

## Alternate Solutions

This Practice Note provides councils, applicants, State agencies and other groups involved in the development application process with information on submission requirements for alternative solutions outlined in *Planning for Bush Fire Protection 2006* (PBP).

### 1. INTRODUCTION

Where an applicant elects not to follow the acceptable solutions for a bush fire protection measure, detailed evidence must be provided demonstrating compliance with the performance criteria and intent of the measure.

For alternate solutions, the applicant must demonstrate how the product, design or material can meet the performance requirements of PBP.

This approach requires applicants to demonstrate to the NSW Rural Fire Service (RFS) or Council how the proposal satisfies the statement of intent, specific performance criteria and more broadly, the aim and objectives of PBP.

The following is provided to guide applicants as to the acceptable methods of demonstrating performance.

### 2. FOR APPLICANTS TO DEMONSTRATE PERFORMANCE

The RFS will consider alternative solutions where the applicant demonstrates that their solution meets the performance of PBP. The onus is on the applicant to demonstrate this.

More specifically, the applicant must demonstrate how the system, product, design or solution can meet the performance criteria, including the

calculated radiant heat levels that may impact on the structure. The procedure to determine the category of bush fire attack and radiant heat level shall be in accordance with Australian Standard 3959 - 2009 '*Construction of buildings in bush fire-prone areas*' (AS3959) and shall use the FDI as nominated in PBP.

The following are RFS submission requirements for applicants to demonstrate how the alternative solution has met the performance criteria. The RFS has utilised the accepted methodology used in the *Building Code of Australia* (BCA) (see clause A0.8 in Volume 1 of the BCA) for applicants to determine the performance of a proposal.

### 3. PERFORMANCE BASED SOLUTIONS

- a) A *Performance Based Solution* must be assessed according to one or more of the *Assessment Methods* (see 4).
- b) A *Performance Based Solution* will only be accepted where it is supported by *Evidence of Suitability* (see 5).

### 4. ASSESSMENT METHODS

The following *Assessment Methods*, or any combination of them, can be used to determine that a *Performance Based Solution* complies with the *Performance Criteria*:

- a) Evidence to support that the use of a material, form of construction or design meets the *Performance Criteria* or an *Acceptable Solution* as described in PBP.



- b) Verification Methods such as:
  - i. a test, inspection, calculation or other method that determines whether a performance based solution complies with the relevant performance criteria.
- c) Comparison with the *Acceptable Solutions*.
- d) *Expert Judgement*.

## 5. EVIDENCE OF SUITABILITY

Every part of a building must be constructed in an appropriate manner to achieve the requirements of the BCA and PBP, using materials and or techniques that achieve the performance.

Evidence to support that the use of a material, form of construction or design meets a Performance Criteria or an Acceptable Solution may be in the form of one or a combination of the following:

- a) A report issued by a Registered Testing Authority, showing that the material or form of construction has been submitted to the tests listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in the building.
- b) A current *Certificate of Conformity* or a current *Certificate of Accreditation*
- c) A report issued by a Registered Testing Authority, showing that the material or form of construction has been submitted to the tests listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in the building.
- d) A current *Certificate of Conformity* or a current *Certificate of Accreditation*
- e) A certificate from a professional engineer or other appropriately qualified person which –
  - ii. certifies that a material, design or form of construction complies with the requirements of the BCA and PBP; and
  - iii. sets out the basis on which it is given and the extent to which relevant specifications, rules, codes of practice or other publications have been relied upon.
- f) A current certificate issued by a product certification body that has been accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).
- g) A current Product Listing Data Sheet and listing entry in the Register of Fire Protection Equipment, as issued by CSIRO-MIT under its ActivFire Scheme.
- h) Any other form of documentary evidence that correctly describes the properties and performance of the material or form of construction and adequately demonstrates its suitability for use in the building.

Any copy of documentary evidence submitted, must be a complete copy of the original report or document.



**DEFINITIONS**

As defined in the *Building Code of Australia 2006*

**Alternative Solution** means a Building Solution which complies with the Performance Requirements other than by reason of complying with the Deemed-to-Satisfy Provisions.

**Assessment Methods** means a method used for determining or establishing that a Building Solution complies with the Performance Criteria.

**Building Solution** means a solution which complies with the *Performance Criteria* and is:

- a) A *Performance Based Solution*; or
- b) A solution which complies with the *Acceptable Solutions*; or
- c) A combination of (a) and (b).

**Certificate of Accreditation** means a certificate issued by a State or territory accreditation authority stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA.

**Certificate of Conformity** means a certificate issued under the ABCB scheme for products and systems certification stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the BCA.

**Expert Judgement** means the judgement of a qualified expert who has the qualifications and experience to determine whether a *Performance Based Solution* complies with the *Performance Criteria*

**Performance Based Solution** means a *Building Solution* which complies with the *Performance Criteria* other than by reason of complying with the *Acceptable Solutions*.

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**Performance Criteria** means a requirement which states the level of performance which a *Building Solution* must meet.

**Professional engineer** means a person—

- a) If legislation is applicable - a registered *Professional Engineer* in the relevant discipline who has appropriate experience and competence in the relevant field; or
- b) If legislation is not applicable –
  - i. a Corporate Member of the Institution of engineers, Australia;
  - ii. or eligible to become a Corporate Member of the institution of engineers, Australia, and has appropriate experience and competence in the relevant field.

**Registered Testing Authority** means –

- d) the National Building Technology Centre (NBTC); or
- e) the CSIRO Division of Building, Construction and Engineering (CSIRO – DBC&E); or
- f) the Division of manufacturing & Infrastructure Technology (CSIRO – MIT); or
- g) an authority registered by the National Association of Testing Authorities (NATA) to test in the relevant field; or
- h) an organisation outside Australia recognised by NATA through a mutual recognition agreement.

**REFERENCES**

1. *The Building Code of Australia 2006*. Australian Building Codes Board (ABCB)
2. Australian Standard (AS) 3959 – 2009 *Construction of buildings in bushfire prone areas*. Standards Australia

