Submission to NSW Bush Fire Inquiry 2020

I am the Senior Deputy Captain of the Captains Flat RFS Village Brigade (SE of Canberra).
As a teenager, I fought my first fires in the 1960's in the Perth Hills of WA. Later, I joined the RAAF became a pilot with service in Vietnam. In the early 80's I was a member of the Stoney Creek Rural Fire Brigade, in that time we fought some major fires through the Canberra region. After retiring from business in 2015, I re-joined what is now the RFS.
During the 2019-20 fires I was deployed to Port Macquarie in November, then North Black Range S44 started, followed by the Charley's Forest S44. Between November and February I put in 39 shifts as a Crew and Sector Leader. This was on top of other Brigade activities.

Look at the Terms of Reference I could comment on many issues, however I'd like to concentrate on just two key matter that have really concerned me.
1) The dangerous design of RFS trucks, and
2) The failure to capitalise on cool night time conditions to contain fires.

Truck Design.
The RFS has too many truck rollovers, sometimes fatal. In the recent fires in our area, I know of at least two rollovers. Locally we drive in mountainous terrain, often escorting bulldozers or responding along poorly maintained gravel roads. At times, I have had ask my crew for safety reasons to vacate the truck as I negotiated steep side slopes.

There is a basic flaw in the current configuration of RFS trucks; **the centre of mass is too high**. The main weight we carry is the water tank. Current trucks have a square tank mounted on top of a conventional tray. This means that the main mass is mounted up high. As an RFS driver, we have a 13 degree side slope limit when traversing a slope, we are also cautioned to be very careful cornering around roundabouts when responding. All for good reason, Picture 1 shows a typical RFS truck with high mounted tank.

Picture 1

Pictures 2 shows an older truck, with equivalent capacity to a Cat 1, where the tank forms the tray with a low centre of mass. The area on top could have been used for pumps and equipment stowage, whilst still providing ample crew space.

Picture 2

Pictures 3 and 4 shows a very well designed modern unit, with very low centre of mass. Here the tank is mounted down between the chassis rails. It is very safe, I would drive it anywhere. There is clean efficient

placement of the pump and reel, storage and still space for a crew to fight from. This Cat 9 even has a top fill, so it can fill from a rural standpipe. Contrast this with the current Cat 9's being issued by RFS Engineering!

Water Tank Set into the chassis. Clear, uncluttered work area

Picture 3

Top Fill
You could fill this truck anywhere.
Latest Cat 9's don't have one!

Clean, ease to use manifold

Picture 4

I'm not suggesting immediately replacing the whole current fleet, however all new trucks could be properly designed with safety and efficiency of use the paramount criteria as shown (instead of cost as I suspect). In time the fleet could be updated.
Further on trucks, it seems that the further a brigade is away from Sydney, the older the truck fleet. Many trucks in our area are old and lacking in self-protection sprays, pull down window blankets etc.

Night Fire Fighting.
Having done many night shifts, it was frustrating when cool, humid conditions, weren't used to proactively put in back burns and containment lines. Instead, night shifts tend to become 'watch and observe' activities. On North Black Range and Charley's Forest we frequently had break outs and pyro-cumulous weather during the day. The risk was too high to put in a back burn. With conditions precluding back burning, the fight was reactive, chasing spot overs, instead of being proactive. Consequently we lost properties, which might have been saved.

Understandably it is hard to crew night shifts, particularly when crews believe they will on a watching brief. Night firefighting has its challenges; however, surely with today's technology we should be able to make effective use of this time.

The Australian Defence Force has adopted a "networked force" concept where multiple sensors and assets work as a connected "system of systems". With today's technology for IR scanning, digital communications, night vision devices, AVL, drones, integrated command and control systems, satellite surveillance and communications etc. a "Networked RFS" should be achievable.

If we had a fully networked firefighting capability, proactive firefighting at night would then become the norm. Instead of waiting for daylight, crews could use heavy plant and back burns making the best of favourable weather conditions. Bushfire fighting would become a truly round the clock activity.

I wish the Bush Fire Inquiry all success in improving the RFS capability. It is a great organisation but there is always room for improvement.

Hugh Howell
Senior Deputy Captain

25th March 2020