

PARLIAMENTARY INQUIRY INTO BUSHFIRE DISASTER

Submission by Environmental Hazard Management Pty Ltd (EHM)

References:

- A. Media Release WT25 / 2003 26 March 2003

In response to Reference A, Environmental Hazard Management Pty Ltd (EHM) submits the following comments and observations to assist committee members to reach informed conclusions and to initiate a proactive preventative program for bushfire control.

Reference A - Terms of Reference 2 b.

Since the establishment of fire-fighting facilities to respond to bushfires, employment of techniques to attack the "Fire Triangle" of Heat, Fuel and Oxygen has been accepted as the basis of exercising control of a fire situation. Remove one of the components of this "triangle" and the fire will extinguish. Unfortunately, while this remains basically true, it does not prevent re-ignition, and in a major fire situation, extinguishment is often difficult to sustain. Furthermore, the purely physical identification of the "Fire Triangle" is now known to be incorrect. There has also been identified, a Free Radical component to fire, creating a "Fire Tetrahedron" rather than a fire triangle. Because this Free Radical component is chemical by nature, it can only be controlled chemically. Fortunately, the inhibition of the Free Radical element of the Fire Tetrahedron drastically reduces the likelihood of fire propagation.

Superior fire extinguishing agents are now available which to date, have not been investigated by the authorities providing fire control systems. The impact and severity of bushfires can be significantly reduced, if modern high technology retardants are added to the plain water currently used.

Reference A - Terms of Reference 2 c.

The Canberra fires have proven that there is just too much at stake to continue to employ existing (old) technology in the battle with Nature. Bushfires are inevitable. Indeed they are necessary for both the propagation and the health of the bush.

Therefore, in our ongoing confrontation with bushfires, we have no alternative but to equip Australia's fire-fighters with the equipment and the fire retardants that will ensure the suppression where necessary, and the control always, of the fire.

This can be achieved while minimising risk to individuals and property, by effective husbandry of the National Parks, and by implementing a viable fire-fighting plan that provides response units with modern technology. At the forefront of this modernisation, should be the introduction of an effective fire retardant that attacks as many legs of the "Fire Tetrahedron" as possible. Analysis of available fire suppression agents suggests that a Water Additive retardant that embodies "Micelle Encapsulator" technology, would be ideal for this purpose.

Reference A - Terms of Reference 2 d and e

Environmental Hazard Management Pty Ltd (EHM) is an Australian owned and controlled company in the fire-fighting industry. EHM is aware that the fire suppression industry has been dominated by a few big organisations that have monopolised the products available for fire control. While their pursuit of financial dominance can be understood, unfortunately it is this "closed shop" attitude that has brought us to the inadequate fire control practises that make a repeat of the Canberra Fires inevitable. Inevitable that is, unless a thorough independent analysis is performed, to determine the best products available for the purpose of fire damage mitigation, with products assessed on their relative merits rather than the entrenchment of supply.

There is some concern within the "fire" industry, that several products currently in use in this "closed shop" environment have not been assessed by the EPA. This situation exists, primarily because some existing products or an earlier derivative thereof, were in use prior to the establishment of the EPA in Australia. Some products in current use within the "fire" industry are known to be corrosive, toxic, in some cases – carcinogenic, and harmful to the environment on many fronts. The fact that these products continue to be used without EPA analysis, is indicative of the systemic problem within the culture of the "fire" industry.

Today, there are a number of retardants available that are better equipped to conduct the process of fighting fires, however, it is likely that your committee will be prevented from access to them by vested interests within the "fire" industry. Unfortunately, the committees that provide product endorsement, NFPA, FM Global (formally FMRC), and Underwriters Laboratories (UL), are staffed by representatives of companies that produce conventional fire-fighting agents such as foam. Their agenda understandably, is to maintain the status quo, preventing competitors' products from reaching the market by manipulating the existing standards to endorse only their product(s). In doing so, they are denying the community the superior fire-fighting products and practices that would evolve from healthy competition. This situation should not be allowed to continue. A requirement for all products used in the fire-fighting industry to be approved for such use by the Australian EPA (NICNAS) would provide the industry with realistic standards based on performance and environmental management not entrenched and perhaps uninformed usage.

Reference A - Terms of Reference 2 g and h

In assessing the damage caused by the Canberra Fires, one may conclude that the current fire-fighting resources and the response provided, was clearly inadequate. However, given

the efficiency of the suppressants at the fire-fighters disposal, the outcome under the circumstances, was hardly surprising. The reports emanating from those involved in the Canberra bushfires may well lead one to conclude that a significant increase in the number of fire-fighting resources is the only way to combat an emergency of such magnitude. There are however, alternative solutions to just more manpower and equipment.

The existing resources could be made 300% more efficient with the associated savings in manpower and equipment, by the simple expedient of employing a fire retardant that is 300% more efficient than the plain water in current use. EHM would suggest that to achieve such a manifold increase in the operational efficiency of plain water, a Water Additive utilising Micelle Encapsulator technology, would be required. F-500, is a Water Additive using Micelle Encapsulator technology, that is environmentally safe, easy to use, with a shelf life of fifteen years or more, and provides fire-fighters with a 300% increase in current operating efficiency. Moreover, F-500 achieves phenomenal fire-fighting results without anything like the cost of training, equipping and supporting a 300% increase in fire-fighting manpower resources. An additional benefit of F-500 is that it reduces the temperature of a fire virtually instantly, thereby making the fire-fighting environment safer and easier to handle for those fighting the fire. With the issue of protecting the "fire-fighters" in mind, EHM would recommend that a simple spray system could be added to protect existing fire trucks (such a system could utilise the onboard F-500 retardant mixed with water). This system would render the trucks virtually inflammable and thus provide a safe haven for fire-fighters in an emergency.

Reference A - Terms of Reference 2 i.

The ability of modern Micelle Encapsulator retardants to instantly cool a fire has the dual effect of minimising heat/fire damage, and of preserving evidence to determine the cause of the ignition. EHM has held discussions with several insurance companies on the ability of F-500 to rapidly reduce the temperature of the heat source. Insurance representatives have been impressed with this characteristic, as reduction of heat/flames can have a major impact on fire damage thus minimising payout scenarios, and helping investigators determine a responsible party. Although these discussions centred largely on building protection, this dual ability would apply equally to a bushfire scenario. EHM is confident that the widespread use of a Micelle Encapsulator retardant and innovations such as the vehicle protection spray system mentioned above would result in the eventual reduction in fire cover insurance premiums for buildings, equipment and personnel alike. Advice emanating from discussions with insurance companies, strongly supports this view.

Reference A - Terms of Reference 2 j

EHM's investigations into the "fire" industry, has found that the volunteers who make up the country fire response crews are highly trained and dedicated personnel. These crews are a credit to the nation and deserve a significant improvement in the equipment they have to use from both the efficiency and safety aspects.

A modernisation program to achieve such an aim, need not be prohibitively expensive. The introduction of a Micelle Encapsulator retardant that is UL 162 Listed and Approved for use in existing foam equipment, will boost the efficiency of each fire appliance by at least 300%, whether it is a tanker, fire truck or a helicopter. In addition, retardants such as F-500 are safe to handle and have minimal impact on the environment. From a management perspective,

the only additional training required to equip fire-fighting systems with F-500, would be the need to instruct the crews in the correct methodology of diluting the retardant down to the required level of ½% to 3% in water.

EHM can assist in implementing this initiative at all levels in the fire-fighting industry, and would be pleased to submit to the committee, a plan to achieve this goal. There is a better way to fight bushfires – we need to use the best technology available.