product accreditation scheme administered by the Australian Building Code Board.

Section 237—Accreditation of building products...

(1) Any building product, building method, design, component, equipment or system accredited by an entity prescribed for the purposes of this section is accredited for the purposes of this Act.

(2) The accreditation is subject to any conditions or variations imposed by the entity from time to time and remains in force until the accreditation is revoked by the entity.

(3) A relevant authority must not refuse to approve a development on the ground that any building product, building method, design, component, equipment or system connected with any building work is unsatisfactory if the product, method, design, component, equipment or system is accredited by a prescribed entity and it complies with any such accreditation.

Regulation 123—Accreditation of building products

For the purposes of section 237(1) of the Act, the following entities are prescribed:

(a) the Minister;

(b) a person or body duly authorised under the Code Mark Scheme administered by the Australian Building Codes Board.

There are currently no products that are directly accredited by the Minister for use in South Australia or that have a CodeMark certificate relating to prefabricated private bushfire shelters.

1.3 ABCB PERFORMANCE STANDARD

The performance standard requires private bushfire shelters to be designed and constructed to provide a safe environment for occupants during a bushfire. The following extract from Performance Requirement 2.3 details further (ABCB 2014):

“A private bushfire shelter must be designed and constructed to provide a tenable environment for occupants during the passage of untenable conditions arising from a bushfire event, appropriate to the –

(a) location of the private bushfire shelter relative to fire hazards including –

- I. predominant vegetation;*
- II. adjacent buildings and structures;*
- III. allotment boundaries;*
- IV. other combustible materials.*

(b) occupancy of the private bushfire shelter;

(c) bushfire intensity having regard for the bushfire attack level;

(d) fire intensity from adjacent buildings and structures, allotment boundaries and other combustible materials;

(e) ready access to the private bushfire shelter from the associated dwelling and occupant egress after the fire;

(f) tenability within the private bushfire shelter for the estimated maximum period of occupancy;

(g) generation of smoke, heat and toxic gases from materials used to construct the private bushfire shelter;

(h) structural and fire loads and actions to which it may reasonably be subjected having regard to –

I. the topography between the private bushfire shelter and the predominant vegetation or other fire hazards;

II. the distance between the private bushfire shelter and the predominant vegetation or other fire hazards;

III. the size of the potential fire source and fire intensity;

IV. wind loading;

V. potential impact from debris such as falling tree limbs; and

(i) degree of external signage identifying the location of the private bushfire shelter;

(j) degree of internal signage identifying the design capacity and maximum period of occupancy;

(k) degree of occupant awareness of outside environmental conditions; and degree of essential maintenance’

1.4 SOUTH AUSTRALIAN LEGISLATIVE FRAMEWORK

A private bushfire shelter constitutes development under the *Planning, Development and Infrastructure Act 2016* and requires development approval prior to its installation; this approval may consist of a planning consent and always requires building consent. The relevant authority, either the Council or an accredited professional – building, must not grant building consent, related to a private bushfire shelter, before obtaining concurrence from the Building Technical Panel. The Building Technical Panel acts as a third-party independent authority to review and consider the merits of an application. The Building Technical Panel does not act as the approval authority but are required to provide concurrence on the application.

Concurrence will only be issued where the Building Technical Panel is satisfied that the assessment undertaken complies with Performance Requirements of the National Construction Code (NCC). Compliance with the NCC forms part of the Building Rules that a relevant authority must consider when assessing for Building Consent. (PlanSA Advisory Notice Building – 02A/22 (Updated Dec 2022))

The benefits of an effective legislative process for private bushfire shelters include:

- ensuring a minimum standard is met.
- informing building owners of the risk associated with private bushfire shelters.
- establishing a record of where private bushfire shelters are located, allowing the opportunity for emergency services to attend and investigate after a bushfire has passed. A process that should not impact on the busy emergency services resources during a bushfire.

1.5 SOUTH AUSTRALIAN LEGISLATION

A legislative review of private bushfire shelters was undertaken to consider the effectiveness of the current process required in South Australia.

The Planning, Development and Infrastructure (General) Regulations 2017 confirm that a **private bushfire shelter**, “means a building, associated with a Class 1a building under the Building Code, that may as a last resort provide shelter for occupants from the immediate life threatening effects of a bushfire event”.

