

## Your details

Dr

Title

First name

Brian

Last name

Dale

## Submission details

I am making this submission as

A member of the general public

Submission type

I am making a personal submission

Consent to make submission public

I give my consent for this submission to be made public

## Share your experience or tell your story

Your story

The chemical industry, where I used to work, reviews incidents and disasters using tools such as root cause analysis. Correctly identifying the actual causes enables the adoption of the correct methods of prevention and mitigation.

## Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#).

1.1 Causes and contributing factors

I suggest the Commission uses Root Cause Analysis led by an outside expert in the field, to assist in determining the fundamental reasons for the "frequency, intensity, timing and location" of the 2019-2020 NSW bushfires see e.g.

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### **1.2 Preparation and planning**

It is a truism that big fires start as a small fires. It is therefore critical that small bushfires are attacked and suppressed regardless of their remoteness, before they become large enough to be uncontrollable and combine into 'mega fires'. This outcome was highlighted in the report of the McLeod Inquiry into the 2003 ACT bushfires, where the eventual result of not suppressing separate, initially small, remote area bushfires was the combining of these fires into a large fire which caused severe loss of life and major property damage. In a sense, the 2019-2020 NSW fires were the 2003 ACT fires repeated on multiple fronts on a much vaster and more extreme scale.

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### **1.3 Response to bushfires**

It appears that the resources for simultaneously attacking widely-separated remote area fires were inadequate. This meant that a number of initially small and widely-separated fires were able to grow in size so that they became uncontrollable, and then combined into huge, devastating fires. It is submitted that there needs to be an increased number of suitably located remote area fire-fighting teams (RAFTs) trained, drilled and suitably equipped, and able to co-ordinate with aerial and ground resources, to attack and suppress several widely-separated remote area fires across NSW. Similarly, as the McLeod Inquiry noted, there have to be sufficient aerial and ground resources of the correct type and in the correct location, to support these teams when they are deployed.

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### **1.4 Any other matters**

The workload on RFS volunteers during these bushfires was extreme and beyond what could reasonably be expected of a volunteer force. Instead, NSW Fire and Rescue should be strengthened to be able to provide the major bushfire fighting role. The shortening window of the non-bushfire season means that these additional personnel would be fully occupied during the these periods in training, carrying out remote area and large area hazard reduction, maintaining fire trails etc. The RFS would then have as its main roles, initial local fire-fighting, providing local advice and support to NSW Fire and Rescue, undertaking and/or supervising local small-scale hazard reduction burning, local area life and property protection, and other local duties. In particular, it is unrealistic to expect RFS volunteers to undertake the level of training and availability to provide all the resources for the increased number of remote area firefighting teams (RAFTs) which should be created. These teams should be mainly staffed by NSW Fire and Rescue with one or two volunteers from the RFS or NPWS who have local knowledge.

Much critical infrastructure in bushfire areas such as mobile phone towers, NBN, and water and sewage treatment plants became unusable due to loss of mains power and the subsequent exhaustion of battery backups and/or fuel for backup generators. It is suggested that the electrical distribution network providing power to critical infrastructure including these services as well as emergency services, hospitals, aged care facilities etc be protected against failure during bushfires by 'hardening'. This could be done by relocating power cables from power poles to new underground ducts sufficiently deep to escape fire damage, soil erosion etc, and fire-proofing or distance-separating above-ground structures such as transformers, substations etc. Being underground would reduce the likelihood of faulty electrical equipment arcing or sparking and starting fires. It would also provide protection against lightning strikes, storm damage from falling trees and flying debris, and vehicle collisions with roadside poles. Risk assessments would allow the work to be prioritised so that the most vulnerable and sensitive parts of the distribution network were protected first. Carrying out this work would provide

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regional employment for a wide range of skill levels and trades, which would be highly beneficial in the post-COVID recovery.

## **Supporting documents or images**

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