

# DEATH TRAP OR

By Mark Murray, Communications Coordinator, FPA Australia

**M**ore than a year on from the worst-ever natural disaster in Australia's history, the debate continues.

Private bushfire shelters have been a contentious issue since Black Saturday, with the Victorian Bushfires Royal Commission (VBRC) into the February 2009 fires recommending a national performance standard be introduced to regulate their design and construction.

But to what exact standard remains under assembly, with all parties involved working tirelessly to achieve an appropriate outcome.

Many manufacturers have reported a significant increase in demand for the fire protection alternative, but without a regulatory standard, whether or not those manufacturers are constructing a safe refuge is still debatable.

Some have even falsely claimed their designs stacked up to a national criterion, prompting an investigation by the Australia Competition and Consumer Commission. ACCC Chairman, Graeme Samuel stated in October last year, "The ACCC is concerned that some web-based advertising may have given consumers the impression that there was an

Australian standard for bushfire bunkers which their product met. The simple fact is that there is currently no Australian standard for bushfire bunkers.

"The ACCC is conscious that residents in bushfire-prone areas are deciding now about how to protect themselves during the fire season.

"In view of this the ACCC moved to investigate the issue and obtained the prompt withdrawal of the representations."

The VBRC recommended in November that the Australian Building Codes Board (ABCB) amend the Building Code of Australia (BCA) to include bunkers in the classes of building regulated by the BCA.

The interim report also suggested that the ABCB introduce the national standard for bushfire bunkers in the BCA as soon as possible, ideally in the 2010 edition. This will not happen until next year, emphasising the meticulous approach by the ABCB in getting this standard right.

"Obviously the difficulty we face is the short time frame in which it (the performance standard) needs to be done," Ivan Donaldson, General Manager of ABCB said.

"We have found that there is no bushfire shelter standard anywhere in the entire world, which gives you an indication on how difficult a task this is given



# LIFE SAVER?

there is absolutely no precedent.

“We still know that people have been building these shelters, so the need to develop one is critical.

“They’re not something that have been utilised in the community at large before Black Saturday. But since then, people want to know that they have an alternative that meets a national standard if they choose to install one.

“However, the key message that we have pushed and will continue to push, even after the standard is introduced, is that a bushfire shelter cannot guarantee your safety.

“It should always be viewed as a last resort in an extreme situation.” Donaldson said.

A bushfire bunker should not be seen as a sure way to survive an inferno – but the challenge is determining a national design standard that gives the occupants every chance. And, understandably, this task is taking considerable time to finalise.

Seven people died from taking refuge in different type of bunkers last year, yet there were survivor stories as well, ensuring the subject remains delicate.

Had it not been for a custom-built, disused shipping container – buried into the side of a hill off Clonbinane resident Bevan Gobbett’s house – he and his family would be dead.

Mr Gobbett, a former CFA firefighter, took his wife and six-year-old daughter inside the 20-foot container and survived the harrowing ordeal, while a raging firestorm outside destroyed his house and two cars.

He modified the bunker when he bought the house nine years ago, adding respirators, water, warm blankets and a fire extinguisher. It already had an air vent on the top so those inside it could breathe.

They walked out of the bunker at midnight, a frightening six hours after first escaping the blaze. On that evidence, it would appear the Gobbett’s bunker stacked up.

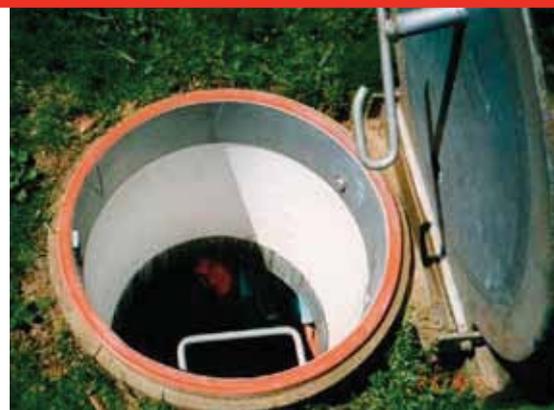
Jim Baruta designed and built a bushfire shelter into the ground in the side of a hill behind his St Andrews property, with walls of concrete bricks, a concrete roof and a steel door. He sheltered in the bunker for a short time while the fire front passed, and he survived.

