

POSITION PAPER

The Institute of Foresters of Australia, Forest Fire Management Group



DATE: 21 AUGUST 2018

FIREFIGHTING AT NIGHT

INTRODUCTION

As greater attention to safety standards has been applied through legislation, the applicability of firefighting at night has been challenged in many inquiries over the past few decades. Clearly, firefighting is not an operation that can be treated like on the factory floor where all risks may be engineered out of the process.

When dealing with bushfires it is impossible to eliminate all risk. On the factory floor, if a risk can't be eliminated then the activity should be suspended. However, this is not possible for bushfire suppression. Agencies with legislated bushfire responsibilities need to conduct firefighting activities around the clock if they are to meet, as well as possible, their obligations of protecting human life, property and the environment.

Not fighting a bushfire at night (when the fire behaviour is usually more favourable to control) may result in a fire developing so large that it defeats fire control efforts. If this occurs then more human lives and/or property may be at risk and the environmental consequences greater. Such was the case in 2003 when the firestorm hit Canberra.

The Hon. Maria Doogan, as a Coroner of the Australian Capital Territory, found that among the causes for Canberra's devastating fire in 2003, was the decision to withdraw crews from the Bendora fire on the night of 8th January 2003, and the subsequent failure to control that fire.

The Australian and New Zealand Forest Fire Management Group (FFMG) was established under COAG's Forestry and Forest Products Committee. Its members include senior fire management personnel from Australian and New Zealand land management agencies that have legislated fire responsibilities; representatives from the forest industry and fire research organisations; and the Chair of The Institute of Foresters of Australia's Forest Fire Management Committee.

Recently concerns have been raised that some agencies may take a position not to conduct firefighting at night. Hence, at the request of the IFA's Forest Fire Management Committee, FFMG reviewed and consequently revised the text of the existing Position Statement supporting firefighting at night, taking into account recent research from the Bushfire Cooperative Research Centre and the Bushfire and Natural Hazards CRC.

The IFA Board has endorsed this revised FFMG Position Paper supporting firefighting at night.



POSITION

The Forest Fire Management Group of the Institute of Foresters of Australia (IFA) supports and encourages firefighting at night as a valuable technique to be used when appropriate.

Initial suppression of fires at the earliest possible stage is the absolute key to reducing fire intensity, fire size and fire duration, and therefore fire impacts and cost. In a typical aggressive containment strategy, all opportunities have to be taken to restrict fire development including fighting fires at night.

The normal diurnal variation in weather variables such as air temperature and relative humidity means that the moisture content of fuel increases. Similarly, wind speed generally decreases after sunset. As a result, fire behaviour potential (rate of spread, flame height and fire intensity) is frequently much reduced during the night hours compared with the day.

Working at night is an opportunity for firefighters to deal with a fire of lower intensity than might be the case during the heat of the day, so increasing the likelihood of a fire being confined to the minimum area or in the minimum time period, whichever is the primary objective.

In many firefighting operations it is only after sunset, once burning conditions moderate, that effective direct suppression of a fire can be undertaken.

Advantages of firefighting at night include:

- Burning fuels become much easier to locate and successfully suppress.
- Backburns and burning out operations are simpler and less risky to conduct and control.
- Spotting is less prevalent, and thus less likely to breach containment lines.
- Lower exposure to heat stress during physical activity.
- Continuity of operations commenced during daylight hours.

Night operations will also extend the window of opportunity for implementing prescribed burning, particularly under forecast changed climate in which the prevailing conditions may be outside the burn prescription during daylight hours.

Firefighting, both day and night, is a dangerous activity and safety requirements need to be considered at all times. There are some safety requirements specific to firefighting at night caused primarily by reduced visibility, and the reduced possibility of aerial support for ground crews.

Firefighting at night requires the same consideration as firefighting during the day, and is an acceptable practice if:

- Weather conditions permit or necessitate the practice,
- Fuel types, fuel loads and fuel arrangements allow it,
- Personnel are appropriately trained and fit for the task, are adequately rested, and are adequately briefed on safety requirements,
- The risks of operating on the fireground are assessed and options and measures to mitigate those risks are planned and implemented.

The risks in firefighting at night are similar to those in day operations. Considerations include, but are not limited to:

- That site specific hazards have been identified, and marked if possible (e.g. dangerous roadside trees),
- That there is adequate communications coverage on the fireground,
- That there is adequate operations supervision experience on the fireground,
- That travel and escape routes are obvious, adequately marked on the ground and on maps in the possession of firefighting personnel,
- That any machinery being used is adequately equipped to permit safe operation, and,
- That non-urgent and high-risk operations are deferred until daylight.