The Planning, Development and Infrastructure (General) Regulations 2017 also states that an, “**outbuilding** does not include a private bushfire shelter”.

Via the Planning, Development and Infrastructure (General) Regulations 2017, “For the purposes of section 118(5) of the Act, building work comprising or including the construction or installation of a private bushfire shelter must not be granted a building consent unless the Commission concurs in the granting of the consent.” (Regulation 45). The State Planning Commission delegates this power to the Building Technical Panel.

Practice Direction 9 requires the Council to undertake an inspection of a private bushfire shelter as it is considered a high-risk structure.

These definitions and requirements clearly emphasis the high-risk nature of private bushfire shelters and the critical assessment process to ensure private bushfire shelters, if approved, minimize the risk to human life. It was pleasing to see this was supported through feedback during the consultation process.

1.6 OTHER LEGISLATION (VICTORIA)

There is not an enormous amount of literature on the topic of private bushfire shelters locally or internationally. With most research from the Victoria Building Authority (VBA) and the Australian Building Codes Board (ABCB).

The majority of research and information in Australia comes from the Victorian bushfires in 2009.

The Victorian Building Act, 1993 and Regulations, 2018 contain critical legislation for the control of private bushfire shelters in Victoria. The relevant provisions include:

Regulation 47

Information the relevant building surveyor must give to the Authority.

(1) A relevant building surveyor must within 7 days after the end of each month give to the Authority in a form approved by the Authority—

(b) the following details relating to the building work to which each building permit issued by the relevant building surveyor during that month applies, including—

(iii) whether the building work involves the construction of a private bushfire shelter; and

It is a requirement of the Regulations that a relevant building surveyor must provide information to the Victorian Building Authority within 7 days of the end of month if there is building work which involves a private bushfire shelter. This is a good mechanism to ensure that there are records of

private bushfire shelters. The Plan SA portal would assist in a similar way in South Australia, where through a report, authorities could identify where and how a private bushfire shelter has been constructed.

Regulation 165

It is a requirement of Regulation 165 that a relevant building surveyor must:

- Rely on a certificate from an independent fire safety engineer that a performance solution complies with the performance requirements.
- Rely on a Building Appeals Board determination that a performance solution complies with the performance requirements.
- Rely on a certificate of accreditation issued by the Building Regulations Advisory Committee that a performance solution complies with the performance requirements.
- Rely on a Certificate of Conformity issued by a person or body authorized by the ABCB.

Regulation 165

The regulations require that private bushfire shelters are maintained and satisfactorily operate, if required. The regulation includes penalties for building owners who do not:

- maintained their private bushfire shelter in a state that enables the Class 10c building to fulfil its purpose; or
- ensure that any paths of travel from the Class 1 building to the Class 10c building are maintained in an efficient condition and kept readily accessible, functional and clear of obstruction so that access to the Class 10c building is maintained.

It is clear that the Victorian legislation acknowledges the importance of ongoing maintenance of private bushfire shelters.

Schedule 9 – Prescribed classes of building practitioners and prescribed qualifications

Section 6 Category of builder

(q) class of domestic builder (limited to the construction of private bushfire shelters)

Section 36 Class of domestic builder (limited to the construction of private bushfire shelters)

(1) The prescribed qualifications for registration in the class of domestic builder (limited to the construction of private bushfire shelters) are—

(a) the successful completion of a certificate in carpentry (CPC30211) from an RTO, including the additional units of competency; and

(b) at least 2 years of practical experience.

(2) For the purposes of this clause, the additional units of competency are—

(a) arrange building applications and approvals (CPCCBC4026A); and

(b) produce labour and material schedules for ordering (CPCCBC4005A); and

(c) select and prepare a construction contract (CPCCBC4003A).

The regulations include a special class of license for the installation of a private bushfire shelter. In our discussions we were unable to determine if this license class is strongly used. It was confirmed that this license category is a sub-class of the domestic builder's license and such a person with a domestic builder's license could install a private bushfire shelter.

We are aware that the VBA are in the process of developing an advisory document on private bushfire shelters, and it would be beneficial to consider the work they are doing on this document.

