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New edition of Australian Standard 3959 – Construction of Buildings in Bushfire-Prone Areas

The new edition of AS 3959 was published on 14th November 2018 and is available for purchase online.

AS 3959:2018 will be referenced in the National Construction Code 2019. NCC 2019 is expected to be adopted by all Australian States and Territories on 1st May 2019. All practitioners will need to obtain a copy of the new standard prior to the commencement of NCC 2019.

The enclosed summary document has been prepared by TFS to inform interested parties of the key changes in the new edition. It is recommended that practitioners, designers, building surveyors and permit authorities familiarise themselves with the changes prior to NCC 2019 being adopted.

Bushfire-prone areas overlay update

As of January 2019, 90% of Tasmanian Councils now have either a final draft, a draft that is nearing completion or a published overlay (refer to map on page 2).

Meander Valley’s draft overlay has recently completed public exhibition as part of the Tasmanian Planning Scheme process. A number of other Councils will soon exhibit their draft overlays as part of their Local Provision Schedules.

Kingborough Council has initiated a draft amendment to the Kingborough Interim Planning Scheme 2015 to introduce their bushfire overlay. This is currently on public exhibition until early January.

Launceston City Council has more recently initiated a draft amendment to the Launceston Interim Planning Scheme 2015 to introduce their bushfire overlay. This will soon be placed on public exhibition.

It is anticipated that a number of other Councils will initiate draft amendments to their respective planning schemes in early 2019.

TFS strongly advises Councils to amend their interim planning schemes to introduce their overlay. This will avoid delays associated with the introduction of the Tasmanian Planning Scheme and will immediately reduce costs to Councils and the community.
Building Act 2016 amendments

A range of miscellaneous amendments to the *Building Act 2016* were passed by Parliament on 17 December 2018. This included the insertion of section 280A, which reinstates the right of a reporting authority (such as TFS) to appeal to the appeal tribunal about a building surveyor’s decision to issue a certificate of likely compliance or an occupancy permit in relation to advice provided by the reporting authority.

Formation of Bushfire Risk Unit

TFS’s Bushfire Planning & Policy Unit and Fuel Reduction Unit have been recently amalgamated to form a new Bushfire Risk Unit. The new structure has been designed to facilitate greater integration of TFS’s risk mitigation programs and supports a holistic approach to community fire safety.

Policy and regulation-related matters can continue to be directed to bfp@fire.tas.gov.au or (03) 6166 5544.

Please note that all TFS landline numbers have recently changed as part of a separate process.
Evolution, not revolution.....

- New edition of AS 3959 approved by Standards Australia Committee FP-020 on 28th September 2018 noting negative votes


- Currently available for use as a reference document as an alternate solution until NCC 2019 is released.
What has changed?

- Extensive review to increase consistency and reduce variability in interpretations (e.g. refined wording of vegetation exclusions, additional guidance notes and diagrams).

- New test methods (“AA” test crib) in AS 1530.8 series
  - Provides means of demonstrating compliance of building elements at all BALs.
  - New crib has different heat profile. To be used from now.
  - Old tests remain acceptable.
  - New crib to be subject to immediate review

- Cross-references to gas installation standards included.

- BAL is shown on every page of Sections 4-9.

Low threat vegetation given revised description for exemptions during vegetation classification:

**Clause 2.2.3.2**

f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

NOTES:

1. Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).
2. A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.
What has changed?

Classification of Vegetation

- Attempt to clarify process and definitions
- Diagrams amended to show the distances are measured from the vegetation edge on the ground (not the edge of the crown seen from above on an image)
- Commentary and diagrams provided to explain meaning of effective slope and its application to assessment and that more than 100m may need to be assessed to get the best estimate of effective slope

![Diagram showing varying slope ranges for assessment.]