But would his design have withstood six hours of immense heat and smoke inhalation like the Gobbett’s?

Baruta reported he had difficulty breathing and felt faint due to smoke pouring in through a gap in the bunker during his short refuge.

There were others not so lucky, as documented

The safety of bunkers in bushfire-prone areas remains a contentious issue.



The past success or failure of private bushfire shelters has depended on a variety of factors and they should be treated as a last resort.

in Interim Report No. 2 of the Victorian Bushfires Royal Commission. A Humevale man died in a purpose-built bunker – with the first responding police officers observing that the inside of the refuge appeared similar to an oven, containing burning hot embers. The roof had collapsed and the sprinkler system on the roof had melted.

Also, a man and woman lost their fight for life in Arthurs Creek from carbon monoxide toxicity while sheltering in a cellar.

As you can see, the ABCB have been assigned an arduous task in developing an appropriate national standard.

“We have had all hands on deck with this since the VBRC recommendations,” Donaldson said.

“Developing an acceptable testing procedure is incredibly difficult, because how do you test a potential bushfire shelter against the severity of some of the fires that people confronted during the Black Saturday tragedy? The simple answer is you can’t,” he said.

Interim regulations and an accreditation process for construction of bunkers in Victoria came into effect late last year.

A draft performance-based document was released by the ABCB in January to allow industry and the general public to provide comment and to propose modifications and suggestions. The final document will permit building designers and approval authorities to make educated judgments when designing or approving a bushfire bunker.

“Release of the document in early 2010 will enable state and territory building regulators to use it as a basis for the regulation of private bushfire shelters prior to consideration by the ABCB of the inclusion of new provisions in BCA 2011,” it says in the document preface.

It continues:

“It must be emphasised however that *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 *bushfire attack* that include effective land-use planning, fuel management and emergency services strategies.”

Based on evidence presented to the VBRC, 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 the evidence presented

to it suggested extreme caution should be taken in the use of bushfire bunkers as part of a household’s fire plan.

“It advised that misplaced reliance on a bunker can be life threatening. It also noted that the design, siting and construction of a suitable bunker are neither simple nor inexpensive. The ABCB’s work in preparing the draft standard has confirmed this.”

Jarrod Edwards, Executive Manager of the Metropolitan Fire and Emergency Board’s Community Safety Technical Department, said it was still difficult to support the newly-adopted Victorian performance requirements for bushfire-safe bunkers.

“Without the availability of an acceptable construction method, and in the absence of a suitable prescriptive standard, designers and certifiers are left uncertain as to the criteria to which a proposed private bushfire shelter should be evaluated against,” Edwards said.

At the time of writing, there were no accredited private bushfire shelters (although, first appraisals began on March 11).

On the evidence gained from the success and failure of private bushfire shelters in the past, they are a protection alternative that can be rapidly improved, but might always remain unpredictable – even after an appropriate standard is introduced.

They should be treated in the same way as a life boat is on a cruise ship – you don’t get in unless the ship is sinking.

The emergency craft needs to be prepared with essential first aid equipment suitable to the environment, but there are no guarantees of making it to land. Bushfires vary in severity and strength, as do the conditions of an ocean in a storm. It is about giving the escapees every chance if ‘forced’ into that situation.

Families retreating to their ‘plan B’, particularly on Black Saturday, walked a tightrope – with life or death potentially laying either side of it.

Turning the tightrope into at least a footbridge should be the ultimate goal when it comes to the standard private bushfire shelters must meet, because life is too precious to be left entirely to chance.

**NOTE:** FPA Australia encourages any individual who has installed a private bushfire shelter or bunker prior to November 2009 to engage a Registered Fire Safety Engineer with related experience to inspect the bunker. Visit [www.fpaa.com.au](http://www.fpaa.com.au) for more information.