



NEIGHBOURHOOD SAFER PLACE –
BUSHFIRE PLACE OF LAST RESORT

ASSESSMENT GUIDELINE

July 2020

This page is intentionally left blank

1. Introduction

Reducing the impact of bushfires is a shared responsibility between government, emergency service organisations and the community. The community plays an integral role in taking the necessary steps to prepare their property for bushfire, to understand their risk, to develop and be ready to implement their bushfire plan.

It is also critical for those living in high bushfire risk areas to have a backup plan if their primary plan fails, or their planned options are unable to be implemented (such as leaving the area early). A backup plan should identify shelter and last resort options available to them, including those that individuals have personally assessed as being a safer option relative to their particular situation if caught in a fire event.

A Neighbourhood Safer Place - also known as a Bushfire Place of Last Resort (**NSP-BPLR**) in the near vicinity (neighbourhood) may, as a last resort, provide a specified level of protection (a safer place) from the immediate life-threatening effects of a bushfire. NSP-BPLRs are not part of leave early, shelter in place or evacuation strategies. They are places of last resort where a person's prospects of survival may be better than other places, but they do not guarantee safety.

An NSP-BPLR is an area or premises that provides separation distance from the bushfire hazard and protection from direct flame contact and excessive (life threatening) levels of radiant heat. It is an existing location and not a purpose-built, fire-proof structure. An NSP-BPLR may be an open space such as a local sports field, foreshore or park, or it may be located within a community facility such as a hall or sports pavilion.

Municipal councils (and relevant Alpine Resort Management Boards¹), the municipal district of which is wholly or partly in the country area of Victoria, identify potential suitable locations, designate, establish and maintain NSP-BPLRs within their municipal district, pursuant to provisions within Part IIIA, Division 3 of the *Country Fire Authority Act 1958 (CFA Act)*. The Country Fire Authority (**CFA**) supports municipal councils in the establishment of NSP-BPLRs as a last resort option for communities living in high-risk areas (and people visiting, working in or traveling through high-risk areas).

This CFA NSP-BPLR Assessment Guideline (**Guideline**) has been prepared and approved by the CFA, published in the Government Gazette and on the CFA website, pursuant to s.50E of the CFA Act. The Guideline sets out the criteria and other considerations by which an appropriately trained CFA officer, assesses the suitability of an NSP-BPLR in terms of protection from the immediate life-threatening effects of radiant heat from bushfire. This is one critical step within a broader municipal council process and is not intended for use by the public.

The Guideline has been subject to regular reviews since its adoption in 2010. There has been no change to critical criteria, but this July 2020 update reflects language and learnings over time, providing revised content for clarification and technical substance.

¹ All reference to council within this guidance document also refers to an Alpine Resort Management Board(s) within the country area of Victoria. Section 5 of *Alpine Resorts (Management) Act 1997* mandates that Alpine Resort Management Board(s) are deemed to be municipal councils for the purposes of the *Emergency Management Act 1986*.

2. Background

The 2009 Victorian Bushfires Royal Commission (VBRC) Final Report stated that “The people who left their homes sheltered in a variety of locations - other houses or buildings, bunkers, reserves and ovals, pubs, in-ground swimming pools, cars, dams, and so on. Some people reported that these were pre-planned alternatives and that they helped people survive.” The VBRC also heard examples of fatalities in very similar locations, which serves to highlight that these locations do not guarantee safety.²

The VBRC stated that “[...] many people did not have a well-thought-out plan and were left to make their own decisions without the benefit of assistance from the authorities [...] For these people, the lack of alternatives - the provision of shelters, refuges or evacuation - can become critical because they have no fall back option.”³ “The Commission considers that a revised bushfire safety policy should provide information about places in which to shelter and support for individuals in identifying such places.”⁴

The Victorian Government established ‘Neighbourhood Safer Places’ in response to the recommendations from the VBRC regarding the need for a range of community shelter and relocation options in the event of a bushfire threat. The *Bushfire Safety Policy Framework* (updated November 2018) (**Framework**) was revised and updated to include bushfire safety options as a priority area for protection and shelter during a bushfire.

2.1 Bushfire safety options

The Framework affirms that leaving bushfire prone areas on days of heightened risk is the safest option. Leaving early means leaving a bushfire prone area before a fire has started.

