



Contact: Heath Fitzsimmons

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Bush Fire Code Review
C/O Manager Community Planning,
NSW RFS Headquarters,
Locked Mail Bag 17,
GRANVILLE NSW 2142

Dear Sir/Madam

Submission on Draft Revised Bush Fire Environmental Assessment Code and associated guides

Ku-ring-gai Council welcomes the opportunity to comment on the Draft Revised Bush Fire Environmental Assessment Code and its associated guides. It should be noted that Ku-ring-gai Council supports the general aims and objectives of the new/revised code, however a number of concerns have been raised. For the sake of keeping this submission concise, the focus will be on these concerns and their implications for the Ku-ring-gai LGA.

Draft Revised Bush Fire Environmental Assessment Code

Ku-ring-gai Council recognises the usefulness of a streamlined environmental approval process for bush fire hazard reduction works, however care must be taken to ensure that the detrimental effects of such works continue to be given due consideration.

Section 100J of the *Rural Fires Act 1997* states that the *Bush Fire Environmental Assessment Code* must have regard to:

- the principles of ecologically sustainable development, including;
 - careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment,
 - an assessment of the risk-weighted consequences of various options, and
 - that conservation of biological diversity and ecological integrity should be a fundamental consideration,
- any matter likely to affect the environment that a determining authority would be required to consider under section 111 of the *Environmental Planning and Assessment Act 1979* if Part 5 of that Act were applicable to the work.

It is the opinion of Ku-ring-gai Council that a number of proposed changes and inclusions to the Code do not align with the principles above.

The proposed inclusion of an approval process for transport corridors, fire breaks, fire trails and vehicle-accessible control lines is welcomed, as is the relocation of specific conditions and standards to supporting documents so they can be more easily updated to reflect future advances in best-practice guidelines.

It is feared, however, that broadening the scope of the Code to facilitate the approval of larger scale recurring clearing works, such as the creation and maintenance of linear fire breaks and Neighbourhood Safer Places as well as clearing on land adjacent to Neighbourhood Safer Places, will result in serious and ongoing environmental damage which cannot be adequately addressed by the streamlined Code. Other, more rigorous environmental approval processes are available to facilitate highly damaging works where they are necessary, and the *Bush Fire Environmental Assessment Code* should only be applicable to relatively low-impact works; those with small scale or short term negative impacts.

2.6 Land management agreements

2.6.1 Certificates issued under 100F of the *Rural Fires Act 1997*

This section states that conditions on a certificate **must not** be inconsistent with **any** of the conditions of the following land. However it is noted that a number of the land management agreements listed within Section 2.6.1 expressly permitted the carrying out of hazard reduction works as a standard condition (i.e. not an optional condition). In these cases there is concern that the above restriction may not afford actual environmental protection to the areas subject to these agreements.

It is requested that a clause be included in the *Bush Fire Environmental Assessment Code* to clearly articulate the requirement of issuing authorities to consider not just the conditions of a land management agreement but the intent of that agreement and the effect of proposed hazard reduction works on that land management agreement. The presence of a land management agreement must be grounds to either refuse an application for a HRC (to potentially be approved under a more rigorous process) or require alternative, less environmentally damaging hazard reduction works. This is in accordance with the requirements of section 100J of the *Rural Fires Act 1997* and section 111 of the *Environmental Planning and Assessment Act 1979*.

Clarification is sought regarding the following statement;

“... any certificate issued under 100F of the *Rural Fires Act 1997* must include a condition that the certificate does not authorise any clearing that is inconsistent with any of the conditions of the above land management agreements that apply to the land, unless the certificate expressly references that land management agreement.”

For the sake of clarity it is recommended that the above statement be rephrased to state:

“... any certificate issued under 100F of the *Rural Fires Act 1997* must include one of two conditions:

- i) that the certificate does not authorise any clearing that is inconsistent with any of the conditions of the above land management agreements that apply to the land; or
- ii) that the certificate does authorise clearing that is inconsistent with the conditions of the above land management agreements that apply to the land, but that the works are in accordance with conditions approved by the public authority responsible for the agreement.

Attachment of approved conditions is required”.

2.6.2 Certificates issued under 100G of the *Rural Fires Act 1997*

Similar to clause 2.6.1 above, it is requested that a clause be added to state:

“... any certificate issued under 100G of the *Rural Fires Act 1997* must include one of two conditions:

- i) that the certificate does not authorise any clearing that is inconsistent with any of the conditions of the above land management agreements that apply to the land; or
- ii) that the certificate does authorise clearing that is inconsistent with the conditions of the above land management agreements that apply to the land, but that the works are in accordance with conditions approved by the public authority responsible for the agreement.
Attachment of approved conditions is required”.

