

# **A Case Study of the Rockbank Fire**

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**19 December 2001**



## Chief Officer's Message

The loss of Lieutenant Scott Lloyd at the Rockbank fire in December 2001 has affected everyone in CFA. While bearing the sorrow, we must learn the lessons.

A CFA investigation was carried out immediately after the incident.

The safety issues raised by the CFA investigation are being considered. Action has already been taken to put some into effect and more action is planned.

CFA has introduced a Safety First strategy, encouraging continuous improvement in safety in every activity.

This is complemented by CFA's Safer Firefighting Steering Committee whose role is to identify and introduce best practice in safe working in emergency operations.

While CFA as an organisation is working for safety improvements, I appeal to all CFA people as individuals to be always alert for their own safety and the safety of others.

Russell Rees

Director of Operations / Chief Officer

September 2002

# Background

CFA volunteer firefighter, Lieutenant Scott Lloyd died during firefighting operations at Rockbank, 25 km west of Melbourne, on 19 December 2001. He died of injuries suffered when struck by a disc plough being pulled behind a tractor, driven by a neighbouring farmer.

This summary is taken from the report to the Chief Officer – ‘Report into Circumstances of Fatality – Lt Scott Lloyd 19 December 2001’ – by Operations Manager John Haynes and Operations Officer David Clancy.

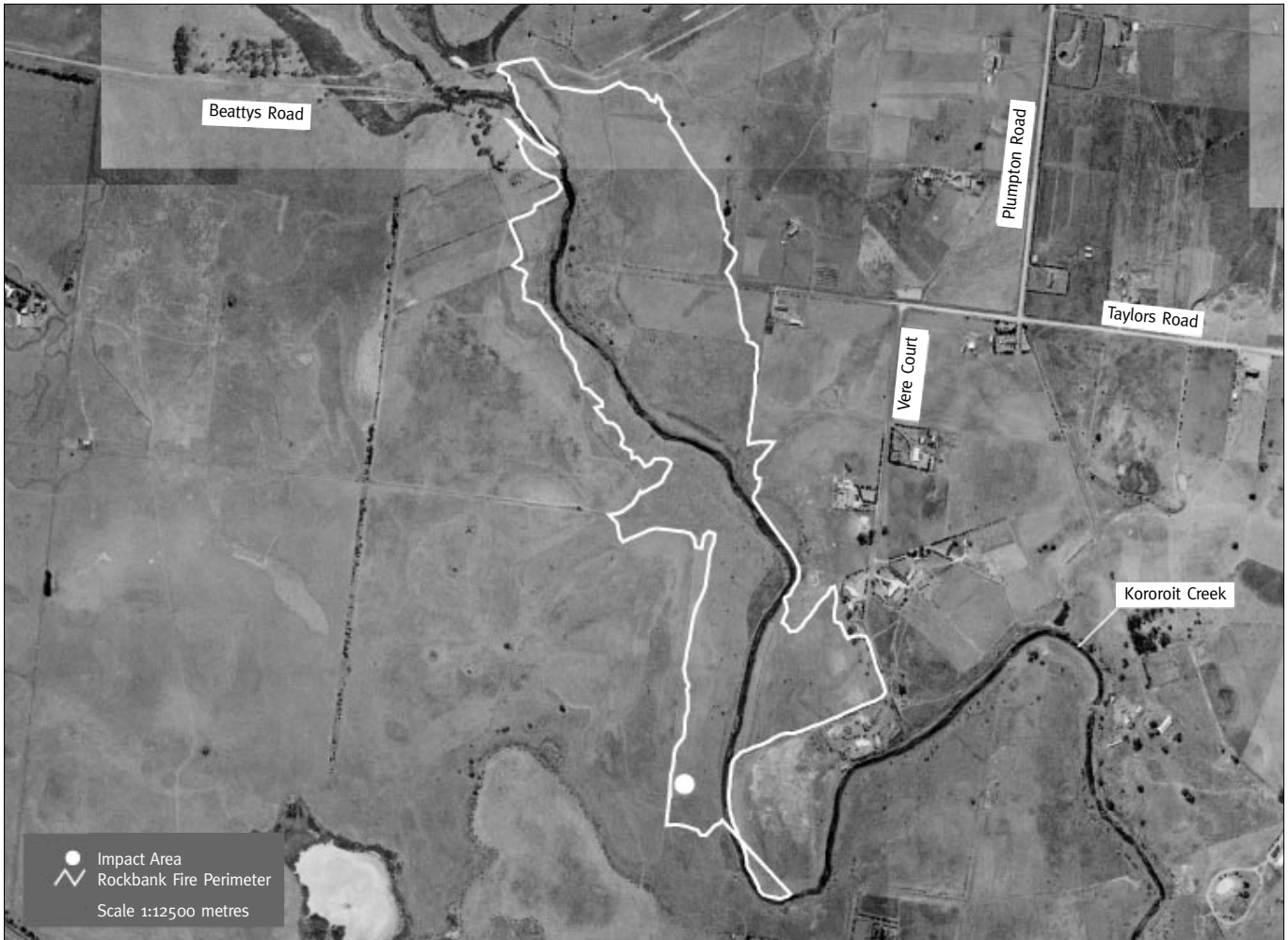
The report was prepared in accordance with terms of reference issued by the Chief Officer on 19 December 2001.