2.0 WHAT WE HEARD/STAKEHOLDER SUMMARY

Throughout the stakeholder engagement we consulted with the following groups and want to thank them for their contributions to this report

- Members of the Building Technical Panel (BTP)
- Country Fire Service (CFS)
- Local Authorities which have examples of private bushfire shelters, including those with current applications
- Suppliers of private bushfire shelters.
- The Victorian Building Authority

The main findings from the stakeholder engagement can be categorised into the following key topics:

- The effectiveness of the current SA legislative framework
- The risk to the safety of persons using a private bushfire shelter
- Adequacy of the technical details provided for assessment of private bushfire shelters
- The liability imposed on an approval authority if assessing a private bushfire shelter
- Strengthening post approval compliance including ongoing maintenance

2.1 THE EFFECTIVENESS OF THE CURRENT SA LEGISLATIVE FRAMEWORK

There was a clear acceptance that there is a desire for people to have private bushfire shelters on their property. An effective system that will allow the approval of private bushfires shelters is required. Any approval system requires a process of independent assessment and review to ensure a reasonable outcome.

Without an approval process, makeshift bushfire bunkers will be built that may not be fit for purpose and may create a life safety risk. Owners may use other structures; including garages, rainwater tanks and the like, to shelter during a bushfire and these structures may not be adequate to withstand the extreme conditions of a bushfire event. As result, there may be tragic outcomes without an effective approval system.

Unsuitable private bushfire shelters (bunkers) are a dangerous option for personal protection in a bushfire. Bunkers built and designed to the National Construction Code and the Private Bushfire Shelters Performance Standard, published by the Australian Building Codes Board may, as a last resort, provide some protection from the life threatening effects of a bushfire.

If you wish to investigate building a bunker you must gain the appropriate approvals from the State Government's Planning Commission Building Technical Panel. (CFS advisory Notice)

It was agreed that the ABCB performance standard is a critical body of work to determine the adequacy of a private bushfire shelter when considering an application for a class 10c structure.

Stakeholders believe that the current system in South Australia is reasonable with the opportunity to make some improvements. The current system allows private bushfire shelters to be approved if the processes set out are followed.

Through consultation, we heard that private bushfire shelters can be supplied completed (pre-manufactured) and installed by building owners. It would be important in cases where private

bushfire shelters are installed by “owner builders” that independent inspections (by the Local Government) and compliance certificates are provided at the completion of the works. Practice Direction 9 directs Councils to undertake an inspection of private bushfire shelters, however without an approval process this cannot occur.

When considering the installation of a premanufactured private bushfire shelter, it's essential to weigh the potential implications. Local councils should require adequate documentation to verify that the shelter is installed according to approved plans and performance standards. An independent authority (like the local government) should inspect the shelter's location, orientation, depth, and proximity to ignition sources.

While we don't recommend that an appropriately licensed person must install the shelter, there should be a process to ensure its proper completion. A certificate of occupancy would be a valuable requirement for these high-risk structures.

2.2 THE RISK TO THE SAFETY OF PERSONS USING A PRIVATE BUSHFIRE SHELTER

Throughout the stakeholder engagement, we heard similar messages, that private bushfire shelters must be a last resort refuge only, residents and people using private bushfire shelters must ensure they are prepared, the messaging of “get out early or leave early” was constant. The advice was very sound, as private bushfire shelters are a high-risk structure.

It is well known that bushfires are unpredictable and private bushfire shelters are an untested structure, so where they form part of a bushfire management strategy they must only be used as a last resort as they may save some lives but there is no guarantee. A private bushfire shelter which has been designed and constructed to the ABCB's performance standard does not guarantee their effectiveness, and concern raised by stakeholders is that people believe a private fire shelters is the solution to their survival in a bushfire. It must be clear in any application of a private bushfire shelter that they cannot guarantee life safety.

The complexities of bushfires and therefore private bushfire shelters requires the level of expertise in bushfire engineering as a specialist field. Involvement of the Country Fire Service is critical in the assessment, approval, installation and ongoing maintenance of private bushfire shelters. However, the responsibility cannot fall just to the CFS.

Stakeholders raised a number of concerns that there are still many unknowns about how private bushfire shelters will perform in a real-world bushfire. These concerns include:

- the level of tenability inside a private bushfire shelter,
- the impact on occupants if smoke enters the bunker before, during and after the fire front has passed,
- the impact if the private bushfire shelter hasn't been adequately maintained.
- the physical condition, attitude or confidence of building owners in the face of an extreme bushfire.