It is also requested that a clause be included which clearly states that certifying authorities are required to consider not just the conditions of land management agreements but also the intent of these agreements and the effects of the proposed works on land management agreements.

There will be substantially increased potential for environmental damage with the proposed introduction of the *Bush Fire Protection for Existing Development Guidelines* and care must be taken to ensure that *Bush Fire Environmental Assessment Code* can adequately account for this. As previously stated, the streamlined approval process facilitated by *the Code* is appropriate only for relatively low-impact hazard reduction works.

Sheldon Forest in the Ku-ring-gai LGA is a narrow strip of bushland (approximately 160m x 870m) including the Critically Endangered Ecological Community Blue Gum High Forest, bounded by residential development on its long edges and covered by a BioBanking Agreement. If the *Draft Revised Bush Fire Environmental Assessment Code* and *Bush Fire Protection for Existing Development Guidelines* are implemented in their current state, this may facilitate the approval of the construction and ongoing maintenance of APZs up to 46m wide along both long edges of the land parcel, reducing the area of this ecologically valuable bushland reserve by approximately one third. The conditions imposed by the *Threatened Species Hazard Reduction List* will prevent the removal of trees and require that the clearing is carried out using hand tools and hand held machinery within the EEC, but all shrubs, ground cover and juveniles of tree species may be removed. There is concern that no protection is afforded by the presence of a BioBanking Agreement because the conditions of that agreement expressly permit bush fire hazard reduction works.

While hazard reduction works must be permitted if they are justified, certifying authorities should be required to consider alternative, less damaging hazard reduction works in areas of high biodiversity value.

3.3 Strategic Fire Advantage Zones

3.3.2 Work permissible for the creation and maintenance of a SFAZ

Neither the current version of the Code nor the Draft Revised Code permit mechanical works within a SFAZ, although both include a requirement that “conditions must be imposed to prevent the spread of [noxious or environmental] weeds”. In practice the prevention of the spread of weeds typically requires mechanical works to remove these weeds both before and after other hazard reduction works including burning, but this is not expressly permitted by the Code. Additionally, limited mechanical works in preparation for controlled burning may assist in reducing flame height and reducing the chance of spot fires and fire entering the canopy by reducing the vertical continuity of fuel.

It is requested that mechanical work, pruning and tree removal be included as works permissible within a SFAZ, with the following limitations:

- Only when carried out in conjunction with a hazard reduction burn;
- Mechanical work, pruning and tree removal is limited to species listed by the local authority as noxious or environmental weeds;
- Hand tools and hand held machinery only.

3.6 Linear fire breaks (other than transport corridor fire breaks)

Clarification is requested regarding the function and benefits of a linear fire break, specifically in regards to the advantages a linear fire break may offer over fire trails and SFAZs. With slashing, trittering and other mechanical works permitted, no fire interval thresholds and no limit on the length of a linear fire break which may be 6m wide in the Ku-ring-gai area and up to 100m wide in some areas, it can be reasonably expected that the environmental impact of creating and maintaining a linear fire break will be considerably greater than a fire trail and SFAZ. To justify the potential negative impacts it is necessary to first demonstrate substantial hazard reduction benefits.

Given the requirement of s100J of the *Rural Fires Act 1997* for careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and an assessment of the risk-weighted consequences of various options when drafting the *Revised Bush Fire Environmental Assessment Code*, it is difficult to understand the inclusion of obviously destructive linear fire breaks in the Code.

It is requested that clause 3.6 and linear fire breaks be removed from the Code. The negative environmental impacts of linear fire breaks as they are described cannot be adequately addressed by a streamlined approval process.

3.7 Neighbourhood Safer Places

There is concern that facilitating the creation of Neighbourhood Safer Places (NSPs) may lead to a false sense of security among residents and harm efforts to encourage at-home bush fire protection measures and the creation of bush fire emergency plans.

It is the very clear position of the Rural Fire Service that NSPs are to be seen as an absolute last resort and are not to be relied on as a place of shelter, but this is not necessarily how they are perceived by the general public. In conducting community engagement on behalf of Ku-ring-gai Council it has been observed that many residents identify NSPs as the final destination of their preliminary evacuation plans. NSPs should certainly be identified where suitable locations already exist, but the creation of new NSPs will likely result in the clearing of vegetation that results in no substantial benefit, possibly reinforcing the idea that homeowners can rely on public authorities and firefighting agencies to protect them from bush fire.