The Framework also recognises plans have the potential to fail, and it is impossible to predict all potential scenarios. It is vital that people are aware of and understand the full range of options available to them. This includes a range of personal and communal options, where people may seek shelter from a bushfire, such as:

- A well-prepared home
- Community Fire Refuges
- Private shelters (or bunkers)
- Private places of shelter
- Evacuation
- Last resort shelter options - Neighbourhood Safer Place and other last resort options, such as a nearby structure, an area of low vegetation, a body of water or a parked vehicle.

Not all options will afford the same degree of protection from a bushfire and not all options will be available in all circumstances.

Personal circumstances and local conditions in a fire event will affect the extent to which any of these options provide relative safety.

It is critical that people understand the need to do everything possible to avoid having to use last resort options.

² VBRC Final Report; Volume 2; Chapter 1; Victoria’s Bushfire Safety Policy; pg. 19.

³ VBRC Final Report; Volume 2; Chapter 1; Victoria’s Bushfire Safety Policy; pg. 32.

⁴ VBRC Final Report; Volume 2; Chapter 1; Victoria’s Bushfire Safety Policy; pg. 21.

3. Concept

An NSP-BPLR location:

- is a place of last resort in the near vicinity for individuals to access during a fire event affecting their neighbourhood, without the need to take a high-risk journey beyond their neighbourhood;
- eliminates direct exposure to flames from a fire front and manages radiant heat to survivable levels; and
- should only be accessed when personal bushfire plans (for individual properties) cannot be implemented or have failed.

An NSP-BPLR does not guarantee the survival of those who assemble there. An NSP-BPLR may offer improved protection if caught in a fire but cannot be considered as 'safe'.

Those who gather at an NSP-BPLR must remain vigilant and monitor the fire. Active defence against the effects of bushfire (heat and embers) and possible consequential spot fires may be necessary.

Not all communities will have an NSP-BPLR in the local area, as potential sites may not meet specific criteria identified in the Guideline and/or further risk assessment criteria held within a council's Municipal Neighbourhood Safer Places Plan (**MNSPP**) or identified during municipal emergency management planning processes.

Some communities may not have the fire risk profile to indicate a need for an NSP-BPLR.

Accessing an NSP-BPLR or any other last resort option should not be part of a primary bushfire survival plan. All last resort options are inherently dangerous.

An NSP-BPLR should not be confused with Community Fire Refuges,⁵ Relief Centres,⁶ Recovery Centres,⁷ Assembly Areas, or informal places of shelter.

3.1 Limitations and risks

NSP-BPLRs have limitations and do not guarantee safety:

- Sheltering at an NSP-BPLR may result in physical and/or psychological trauma
- There are risks to people travelling through a fire affected environment on foot or in a vehicle to an NSP-BPLR
- There are risks to people accessing, sheltering and leaving an NSP-BPLR during the passage of the fire front
- Limited capacity

⁵ Community Fire Refuges are purpose built or modified buildings that are endorsed by the Emergency Management Commissioner and prescribed in the *Country Fire Authority (Community Fire Refuges) Regulations 2014*, that can provide short-term shelter from the immediate life-threatening effects of a bushfire, but do not guarantee safety. The *Emergency Management Victoria (EMV) Community Fire Refuge Policy (June 2015)* outlines the purpose, attributes and other arrangements related to establishment of refuges.

⁶ A relief centre is a building or place established by a municipal council (in response to an emergency) to provide immediate and basic services to people affected by an emergency; *State Emergency Relief and Recovery Plan; Part 4, Emergency Management Manual Victoria (EMMV)*; pg. 23.

⁷ Recovery centres provide a single point of entry for affected persons for an 'all agency, all stakeholders' integrated recovery process. In some cases, a municipal council may transition a relief centre into a recovery centre or establish a standalone recovery centre; *State Emergency Relief and Recovery Plan; Part 4, EMMV*; pg. 33.

CFA Neighbourhood Safer Place – Bushfire Place of Last Resort Assessment Guideline

- Limited parking
- May not cater for animals
- Emergency services will not necessarily be present
- Do not provide amenities or services (e.g. food, drink, toilets, medical services)
- May not cater for special needs (e.g. infants, elderly, ill or disabled)
- They are not an appropriate destination when leaving the area early
- They are not assessed to be a place of shelter from other types of emergencies (e.g. to escape rising floodwaters or as a shelter from severe weather events)
- May be in the open and therefore provide no protection from the elements, such as high temperatures from the sun, high wind, or smoke, ash and embers from the fire.

4. CFA site assessment

After identifying a potential NSP-BPLR a municipal council must ask CFA to assess the place in accordance with the Guideline criteria. On receiving a request, CFA must assess the place and if the place meets the criteria set out in the Guideline, certify in writing that the place meets those criteria. A municipal council must not designate a place as an NSP-BPLR unless the place has been certified by the CFA as compliant with the Guideline criteria (pursuant to s.50G of the CFA Act).