The CFS fact sheet – Private bushfire shelters (bunkers), states:

You should only consider building a bunker if:

- *You are confident it will provide better bushfire protection than your home.*
- *You can afford a good quality, appropriately positioned bunker that has been approved through the necessary planning and building approvals in South Australia.*
- *You can maintain it in good working order.*
- *You have considered how the bunker will fit into your Bushfire Survival Plan.*

Stakeholders emphasized the importance of being well-prepared for bushfires in fire-prone areas. Early preparation can significantly reduce risks. They also reiterated the crucial message that the safest course of action during a bushfire is to evacuate early.

2.3 ADEQUACY OF TECHNICAL DETAILS PROVIDED FOR ASSESSMENT OF PRIVATE BUSHFIRE SHELTERS

Stakeholders raised concern that without all the technical details to assess an application it is difficult to provide an approval for a private bushfire shelter. An accredited professional – building, as the decision-making authority, is responsible for ensuring compliance with the Building Rules (as defined in the Planning, Development and Infrastructure Act) and to ensure compliance the authority must ensure compliance with the National Construction Code. To achieve compliance with the National Construction Code the authority would be expected to receive and assess all required technical details for the application.

Planning, Development and Infrastructure Act 2016 (SA), Section 102 states:

102—Matters against which development must be assessed

- (1) Subject to this Act, a development is an approved development if, and only if, a relevant authority has assessed the development against, and granted a consent in respect of, each of the following matters (insofar as they are relevant to the particular development):*
- (b) the relevant provisions of the Building Rules (**building consent**).*

Building Rules means—

- (a) the Building Code, as it applies under this Act; and*
- (b) any regulations under this Act that regulate the performance, standard or form of building work; and*
- (c) without limiting paragraph (b), any regulations that relate to designated safety features; and*
- (d) the Ministerial building standards published by the Minister under this Act; (Section 3; Planning, Development and Infrastructure Act, 2016*

Applicants are responsible for providing accredited building professionals with all necessary information, technical details, test certificates, and other relevant data to determine compliance with the National Construction Code.

Accredited building professionals must ensure they receive this information, assess the application for compliance with the Building Rules, and submit it to the Building Technical Panel for concurrence.

While no private bushfire shelters have been approved in South Australia recently, consultation suggests that this isn't due to legislative issues but rather to the lack of sufficient technical details being provided for assessment.

2.4 THE LIABILITY IMPOSED ON AN APPROVAL AUTHORITY IF ASSESSING A PRIVATE BUSHFIRE SHELTER

Throughout the consultation questions were raised about who takes liability of an approval of a private bushfire shelter if something does go wrong. There was an emphasis on the need for a level of statutory protection for the approval authority when it comes to private bushfire shelters.

The concern was that without a level of statutory protection, authorities may not be willing to approve a private bushfire shelter, out of concern for insurance as well as criminal proceedings. If an approval authority has followed all the statutory processes they should have a level of statutory protection.

2.5 STRENGTHENING POST APPROVAL COMPLIANCE INCLUDING ONGOING MAINTENANCE

To enhance the approval system, post-approval measures should be considered. A certificate of occupancy could assist to verify that private bushfire shelters are installed as per approved plans.

Statutory maintenance requirements could help minimise risks for property owners during bushfires. Regular maintenance is crucial not only for the shelter itself but also for the surrounding environment, which can impact on the private bushfire shelter in the event of an emergency.

Providing educational materials to current and future property owners can improve outcomes when private bushfire shelters are part of a bushfire management strategy. This information should emphasise:

- early evacuation as the safest option
- importance of pre-bushfire season preparation
- the limitations of private bushfire shelters as a last resort option only
- the importance of ongoing maintenance

3.0 OPTIONS FOR CONSIDERATION

3.1 THE CURRENT SYSTEM

To obtain an approval for a private bushfire shelter an application must be lodged through the PlanSA portal. If the application requires a planning consent this would be assessed and approved by the relevant authority (usually the Council). The application then requires a technical assessment against the provisions of the National Construction Code by an accredited professional – building.

The building surveyor must assess the information provided against the performance provisions of the NCC and if satisfied that it meets these performance requirements must refer the application to the Building Technical Panel for concurrence. If concurrence is provided, the building surveyor would be able to issue approval through the PlanSA portal.