The fatality is also under investigation by the Victoria Police for the Coroner’s Inquest and by the Victorian WorkCover Authority. Given time and circumstance restraints, the report to the Chief

Officer may not have identified all the facts and issues and CFA acknowledges there may be inaccuracies.

The report, and in particular the actions taken, may have to be reviewed after completion of the Coroner’s Inquest and the WorkCover investigation.

The objective of the investigation was to identify, in a timely way, matters that need consideration by the Chief Officer and the CFA Board. The intent of this report was not to lay blame or find cause of death.



## Description of the Incident

A fire occurred at Rockbank, 25 km west of Melbourne on 19 December 2001. The fire was an escaped burnoff by a landholder of the environmental weed serrated tussock (tough grass weed clumps) at about 2.35 pm.

Fire restrictions under the CFA Act had not been introduced.

An automatic weather station 6 km south west of the fire area recorded that the temperature reached 28 degrees about 4 pm, with wind gusting to 20 km/h from the south east throughout the afternoon.

Another automatic weather station, 14 kms north east of the fire, recorded that the wind shifted to north easterly at 3.30 pm and westerly at 4 pm.

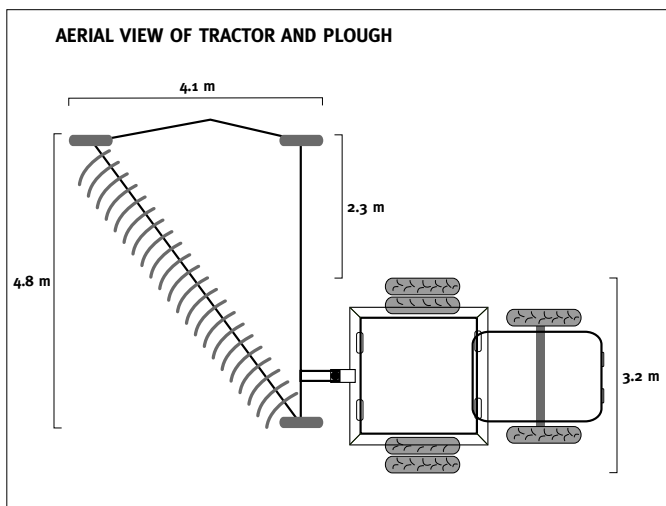
A number of firefighters and fire-trucks were responded, including Lt Scott Lloyd in the Hillside Quick Attack (a small 4 wheel drive vehicle with 400 litres of water, pump and other items of equipment in a module mounted on the rear of the vehicle).

An Incident Control Point was established to the south of the fire at the main access point.

Lt Scott Lloyd was Sector Commander for the western side of the fire, utilising the Hillside Quick Attack for transport and radio communications. There was one tanker on the sector at the time.

A neighbouring farmer saw the fire from a distance, and commenced ploughing a firebreak on the eastern side of his paddock, next to the western flank of the fire.

The plough trailed some 4 m behind the tractor and extended 2.4 m past the tractor's left side. (see diagram)



The tractor and plough went into his neighbour's paddock through an opening cut in the fence by CFA crews, and began ploughing in a northerly direction along the western flank of the fire.

A tanker began extinguishing the fire on its western flank behind the plough, and was supported by Lt Scott Lloyd in the Quick Attack vehicle.

The tanker left the fireground to fill with water, travelling in a southerly direction out of the paddock.

The Quick Attack vehicle was also low on water and travelled south through the burnt ground to a location about 45 m east of the ploughed edge of the fire, some 200 to 300 m south of where the plough was operating.

On reaching the northern end of the paddock, the tractor driver turned and started travelling south along the fence, widening the break.

The last sighting of Lt Scott Lloyd was by the tractor driver who saw him park the Quick Attack, get out and move to the back of the vehicle.