3.7.1 Maximum extent of work permissible for NSPs

There is potential to abuse this clause to facilitate clearing of vegetation that does not present a bush fire hazard. It is requested that a statement be included to clarify that clearing within a NSP must be limited to the removal of vegetation that presents a substantial bush fire hazard.

3.7.1.2 Land adjoining a NSP

As for clause 3.7.1 above, it should be clarified that the clearing authorised on land adjacent to a NSP must be limited to vegetation that presents a substantial bush fire hazard to that NSP.

Clarification is sought on the definition of the “external boundary” of open space NSPs. The maximum extent of work on land adjoining a NSP, as specified in *Neighbourhood Safer Places, Places of Last Resort Guidelines*, is 310m. This could be measured from the existing vegetation boundary, a

fence line, a point at the centre of the open space or the point furthest from the hazard with drastically different results. Clearing of hazardous vegetation on land adjoining a building NSP is logical as it is akin to creating an APZ. Clearing of land adjoining an open space NSP is just expanding an open space that is already large enough to meet the criteria of a NSP, providing no real benefit.

It is suggested that clearing not be permitted on land adjoining an open space NSP. Clause 3.7.1.2 should apply to land adjoining a building NSP only.

5.12 Standards relating to weeds

The requirement that conditions must be imposed to prevent the spread of noxious or environmental weeds is somewhat confounded by the fact that mechanical works are not permitted within SFAZs and LMZs. Mechanical works limited to identified weed species should be permitted activities in these zones.

The proposal to include *Fire and Weed Management Guidelines* as they are developed is strongly supported.

Fire Intervals for SFAZs and LMZs

The minimum fire interval for wet sclerophyll forest (shrubby) proposed in the draft *Fire Intervals for SFAZs and LMZs* is 15 years, allowing for much more frequent burning than the current minimum interval of 25 years. Further information is sought on the justification of this change. The general shift toward more science-based decision making and robust methodology is strongly supported, but this methodology must be demonstrated in order to provide validity and confidence in the proposed changes.

Bush Fire Protection for Existing Development

Ku-ring-gai Council supports the aim of the Guide to provide a higher level of bush fire protection and reduce the risk of bush fire impact to existing development, although there is concern that the proposed approach is, in many cases, impractical to apply and is focused disproportionately on separation distances and reducing radiant heat exposure while failing to adequately address the risk of ember attack or promote the concept of shared responsibility. This approach may result in extensive environmental damage with relatively little actual reduction in risk.

It is suggested that the emphasis on separation distances be scaled back to a level more readily achievable for land managers, and a greater emphasis be placed on a requirement for residents and private land owners to increase the resilience of their homes and properties. This can result in the same net reduction of risk, but is more likely to be implemented and more effectively shares the responsibility amongst private land owners, fire authorities and land managers, while also minimising potential negative environmental impacts.

Three main concerns with *Bush Fire Protection for Existing Development* have been noted:

- The proposed approach to risk treatments and the separation distances required in order to meet the specified radiant heat targets are impractical to implement;
- The concept of shared responsibility for bush fire risk management is not adequately promoted; and
- The principals of ecologically sustainable development are not adequately applied.

Proposed treatments are impractical to implement

In assessing what constitutes reasonable protection from exposure to bush fire, it is important to consider the specific threats posed to residential and other development by bush fire. The four sources of ignition are ember attack, radiant heat, flame contact and convective heat. The treatments proposed by *Bush Fire Protection for Existing Development* certainly provide protection against radiant heat, flame contact and convective heat, however protection against ember attack, the most significant source of ignition, is lacking.

Many residential properties and major buildings within bushland-adjacent subdivisions in the Kuring-gai LGA, as in many other areas of the state that were developed prior to the introduction of *Planning for Bush Fire Protection*, provide very little distance separating privately owned buildings and public land. Meaning that there are large stretches of urban-bushland interface where the APZs required to meet the standards of *Bush Fire Protection for Existing Development* will need to be constructed almost entirely on land managed by Council or other public agencies. The construction of these new APZs, as well as the expansion of existing APZs that do not meet the proposed standards, will result in a substantial increase in demand on land managers, potentially diverting resources away from strategic hazard reduction works. In many cases the works will simply not be feasible.

