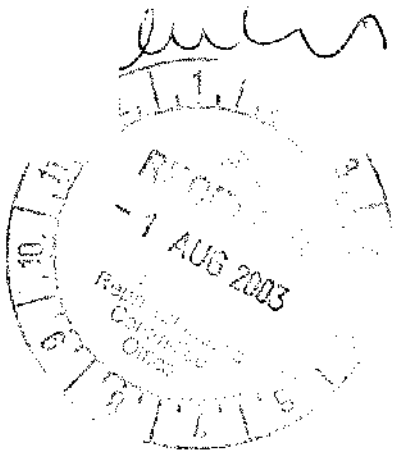
Submission No.466



Mr Gary Nairn MP
Member for Eden-Monaro
Committee Chair
House of Representatives
Select Committee on the Recent Bushfires
Parliament House
CANBERRA ACT 2600

Dear Mr Nairn,

Use of Fuel-Air Explosive Devices to Fight Bushfires

Thank you for agreeing to accept this late submission, which follows up the quick brief I provided the Committee at its sitting in Ballarat on 30 Jul 2003.

In writing this submission I write as a former Director in the Department of Defence(DoD) with responsibility for armament development, testing and evaluation.

By way of background, following the Sydney bushfires, I asked myself whether technologies used for defence needs could be applied to fighting bushfires, particularly those hard to access in remote localities. In response to the question 'what would be a more effective way of fighting such fires' the advice I received at that time from the CSIRO and other Australian fire authorities was the need to be able to detect, target and extinguish such fires quickly. The concept I put forward in response was to use commercially available satellite Infra-Red(IR) imagery to detect fires, GPS to pinpoint and target them, and most importantly, the use of special Fuel-Air Explosives(FAE) devices to extinguish them.

In essence, on functioning, fuels in FAE devices rapidly consume the surrounding oxygen and create amongst other things, a local 'vacuum' for a brief period of time. This confers on such devices the potential to extinguish the core of any fire, irrespective of terrain, topography or type of vegetation. The concomitant pressure wave generated could also deprive the fire from a path through trees, foliage and other vegetation. Depending on size, FAE devices can cover areas from around 1,000 square meters upwards and can be quickly and accurately delivered by air from fixed wing aircraft.

Notwithstanding the potential offered, I was unable to progress the use of FAE devices further at the time because there was not one fire fighting authority that would take carriage of it.

Although I recently left the DoD, the tragic events in Canberra and country Victoria have prompted me to draw the potential of this fire-fighting concept to the Committee's attention. It would still appear to have merit since the essential elements of the original proposal now all exist as commercially available entities viz. IR imaging for detecting fires and specially designed FAE devices for fighting fires, the latter product being developed in the former USSR.

Taking cognizance of the above, used within a rigorous Occupational Health and Safety framework, FAE devices would appear to have the potential of fighting bushfires effectively, irrespective of terrain, topography or type of vegetation, and thus warrant further investigation. I would therefore urge the Committee that in its report it:

- Addresses the use of such devices as an appropriate direction of research into fighting bushfires, as per paragraph (e) of its Terms of Reference, and

- Recommends that in the first instance the government fund a low cost scoping study into its potential and cost-effectiveness, preferably before the next fire season – my colleagues and I would welcome the opportunity to participate in such a study.

Subject to a satisfactory study outcome, it may be anticipated that industry would then be interested in following through with implementation proposals.

I would be happy to discuss any aspect of this concept with the Committee or its representatives further.

Yours sincerely

SIGNED

Paul Buchler

1 Aug 2003