Lt Scott Lloyd was about 200 m to the south / south-east of the tractor at that time.

It is believed Lt Scott Lloyd put a knapsack on his back and went towards the ploughed break. His reasons are not known.

The tractor continued south along the ploughed break.

At about this point Lt Scott Lloyd was struck by the left side of the plough or fell in its path, without being seen by the tractor driver.

He was dragged some distance before being released.

Smoke from the fire and dust from the plough in the swirling wind may have obscured vision.

The tractor driver, unaware of impact with Lt Scott Lloyd, continued ploughing in the paddock and then moved back onto his farm to plough other firebreaks.

Another tanker crew found Lt Scott Lloyd in the ploughed break area an estimated 5 minutes after the impact.

## Lieutenant Scott Lloyd

Volunteer firefighter Scott Lloyd, 26, was 2nd Lieutenant of Caroline Springs – Hillside Fire Brigade. He first registered as a CFA member on 17 September, 1998.

A Mayday call was given.

Crew members of the tankers performed cardio pulmonary resuscitation (CPR).

Paramedics arrived in 14 minutes and the air ambulance in 32 minutes.

Lt Scott Lloyd passed away at the Alfred Hospital later that evening.

CFA investigators have not been able to determine why Lt Scott Lloyd left the Quick Attack vehicle, or how he got in the path of the plough.

Lt Scott Lloyd held a number of competencies including wildfire minimum skills and wildfire – low structure minimum skills.

He had the appropriate skills to undertake the tasks he was performing on that day.

In the 12 months before his death he attended 100 calls with the Caroline Springs-Hillside Fire Brigade.

He had documented experience in the driving and operation of the Quick Attack vehicle and a broad knowledge of the local area.

At the time of the incident he was wearing appropriate wildfire protection clothing.



# Issues Raised

The report to the Chief Officer identified several issues known at the time, arising from the fatality, and lists actions to improve firefighter safety. (refer table below)

## Background

## Issue Raised in Report

<p><b>Burning off</b> – The Rockbank fire was a result of an escape from a burn-off outside the Fire Danger Period (FDP). Lack of control of burning off by private landholders outside the FDP. There are no specific requirements on the competency of landholders to conduct burning off. The CFA Act does not explicitly address the responsibility of landholders to protect their property outside the FDP.</p>	<p>Review the competence required of a landholder; equipment standards; notice to neighbours and fire agency; lack of regulation outside the Fire Danger Period.</p>
<p><b>Knapsacks</b> – Lt Lloyd was wearing a knapsack that may have affected his mobility and balance at the time he was struck.</p>	<p>An independent assessment reported that the knapsack clearly restricts the wearer's capacity to respond to a blow or sudden movement.</p>
<p><b>Farm Machinery Risk</b> – The tractor was travelling at about 13 - 16 km/h in smoke from the fire and dust from the plough.</p>	<p>Extend the range of hazardous machinery in training materials to include farm machines.</p>
<p><b>Use of Private Equipment</b> – The farmer was operating independently on the fireground, and was not under CFA control or direction.</p>	<p>Review legislation, CFA policy and Standard Operating Procedures.</p>
<p><b>New Equipment and Practices</b> – The investigating team reported that the current process of evaluating new equipment or practices would appear to require more rigor.</p>	<p>Review the evaluation process.</p>
<p><b>Helitak Operations</b> – At the northern end of the Rockbank fire a Metropolitan Fire &amp; Emergency Services Board (MFESB) crew was in the path of a water bombing helicopter. A warning siren was sounded, with no response, therefore the water drop could not proceed.</p>	<p>Review procedures for alerting firefighters to an impending drop.</p>
<p><b>Quick Attack Design</b> – Lt Lloyd was operating from a brigade owned Quick Attack. There is no CFA standard for design of Quick Attack vehicles.</p>	<p>Ensure brigade owned vehicles conform to a CFA standard.</p>
<p><b>Quick Attack Role</b> – Lt Lloyd attended the fire alone in the Hillside brigade Quick Attack vehicle.</p>	<p>Review role and operating guidelines for Quick Attack vehicles.</p>
<p><b>Command and Control</b> – Lt Lloyd was undertaking some firefighting duties as well as Sector Command.</p>	<p>Consider circumstances where Sector Commanders should perform firefighting roles.</p>
<p><b>Working Alone</b> – At the time of his death, Lt Lloyd was working alone in the Quick Attack without any direct visual supervision.</p>	<p>Consider if Sector Commanders should work alone or in isolation from crews.</p>
<p><b>Communications Plan</b> – Metropolitan Fire &amp; Emergency Services Board (MFESB) firefighters unable to hear CFA radio when outside the vehicle.</p>	<p>Review testing of default communications plans in all firefighting agencies.</p>
<p><b>Training Information to Other Agencies</b> – At the northern end of the Rockbank fire a Metropolitan Fire &amp; Emergency Services Board (MFESB) crew was in the path of a water bombing helicopter. A warning siren was sounded, with no response, therefore the water drop could not proceed.</p>	<p>Review the dissemination of aircraft operations training information to other agencies.</p>
<p><b>Use of Mobile Phones</b> – The report states that it was common practice for some brigade members to use mobile phones as a means of communicating situation reports and fireground requirements.</p>	<p>Review the use of mobile phones in operations.</p>