Final Development Approval is issued by Council and work can be undertaken. During the construction phase of the project there is a requirement of the owner or builder to undertake mandatory notifications at the commencement and completion of the works. Practice Direction 9 (Section 2 (2)) requires Council to undertake an inspection of a private bushfire shelter.

Based on the feedback provided from stakeholders the current process for approvals of private bushfire shelters in South Australia is adequate and can work effectively. The current process of an assessment of an application by an accredited professional – building, against the performance provisions in the National Construction Code and the ABCB performance standard, is sound. The formal submission to the Building Technical Panel for concurrence is an important independent overview of the assessment process, ensuring a level of robustness to the system, based on the high risk associated with private bushfire shelters.

3.2 CONSIDERATION UNDER REGULATION 237 OF THE ACT

Under the current legislation there may be an option for a supplier or manufacturer, of a private bushfire shelter, to obtain Ministerial approval under Regulation 237 as a building product. This process would require a manufacturer to make a submission to the Minister for Planning to have a proprietary premanufactured shelter considered as a “Accredited Building Product”. Subject to a full assessment of the shelter the Minister may accredit a private bushfire shelter to be used in certain circumstances or with certain conditions.

It is likely this process would require all technical details to be considered by a delegate of the Minister such as the Building Technical Panel.

If a proprietary premanufactured shelter was accredited under Regulation 237, then the application should still require an individual assessment of each proposal (site by site) by an accredited professional – building and may still require concurrence by the Building Technical Panel.

The accredited professional – building would still be required to ensure that the proposal for the private bushfire shelter meets all the site constraints, such as location, orientation.

This process would result in a system not dissimilar to that which is currently operating in Victoria.

Critically, it must be understood for this process to be followed the accredited professional – building would require full and extensive details of all designs, tests, product manufacturing details to decide that the product meets the National Construction Code performance provisions and the ABCB performances standard.

3.3 POST APPROVAL

With the current approval process deemed adequate for the assessment of private bushfire shelters further consideration of post approval elements must occur. In particular, consideration of a certificate of occupancy for the private bushfire shelter, ongoing essential safety provisions and maintenance is required. Changes to accommodate these requirements would require legislative change to include a requirement for a certificate of occupancy for a class 10c, and changes or new requirements in Ministerial Building Standard MBS002.

A package of minimum documents provided to the owner of a private bushfire shelter and future owners should be developed and consideration of a layer on the SAPPA mapping which includes the location of approved private bushfire shelters should occur. This layer of mapping would be available to relevant authorities to ensure there is an awareness of where private bushfire shelters are installed.

Some consideration of an ongoing registration of private bushfire shelter on the land as well as the use of the Section 7 of the Real Property Act to ensure future owners of private bushfire shelters are aware of the risk as well as the adequacy of maintenance and the importance of private bushfire shelters as a last resort, should also be established.

Appendix A - provides a quick overview of the simple steps which maybe added post approval to improve the outcomes for private bushfire shelters.

3.4 BUSHFIRE ATTACK LEVEL AND PRIVATE BUSHFIRE SHELTERS

It is worth providing comment and feedback received in discussions on the Victorian system where there is an opportunity to reduce the Bushfire Attack Level (BAL) of a property where a private bushfire shelter is installed. It must be understood that the BAL is used to determine the construction requirements of the main dwelling (Class 1a) using AS 3959 and this does not directly relate to the intended use of bushfire shelter as a last resort.

The scope of AS3959 confirms that the standard *“specifies requirements for the construction of buildings in bushfire-prone areas in order to improve their resistance to bushfire attack from burning embers, radiant heat, flame contact and combinations of the three attack forms.”* (AS3959 Construction of buildings in bushfire-prone areas)

It would be our opinion that South Australia does not make changes to allow a reduction on the BAL of a dwelling where a private bushfire shelter is installed without further detailed investigation.