The rationale for the acceptable approach for risk treatments states a radiant heat target for existing residential development of less than 19kW/m^2 at FFDI 50. The target was chosen because at this level building integrity is not threatened and the basic upgrades described by the *Best Practice Guide* are sufficient to reduce risk to an acceptable level. Meanwhile, *Planning for Bush Fire Protection* aims to ensure radiant heat levels at buildings remain below 29kW/m^2 . This inconsistency between radiant heat targets for new and existing developments may be explained by the assumption that existing development will not meet the construction standards that apply to new development. The radiant heat targets of *Planning for Bush Fire Protection* and construction standards of AS3959 (*Construction of buildings in bushfire-prone areas*) suggest that reasonable protection from bush fire can be afforded by a combination of separation distance and upgrades to existing development. The possibility of upgrading existing buildings so they can reliably withstand exposure to radiant heat levels up to 29kW/m^2 needs to be considered.

Setting a radiant heat target of 29kW/m^2 will reduce the required separation distances by approximately 10m in most cases. Applying this to an entire LGA, the reduction in resourcing requirements is substantial indeed, and will make the implementation of new APZs much more readily achievable, while in most cases the increased responsibility on private land owners and cost to upgrade buildings to meet BAL-29 standards is minimal (and could potentially be off-set by grant or rebate schemes). Of course for some existing buildings the cost to upgrade to BAL-29 standards will be prohibitively expensive. It is arguable that reasonable protection from the risks of bush fire simply cannot be afforded for buildings so ill-suited to bush fire prone areas.

Furthermore, because the APZs implemented in accordance with *Bush Fire Protection for Existing Development* are intended to be permanent, future BAL-rating assessments will be affected. The result of this will be future infill and ancillary development on the bushland interface being built to a lesser standard than is currently required. It is arguable that APZs to maintain a radiant heat target of 29kW/m^2 combined with improvements to the resilience of buildings will result in greater reduction of actual risk than a larger APZ alone.

Ongoing maintenance of bush fire risk treatments also needs to be addressed. *Planning for Bush Fire Protection* specifically states that the maintenance of APZs on slopes greater than 18 degrees is impractical, but this is not reflected in *Bush Fire Protection for Existing Development*, other than it being noted that the best planning can be hampered by poor maintenance. It is stated that an alternate approach for risk treatments can be employed where the standard acceptable approach

cannot be achieved, but in most cases the standard approach is considered achievable if a Hazard Reduction Certificate can be issued for the proposed works. This will create situations in which the works and ongoing maintenance required cannot practically be carried out. For example, a Hazard Reduction Certificate can be issued for hand clearing on slopes greater than 18 degrees and is therefore considered achievable, but the clearing work and ongoing maintenance is impractical.

The need for a defensible space around homes and other development is supported, but it is suggested that a smaller amount of clearing that can actually be implemented and maintained is infinitely more effective at reducing bush fire risk than a 46m APZ that is never implemented or cannot be maintained because of a lack of resources. In order to better facilitate the translation of *Bush Fire Protection for Existing Development* to actual on-ground results, two suggestions are put forward:

1. Reduce the separation distances required by setting a radiant heat target of 29kW/m² for residential development; and
2. Allow genuine impediments to the ongoing maintenance of APZs (such as steep slopes) to trigger alternate approach risk treatments.

Shared responsibility is not adequately promoted

A radiant heat target of 19kW/m², selected because no substantial building upgrades are required at this level, reinforces the misconception held by many private land owners that public authorities and firefighting agencies are entirely responsible for bush fire risk management. If people believe that their properties are not at risk after an APZ is implemented they are not likely to commit to even the basic upgrades recommended by the *Building Best Practice Guide – Upgrading of Existing Buildings*. It is common knowledge amongst fire planners that ember attack is the most significant source of building ignition related to bush fire, and that an APZ alone does very little to address this threat; in reality, a more resilient building with a smaller APZ will likely be better protected than a less resilient building with a larger APZ. Unfortunately this is not necessarily known by private land owners, and a disproportionate focus on separation distance and radiant heat may promote a false sense of security without adequately addressing the more pertinent risk of ember attack.

Currently the process of addressing bush fire hazard complaints generally involves a property inspection and direct contact between land owners and fire experts. The standardised approach of *Bush Fire Protection for Existing Development* and the implementation of the Existing Development Treatment Calculator (for use by issuing and certifying authorities), will mean that many future hazard assessments can be carried out from the desktop, reducing contact between fire experts and land owners and further widening the knowledge gap. Engaging the community, informing people of real bush fire risk and promoting the concept of shared responsibility for bush fire risk management is already immensely challenging and it will only become more difficult if the minimal contact people have with fire experts is reduced.

