

**Before the Queenstown Lakes District Council Proposed District Plan
Hearings Panel**

Under the Resource Management Act 1991

And

In the matter of the Proposed Queenstown Lakes District Plan (Chapter 21
- Rural, Chapter 22 Rural Residential and Lifestyle, Chapter
23 Gibbston Character Zone)

**Statement of Evidence of Donald Keith McIntosh on the Code of Practice for
firefighting water supplies for the
New Zealand Fire Service Commission (submitter #438)**

Dated: 21 April 2016



Solicitor on the record
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INTRODUCTION

- 1 My full name is Donald Keith McIntosh. I hold the position of Area Manager Central/North Otago at the New Zealand Fire Service (**NZFS**) based in Queenstown. I have been employed in this position since 1 July 2012. In this role I am responsible for the operational efficiency of 21 fire brigades and for fire risk management for the urban fire districts within my Area.
- 2 I have 26 years of management experience in NZFS and have served in a range of management roles. Full details of my qualifications and professional experience are at **Attachment A** to this evidence.
- 3 I am providing evidence in relation to the submission by the New Zealand Fire Service Commission (**the Commission**) on the Rural Chapter.
- 4 The Commission is the governing body that controls NZFS and is the National Rural Fire Authority (**NRFA**). The Fire Service Act 1975 and the Forest and Rural Fires Act 1977, establish the governance, management, and operational arrangements for protecting life and property from fire in New Zealand. NZFS is referred to in this evidence where the issue relates to operational matters.

CODE OF CONDUCT

- 5 In accordance with the 'Minute and Directions of Hearings Commissioners on Procedures for Hearing of Submissions' dated 25 January 2016, I confirm that I have read the code of conduct for expert witnesses as contained in the Environment Court's Practice Note 2014. I have complied with the Practice Note when preparing my written statement of evidence, and will do so when I give oral evidence before the hearings panel.
- 6 The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow. The reasons for the opinions expressed are also set out in the evidence to follow.
- 7 Unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

8 My evidence should be read in conjunction with the evidence of Ainsley McLeod filed with the Hearings Panel in respect of this hearing.

9 I have also provided a brief of evidence dated 2 March 2016 in respect of the Strategic Direction Chapter. That brief of evidence sets out the Commission's role and overarching position in respect of the Proposed Plan. I do not repeat those matters in this statement.

EXECUTIVE SUMMARY

10 Failure to provide adequate firefighting water supplies and vehicle access for firefighters can result in unnecessary loss of life and property, including housing, community assets and infrastructure. It also can also cause downstream economic, social and environmental losses.

11 Inadequate supporting infrastructure also exposes firefighters to unacceptable and unnecessary risk and restricts their ability to perform emergency response functions.

12 The *New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008 (Code of Practice)* is the key document setting out the requirements for firefighting water supply in New Zealand. It also covers the vehicular requirements of the NZFS to ensure access to those water supplies. A copy of the Code of Practice is attached to my statement of evidence as **Attachment B**.

13 Appropriate recognition of the Code of Practice in planning documents provides the Commission and NZFS with an assurance that when fires occur within a particular district, NZFS will have sufficient resources to protect life and property.

14 Recognising and providing for the mitigation of the risk of fire, and other natural hazards, including by providing the infrastructure needed by responding firefighters, contributes greatly to the safety and wellbeing of communities.

INFRASTRUCTURE REQUIREMENTS

- 15 Coupled with optimally located fire stations, the key enabler to ensuring effective NZFS operational capability is the provision of supporting infrastructure, namely well-designed transportation networks, adequate firefighting water supplies and access for NZFS vehicles.
- 16 Failure to provide suitable transport networks, adequate firefighting water supplies and access for NZFS vehicles can result in unnecessary loss of life and property, including housing, community assets and infrastructure. It can also cause downstream economic, social and environmental losses.
- 17 It places a high degree of risk on those who rely on NZFS for help and assistance during an emergency. It can result in significantly greater risk to life, fire spread to neighbouring property, community impact resulting from hazardous substances emergencies, disruption and economic loss to business and commerce, and places unnecessary risk on firefighters. Inadequate infrastructure compromises NZFS's ability to discharge its statutory functions and meet response time guidelines.