3.5 SCHEDULE 8 OF THE PLANNING, DEVELOPMENT AND INFRASTRUCTURE (GENERAL) REGULATIONS 2017.

It is our recommendation that an additional section is considered for Schedule 8 of the Planning, Development and Infrastructure (General) Regulations to list the minimum statutory requirements to be provided for an application for a private bushfire shelter. This Section could include:

- Site plan at a scale of 1:500
- Floor plan at a scale of 1:100
- Structural engineer design details including calculations (or an independent Reg 61 certificate)
- Fire test report and certificates; including
 - Maximum occupant numbers
 - Maximum time of occupancy

- Restrictions/limitations set by the test data.
- Specifications including justification of all technical elements to ensure compliance with the ABCB Performance Standard
- Documentation for the performance solutions for the system to ensure compliance with ABCB Performance Standard, documented by a suitably qualified fire safety expert.

3.6 ADVISORY NOTICE/FACT SHEET

It is our recommendation that an updated or additional Advisory Notice/Fact Sheet is produced on private bushfire shelters that should include advice such as:

- Private Bushfire Shelters require Development Approval and explain the process for obtaining approval.
- Private Bushfire Shelters are a “last resort refuge” and may not save your life. The best way to survive a bushfire is to leave early.
- Advice that if you are considering a private bushfire shelter it requires ongoing maintenance to be undertaken and should not be used for any other reason such as storage.
- Owner/occupant characteristics and what should be expected if using a private bushfire shelter. As noted in the ABCB Performance Standard, occupants, due to their personal characteristics, may have an increased risk with the use of a private bushfire shelter.
- Psychological considerations where owners should be fully aware of the risks if they install a private bushfire shelter.

Any fact sheets should take guidance from the Victorian Bushfire Royal Committee report and ABCB Performance Standards which identified that property owners must be aware of the risks involved with relying on private bushfire shelters and that extreme caution must be taken when a private bushfire shelter forms part of a bushfire management plan.

We are aware that Victoria is potentially developing a fact sheet and the CFS also has a fact sheet, so there may be an opportunity to collaborate with other authorities to provide clear information on what is required if owners wish to install a private bushfire shelter.

4.0 CONCLUSION

Through this research it was made clear that homeowners who live in bushfire prone areas want to be able to install private bushfire shelters. It is therefore important to have an effective system to allow for the approval of private bushfire shelters. The Victorian Bushfire Royal Commission recommended a process for approval of private bushfire shelters.

South Australia has had a process for the approval of private bushfire shelters however it is important to understand if it is effective.

Through the process of investigation and stakeholder engagement we believe that the existing system for approval of private bushfire shelters is effective. We believe there can be additional improvements, post approval, in terms of a certificate of occupancy for class 10c private bushfire shelters as well as a maintenance regime.

In discussions with stakeholders, we believe that the difficulties found to date in relation to the approval of private bushfire shelters appear to stem from the inadequate technical details being provided as required for the assessment, concurrence and therefore the approval of private bushfire shelters.

Changes to Schedule 8 of the Planning, Development and Infrastructure (General) Regulations 2017 may assist in providing a clear direction on what information constitutes an application for the construction of a private bushfire shelter.

Whilst Section 237 of the Planning, Development and Infrastructure Act would allow for a private bushfire shelter system to be approved as a Minister accredited system, we believe the safety risk of private bushfire shelters deserves an individual assessment on a case-by-case basis for private bushfire shelters.

Private bushfire shelters are not a standalone solution for mitigating life safety risks. They are just one component of a comprehensive bushfire management strategy and do not guarantee saving lives.

We recommend that the current system for approval of private bushfire shelters is maintained with minor post-approval improvements and additional advisory information and fact sheets published to help educate the industry on the process for approval of private bushfire shelters.

REFERENCES

Australian Building Code Board, Performance Standard, 2014

Australian Standard 3959 “Construction of buildings in bushfire-prone areas”

CFS Fact Sheet, Private bushfire shelters (bunkers)

National Construction Code, Volume 1, 2022

PlanSA Advisory Notice Building – 07/20 December 2020

PlanSA Advisory Notice Building – 02A/22 (Updated) December 2022

South Australian, Planning, Development and Infrastructure Act, 2016

South Australian, Planning, Development and Infrastructure (General) Regulations, 2017

Victorian Building Act, 1993

Victorian Building Regulations 2018

Victorian Bushfire Royal Commission, Final Report, 2009

APPENDIX A – SIMPLIFIED ADDITION TO THE CURRENT ASSESSMENT PROCESS FOR PRIVATE BUSHFIRE SHELTERS