CFA's NSP-BPLR bushfire hazard assessment (**site assessment**) is the first critical step in ascertaining the suitability of an NSP-BPLR. The site assessment determines if potential locations identified by municipal councils meet criteria within the Guideline. The critical criteria, established through fire industry and agency partner collaboration, mandate maximum allowable potential radiant heat from a fire event directly impacting the site for open spaces and buildings. There may be other factors affecting acceptance of a site as an NSP-BPLR but satisfying the criteria is the precondition to consideration of acceptance.

The site assessment provides information on the bushfire hazard - the vegetation type identified according to the *Australian Standard AS3959-2018 (AS3959)*, vegetation height and distance from the boundary of the NSP-BPLR, fuel loads and site (effective) slope. Vegetation exclusions apply where the site presents non-vegetated areas (e.g. waterways, exposed beaches, roads, rocky outcrops) or low threat vegetation (e.g. cultivated gardens).

The potential radiant heat load is determined based on data captured at the time of assessment, considering the requirement for council to maintain all designated NSP-BPLRs in its municipal district and review each designated NSP-BPLR by 31 August each year (pursuant to s.50I and s.50J of the CFA Act).

The site assessment is evidence and risk based, on site specific attributes. Compliance may be readily determined where there is a clear delineation between the edge of unmodified vegetation and the managed area that enables the proposed or existing NSP-BPLR site to meet the acceptable separation distance from the hazard (based upon worst-case scenario assumptions). Where the acceptable separation distance is not met, the potential radiant heat load (expressed in kilowatts per square metre) is calculated using bushfire attack assessment methodology and computerisation based on a generalised view

CFA Neighbourhood Safer Place – Bushfire Place of Last Resort Assessment Guideline

factor⁸ model. Isolated flammable elements (such as shrubs, grass, isolated trees, etc.) may be present within the separation space so long as such elements do not add to a fire's rate of spread, or significantly contribute to the potential radiant heat impacting on the NSP-BPLR.

Where the vegetation adjoining a proposed or existing NSP-BPLR site is significantly modified and/or fragmented (e.g. urban development), a fire may pass through the landscape via multiple ignitions of isolated flammable elements rather than as a defined fire front. In this scenario the fragmented vegetation may be considered excludable under the AS3959; or where there is uncertainty, the CFA officer may procure further fire behaviour analysis through appropriately qualified practitioners. This further analysis is to determine combined impact of localised flaming sources of heat and inform assessment according to maximum radiant heat criteria. Further analysis may also be applied (but not limited to) where initial site assessment outputs indicate non-compliance within negligible variation to radiant heat criteria parameters. The CFA delegated officer may develop a position of compliance based on review of evidence and informed professional judgement.

Any variations in procedures, alternative assessment approaches, analysis and/or alternative solutions to meet radiant heat criteria must be accompanied by sufficient evidence.

4.1 Radiant heat criteria

An NSP-BPLR should provide protection to people from lethal levels of radiant heat through an appropriate separation distance between the bushfire hazard (vegetation) and the outer edge of the NSP-BPLR. The determination of acceptable distances from the hazardous vegetation producing the radiant heat is based on a specific fire design.

Considering the primary purpose of an NSP-BPLR is to provide for the protection of human life from a bushfire event, the assessment methodology applied is based on a worst-case scenario. Compliance with the radiant heat criteria is established on a design fire occurring under Code Red (Fire Danger Rating) conditions, without active fire fighter protection, as set out below:

Fire weather and flame characteristics*:

Forest Fire Danger Index	120 (Code Red)
Flame width	100m
Flame temperature	1200K

*Design fire modelling also includes other inputs such as; wind speed, ambient temperature, relative humidity, flame emissivity, slope and fuel characteristics.

An NSP-BPLR must meet the following maximum radiant heat criteria.

NSP-BPLR type	Maximum radiant heat	Separation distance
Building	10kW/m²	> 140m
Open space	2kW/m²	> 310m

⁸ View factor or configuration factor is a geometrical factor required by calculating the radiant heat flux to which a site might be exposed, which is a function of flame geometry, location of radiant heat flux receiving element, that is, radiation receiver and relative orientation between the flame and the receiver; AS3959-2018, pg. 101.