Polycarbonate roof sheeting for verandas, carports and awnings now accepted for BAL-12.5 and BAL-19

- Must be separated from roof space of main building
- Can’t be used in the main roof as won’t be sarked
- Can be removed from DD Table 4.1 for NCC 2019
What has changed?

- Gap specification simplified
- Details for doors and windows provided to eliminate gaps.
- Gaps where present must be screened with metal mesh with max. 2mm aperture.

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What has changed?

- **Shielding** concession clarified
- Shielding cannot reduce BAL to BAL-Low
- Shielding not to affect roof or subfloor
- Alternate solutions required if not compliant with clause 3.5
- DD Table 4.1 requires a site specific drawing showing geometry for any application of shielding (both horizontal under clause 3.5 and vertical). Must be to scale and accurate for both NGL, vegetation and the proposed building!
What has changed?

- **Window and Door** terminology and specifications reviewed
- Revised text and specifications undertaken by industry representatives to increase consistency.
- Window schedules on building plans must include specific BAL to help reduce product substitution.

What has changed?

- **Bushfire Shutter** specifications have been refined to increase shutter options
- Windows and Doors must be fully covered (frames and glazing/panels)
- No gaps when closed
- Not reliant on power to close unless with UPS
- Use materials specified for relevant BAL
- Allow perforated screening up to 20%
What has changed?

- Subfloors at BAL-12.5 and BAL-19
  - Unenclosed subfloor spaces: requirements for bearers, joists and flooring <400mm from ground level now the same as BAL-29.
  - Enclosed subfloor spaces: materials to enclose sub-floor space <400mm from ground level need to be of same standard as external walls.

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What has changed?

- Tasmanian BAL Table is now Table 2.6 not Table 2.2.4
- BAL Table content for Vegetation, slope and distance has not changed

**TABLE 2.6**

<table>
<thead>
<tr>
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<td>21–22</td>
<td>22–&lt;100</td>
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<td>B. Woodland</td>
<td>&lt;7</td>
<td>7–10</td>
<td>10–15</td>
<td>15–&lt;22</td>
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<tr>
<td>C. Shrubland</td>
<td>&lt;7</td>
<td>7–&lt;9</td>
<td>8–&lt;15</td>
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<td>10–13</td>
<td>13–19</td>
<td>19–27</td>
<td>27–&lt;100</td>
</tr>
</tbody>
</table>

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What has changed?

- Appendix A (worked example of Method 1) now uses correct table for this edition.
- Appendix B (Method 2) has been tidied up but no technical changes were accepted. Note small terminology change: Understory Fuel Load instead of Surface Fuel Load and Total Fuel Load instead of Overall Fuel Load.
- Appendix C (Flow Chart) unchanged
- Appendix D (Diagrams) revised and increased
- Appendix E (Timber nominal density and suitability for cladding and joinery) unchanged
- Appendix F (Bushfire-resisting Timbers for BAL-29) now includes the accepted species previously contained in Appendix H
- Appendix G (explanation of BAL) unchanged
- Appendix H (was Appendix I) unchanged

What didn’t change?

- “Rangelands” was to be included as a new vegetation class
  - Would have applied to arid and semi-arid areas and areas north of the tropic of Capricorn (around 81% of Australia).
  - Would reduce construction costs associated with rangeland landscapes.
  - Ultimately was not supported by AFAC and subsequently withdrawn from final version.
What didn’t change?

• Proposed change to tabular layout rejected.

• Proposal to make gutter guards mandatory rejected.

• No fencing provisions included for shielding.

• Response to structures (fire source features) on adjacent allotments not added.

• No “new” science has been incorporated in new version. Held over until National Fire Danger Rating System project is progressed to stable and usable form.

What’s next?

• Table format version will be published as a supplement (will be subordinate to the chapter format if there is any dispute).

• Work on first amendment to start straight away
  – Resolution of crib arguments
  – Review of stringency of enclosure of subfloor spaces at BAL-12.5 and BAL-19
  – Refinement of specifications for testing protocols