## CFA Position

## CFA Action

<b>Accepted.</b> To be dealt with in the Permits / Fire Danger Period review foreshadowed for 2003/04 by the Chief Officer.	Issue to be included in the Permits / Fire Danger Period review CFA to liaise with municipalities and Natural Resources & Environment (NRE) re control of serrated tussock and other pest plants by burning off.
<b>Further Research.</b>	Consult with Equipment Design Committee and other stakeholders. Information to firefighters about balance and stability of the wearer via Operations Updates and training material.
<b>Accepted.</b> Hazards of ploughs and other machinery have been added to the revised basic firefighting manual about to be printed.	Reinforce hazard message in Operations Update 2002/03.
<b>Accepted.</b> Issues will be dealt with in the Private Appliance Project funded for 2002/03.	This project will cover legislation, liability, CFA ability to control, standards of equipment, operator training and communications.
<b>Accepted.</b> Chief Officer is considering a draft policy.	Finalise the evaluation policy.
<b>Accepted.</b> Most contract helicopters have sirens. Firefighter training does not detail how ground crews should respond to sirens.	Revise training; Detail use of sirens in Operations Update; Review protocols with emergency service organisations.
<b>Accepted.</b>	Set CFA standard; review process for design, operation, role, maintenance and replacement. Revise design and use of present brigade owned vehicles.
<b>Accepted.</b>	State roles for the use of each vehicle type.
<b>Accepted in Principle.</b> Sector Commanders may be able to undertake other roles in circumstances where the primary function of Sector Command is not compromised.	Include this principle in training materials and in Operational Update
<b>Accepted.</b> This issue could also cover single appliances working remote from supervision. The Basic Firefighting Learning Manual 1 deals with this issue.	Set policy and guidance for working alone or remote from supervision. Include in Operations Update 2002/03.
<b>Accepted in Principle.</b> Communications protocols have been set for joint operations between CFA, Natural Resources & Environment (NRE) and Metropolitan Fire & Emergency Services Board (MFESB). Communications issues between MFESB and NRE should be referred to those agencies.	Review effectiveness of communications between the three agencies.
<b>Agreed.</b>	Review Metropolitan Fire & Emergency Services Board (MFESB) wildfire training package to ensure it meets CFA requirements.
<b>Accepted in Principle.</b> Issue goes beyond use of mobile phones, relating to 'discipline' in using the chain of command. The Sector Commander Learning Manual lists appropriate use of mobile phone, including avoidance of radio congestion. All manuals stress that all communications must be within the chain of command.	Further research on prevalence of mobile phone use, benefits and issues. Review manuals to provide more guidance on proper use of mobile phones and other communications such as trunk radio, landlines and UHF.

## Other Issues Considered in the Report:

**Helmets** – Following the incident some firefighters raised concerns that the new wildfire helmets may reduce vision and hearing.

An independent company carried out noise tests with the new wildfire helmets and reported that it was not expected that a person wearing a helmet with a neck flap fitted would experience any significant hearing impairment. The CFA investigators reported that side vision was not affected by the neck flap.

**Firefighter goggles** – It is not known if Lt Lloyd was wearing goggles or if they were attached to the helmet at the time of the incident. Goggle parts were found along the plough's travel path. CFA investigators reported that wildfire goggles have minimal impact on the wearer's vision.

**This publication is part of CFA's ongoing commitment to continuous improvement and to ensure the safety of firefighters.**

**If anyone has any further information on this incident that could assist in our ongoing learnings, please write to the Chief Officer at CFA Headquarters, Private Box 701, Mt Waverley, 3149 or via email: [operations-feedback@cfa.vic.gov.au](mailto:operations-feedback@cfa.vic.gov.au)**

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