CFA Neighbourhood Safer Place – Bushfire Place of Last Resort Assessment Guideline

The separation distance in metres (m), in the above table, is from the outer edge of the NSP-BPLR to a **forest fuel hazard** and represents an acceptable evidence-based measure to comply with the maximum allowable radiant heat criteria.

Where NSP-BPLRs are abutting less than extreme fuel hazards the separation distance may be reduced so long as the criteria for maximum radiant heat are met.

An NSP-BPLR may be impacted by other bushfire attack mechanisms such as low level radiant heat, embers and hot convective winds. This reinforces the point made earlier that although these places may provide a specified level of protection they are not devoid of risk.

4.2 Grassland management

Grasslands have a distinct place in the CFA site assessment process, due to:

- the potential for rapid growth in conditions of adequate warmth and moisture
- the requirement under s.50J of the CFA Act for councils to review designated NSP-BPLR within the municipal district by 31 August each year.

Councils may identify a suitable NSP-BPLR site in a grassland area that can only meet the radiant heat criteria with active management of the site and/or the land abutting the site, over the Fire Danger Period (**FDP**), with treatments including slashing, mowing or grazing.

In these circumstances CFA may certify the site as meeting the radiant heat criteria provided that appropriate, specified and prescribed treatments are in place throughout the FDP. This must include prescriptions for management of the grassland in a minimal fuel condition,⁹ secured by agreed terms entered by the landholder(s). The landholder may be the council, a public authority, an agency or a private person.

Evidence of grassland management agreement noting the specific treatments and prescriptions must be provided to CFA with notification of designation or continued designation as part of review. The identified treatment of the grassland must be included within the Municipal Emergency Management Plan (**MEMP**) or relevant subplan of the MEMP.

Council has the role of facilitation and, if required, enforcement of the treatment(s) during the FDP. Fire prevention notices are not ordinarily an appropriate method for achievement of prescriptions for management at an NSP-BPLR. The objection and appeal provisions associated with fire prevention notices could result in significant delays in achieving compliance. This method should only be used as a last resort by councils where a private landholder has reneged on the grassland management agreement and the grassland condition constitutes, or may constitute, a danger to life or property from the threat of fire (pursuant to s.41(1) of the CFA Act).

Where compliance according to agreed terms during the FDP cannot be met within an immediate time frame, council must follow due process to decommission the NSP-BPLR.

⁹ Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognisable as short-cropped grass for example, to a nominal height of 100 mm); AS3959-2018 section 2.2.3.2, pg. 15.

4.3 Assessment exclusions

The Guideline criteria do not consider other potential bushfire attack mechanisms (e.g. ember attack), non-vegetation hazards or structural aspects of a building. These matters may, where applicable, be considered within council's further risk assessment which may be initiated through the Municipal Emergency Management Planning Committee (**MEMPC**) or relevant sub-committee of the MEMPC.

This broader risk assessment considers criteria outlined in the MNSPP or municipal emergency management planning processes which may include: the environment surrounding the potential NSP-BPLR site, access and egress, other uses of the site and whether those uses could be inconsistent with its designation as an NSP-BPLR, building accessibility (if applicable), traffic management, etc. Council may seek advice from appropriately qualified CFA personnel and other relevant parties.

CFA's delegated officer may independently identify other non-vegetation hazards or risk concerns in the immediate or broader landscape and provide recommendations to council through the MEMPC or relevant sub-committee due process.

Council must also secure consents and rights of access from the landholder(s) where land is not council owned or managed; and agreed terms where compliance with the radiant heat criteria is based on grassland management of the site and/or land abutting the site during the FDP. If a landholder does not consent to the place being designated and used as an NSP-BPLR or a grassland management agreement cannot be secured, the site must not be designated.

5. Annual review

A municipal council must, by 31 August in each year, conduct a review of each designated NSP-BPLR in its municipal district to determine if it is still suitable to be designated as an NSP-BPLR. This council annual review, or review on a designated site at any time of year, must include a request on CFA for reassessment (pursuant to s.50J of the CFA Act).

On receiving a request, CFA must assess the NSP-BPLR in accordance with the Guideline criteria. As part of a review reassessment, the appropriate CFA officer may determine from local knowledge and evidence gathered that a site status is unchanged from previous assessment and therefore continues to satisfy the assessment criteria.

In these circumstances, CFA may certify that the NSP-BPLR continues to meet the assessment criteria in the Guideline and provide any advice pertaining to grassland management (where applicable).

If CFA's assessment determines that a designated NSP-BPLR no longer complies with the assessment criteria, council must follow due process to decommission the NSP-BPLR.