The threat of ember attack highlights the need to promote shared responsibility; effective reduction of this threat requires a combination of strategic fuel reduction in SFAZs and appropriate building upgrades/maintenance. Currently there is a great emphasis placed on fuel reduction but comparatively little placed on building upgrades and maintenance. This is possibly because there is a legal basis for enforcing fuel reduction measures through the issue of Hazard Reduction Notices, and although *Bush Fire Protection for Existing Development* proposes that property owners will be informed of their responsibility to maintain APZs, upgrade buildings as per *Building Best Practice Guide – Upgrading of Existing Buildings* and prepare a Bush Fire Survival Plan, there is no accountability and no way to enforce compliance with any of these directions. *Planning for Bush Fire Protection* sets out a legal obligation to implement bush fire protection measures for new development, but there is no obligation on the owners of existing buildings to protect themselves. It is foreseeable that Hazard Reduction Notices will be issued requiring the clearing of vegetation on

public land but resulting in very little decrease in actual bush fire risk because the threat of ember attack is not addressed when building upgrades and maintenance are not carried out.

To better promote the concept of shared responsibility, the following suggestions are offered:

1. Include a targeted community engagement activity as standard in the acceptable approach to risk treatments; and
2. Regulate and enforce compliance with the *Building Best Practice Guide – Upgrading of Existing Buildings*.

Principles of ecologically sustainable development are not adequately applied

The general concept of ecologically sustainable development is to use and conserve resources in a manner that maintains ecological processes, improving quality of life for current and future generations. Key principles include avoiding serious or irreversible environmental damage wherever practicable and assessing the risk-weighted consequences of various options.

Ku-ring-gai has the highest proportion of interface properties within the Sydney Metropolitan Area with more than 91 kilometres of bushland/urban interface. Whilst the percentage of interface properties that are considered existing development is not known, the potential implications for biodiversity within the LGA, the greater Sydney area and more broadly the state are concerning.

The Ku-ring-gai area, like many other urban areas, includes numerous small and fragmented bushland reserves (including areas under conservation agreements or Biobanking sites), providing important habitat refuges within the urban environment. Additionally, ridgeline development in Ku-ring-gai and throughout the Sydney sandstone basin has left significant fingers of remnant bushland within gullies that adjoin larger areas of bushland, providing habitat connectivity of regional importance. In addition to the provision of ecological services, many of these areas support threatened species and threatened ecological communities.

Creating an APZ on the edge of a large expanse of National Park may arguably be considered a justifiable impact because a relatively small proportion of a much larger area is being cleared. Implementing the separation distances required by *Bush Fire Protection for Existing Development* in the Ku-ring-gai area, however, will result in serious environmental damage through further fragmentation of remnant vegetation and the complete removal of some narrower strips of vegetation currently serving as biodiversity corridors between regional habitat and the already fragmented urban reserves.

The option to facilitate alternate approach risk treatments could be an excellent tool for applying the principles of ecologically sustainable development to the management of bush fire risk to existing development, but in its current form *Bush Fire Protection for Existing Development* doesn't allow for this. An alternate approach for risk treatments can be employed where the acceptable approach cannot be achieved, but given that the criteria for determining whether or not works are achievable is the ability to issue a Hazard Reduction Certificate for these works, there are very few situations in which an alternate approach may even be considered. The presence of threatened species, endangered ecological communities or land management agreements may impose conditions on the works, but a certificate can certainly still be issued. Following the requirements of *Bush Fire Protection for Existing Development* Ku-ring-gai Council may be required to clear considerable patches of endangered ecological communities such as Duffys Forest and Blue Gum High Forest in some cases and reduce the size of reserves by over a third in many others, with the only restrictions being that hand tools must be used and trees must remain in place. All of this may be required without even the possibility of applying alternate approach risk treatments because a HRC can be issued. Furthermore there is no requirement to consider the cumulative impacts of vegetation clearing required by this standard.

It must also be acknowledged that proximity to bushland and green, leafy suburbs are characteristics of the Ku-ring-gai area held in high regard by many local residents. Vegetation clearing carried out to meet the standards of *Bush Fire Protection for Existing Development* will have negative impacts not just on environmental values, but amenity values and the health and well-being of residents as well.

In order to better meet the obligation to have regard to the principles of ecologically sustainable development, the following suggestions are offered:

1. Set radiant heat target at 29kW/m² for existing residential development to reduce the amount of clearing required, while placing a greater emphasis on community engagement and building upgrades to ensure reasonable protection from bush fire is afforded, and
2. Allow the presence of high ecological value (threatened species, threatened ecological communities, land management agreements, biodiversity corridors, regionally significant species etc.) to trigger alternate approach treatments.

Thank you for the opportunity to comment. We hope that you take the time to consider our submission. If you require further information contact Heath Fitzsimmons on hfitzsimmons@kmc.nsw.gov.au.

Yours sincerely

Andrew Watson
Director Strategy and Environment