

# **A Review of Firebombing Operations in Victoria**

(Extracts from Rawson and Rees, 1983)

## **Preface**

Firebombing, the use of aerially applied fire retardant chemicals to assist in fire control has been used in Victoria by the Forests Commission (FCV) since 1967. The technique has been based upon the ready availability of small agricultural aircraft which, depending on type, are capable of delivering 450-1900 litres of fire retardant. Operations have been conducted from any of seven permanent bases established throughout the State, or from temporary bases quickly established close to fire areas.

The concept of using small aircraft requiring little or no modification was designed to provide a first attack capability for small remote fires, usually started by lightning, which ground forces were unable to reach quickly. The system has been successfully used in this role over the intervening years and, increasingly, in a support role for crews establishing control lines on difficult sections of larger fires.

During the 1980/81 fire season, which was particularly severe in East Gippsland, the FCV again considered the possibility of using larger aircraft for firebombing operations. In late 1980 the Commonwealth Government was asked to provide a RAAF Hercules for an operational evaluation of the Modular Airborne Fire Fighting System (MAFFS) and the FCV made arrangements to obtain a unit on loan from the United States Forest Service (USFS). Protracted negotiations with the Commonwealth meant the evaluation was deferred until 1981/82 when, because of the very mild season, the MAFFS was used on only four fires and a proper evaluation under Victorian conditions was not possible. To complete the evaluation the MAFFS was again obtained on loan from the USFS, and flown by the RAAF during the 1982/83 fire season.

A further advance in methods of aerial attack on forest fires during 1982/83 was the use of a helicopter with bucket to drop water. The National Safety Council of Australia – Victorian Division (NSCA) operated a Bell 212 helicopter, with a bucket capable of carrying 1590 litres, for the FCV on a number of occasions.

The 1982/83 fire season was very severe, with over 800 fires burning nearly 500000 ha within the Fire Protected Area, and aerial attack was used extensively during suppression operations. This report contains a comprehensive review of the effectiveness of the MAFFS and comments on the firebombing operations using agricultural aircraft and the helicopter and bucket

## **Summary**

The MAFFS was widely used during fire suppression operations in 1982/83 after limited use in 1981/82, and the experience has shown that a large firebombing aircraft can be incorporated into Victorian forest fire suppression operations. However, the MAFFS did not significantly expand the Forests Commission Victoria's aerial attack capability, because it was not effective on fires more intense than those successfully attacked using agricultural aircraft. While it delivers a large volume of retardant, the turn-around times and operating costs are high and, in general, a number of agricultural aircraft can do a similar job for less cost. This result should not be taken to mean there is no future role for large firebombing aircraft in Victoria. If such an aircraft can produce a retardant line effective against fires of higher intensity than its potential under Victorian conditions would have to be examined.

A Bell 212 helicopter and bucket was used to good effect on a number of fires during 1982/83. Provided it can operate from a water supply close to the fire the system is economically viable, and should be used in future.

Agricultural aircraft have been used in Victoria for firebombing since 1967, and observations made during 1982/83 confirmed they are making an important contribution to fire suppression operations. They are the only aircraft which can provide a service under virtually the whole range of conditions found in Victoria. Unlike the MAFFS they are very rarely limited in operations by terrain, and unlike the helicopter and bucket they are economically viable when a fire is some distance from the base of operations. Any advances in the use of large aircraft or helicopters over the next few years will not replace the Commission's reliance on agricultural aircraft to provide a comprehensive firebombing service.