Sufficient firefighting water supplies

- 18 When considering fire risk, the provision of a readily available sufficient water supply will significantly affect the extent to which a firefighting resource can save life and property. Should a fire occur, NZFS will respond if called and will commence firefighting operations using whatever water is available, but delays in accessing an adequate water supply allow a fire to continue to develop, to a size that more often results in a complete loss. Of note, in a residential house, fire can spread very rapidly and can result in a complete loss within minutes.

THE CODE OF PRACTICE

- 19 The key document setting out the requirements for firefighting water supply in New Zealand is the *New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008 (the Code of Practice)*.¹

¹ Superseding SNZ PAS 4509:2003

- 20 It is published in accordance with section 30(3) of the FSA, which requires the National Commander of NZFS to publish a Code of Practice specifying standards for water supply, volume and pressure which are required for firefighting in urban fire districts.²
- 21 As set out under section 30(3), the purpose of the Code of Practice is to provide direction on what constitutes a sufficient supply of water for firefighting in urban fire districts. It is intended for use by territorial authorities, water supply authorities, developers and NZFS.
- 22 While section 30(3) of the Fire Service Act contemplates a Code of Practice applying to urban fire districts, the Code of Practice can apply to water supply systems outside urban fire districts, i.e. non-reticulated water supplies in rural areas. The Code of Practice should be applied to both rural and urban areas.
- 23 The Code of Practice is a publicly available national standard, prepared under the supervision of a committee of the Standards Council established under the Standards Act 1988.³
- 24 The Code of Practice provides techniques to define a sufficient firefighting water supply that may vary according to the circumstances. It is based on an assessment of the minimum water supplies needed to fight a fire and to limit fire spread according to different buildings' fire hazards. The firefighting water supplies required to address the fire hazard may be established by use of tables within the Code, or by a fire engineering calculation. The Code of Practice is written to provide flexibility as to how the firefighting water supplies can be provided.
- 25 The Commission's preference is that the Code of Practice is applied for all new developments (subdivision and dwellings) and that this is provided for within the Plan.

² Section 30 of the Fire Service Act 1975 is set out at Attachment C.

³ Representatives on the committee included Building Research Association New Zealand (BRANZ), Department of Building and Housing (now MBIE), Fire Protection Association of New Zealand (FPANZ), Insurance Brokers Association of New Zealand Inc, Local Government New Zealand, New Zealand Fire Equipment Association, New Zealand Water & Wastes Association, and New Zealand Fire Service.

Access to property

- 26 The time it takes to access a building from the road and the space available for firefighters to undertake firefighting or rescue operations can have a significant impact on what NZFS is able to achieve.
- 27 Without adequate NZFS vehicle access, firefighters are severely restricted in the duties they can perform. The ability of firefighters to get resources to a site, and to position them safely and effectively, directly impacts on the outcome of the emergency they are attending and therefore the overall impact of the emergency on surrounding properties and communities.
- 28 The Code of Practice recognises that adequacy of a firefighting water supply includes not only assessment of the water supply that must be available, but also the location, connections, markings and access to fire hydrants to enable the water supply to be used. Roding widths, **hard** surfaces and gradients where hydrants are located also need to support NZFS vehicles.

Importance of water supplies

- 29 Without adequate water supply, firefighters will not be able to effectively protect life and property, limit surrounding exposures or prevent unnecessary losses. It adds a much greater degree of unnecessary risk to both the public and responding firefighters.
- 30 Appropriate recognition of the Code of Practice in planning documents provides the Commission and NZFS with an assurance that, when fires occur within a particular district, NZFS will have sufficient water resources and vehicular access to protect life and property. In my opinion, these matters are a critical component when considering land development and planning.
- 31 The significant contribution that adequately designed water supplies and vehicle access provides to the safety of responding firefighters is of particular note. Failure to provide infrastructure 'tools' to support effective emergency responses exposes firefighters to unacceptable and unnecessary risk, and compromises their ability to perform their emergency response functions, such as entry into building and structures to perform rescues, limiting fire spread to neighbouring properties, and dealing quickly with hazardous substance emergencies.

- 32 In my experience, early design, consideration and consultation with NZFS, via the Code of Practice, on the most appropriate firefighting water supply and access infrastructure provides dividends time and time again. This is the most cost effective and efficient approach for developers and provides a higher degree of certainty for developers, home or business owners, Councils and NZFS.
- 33 Retrospective consideration of firefighting water supplies and NZFS vehicle access generally results in significantly higher costs being incurred and can be impossible due to site layout constraints. Such an approach more often than not creates unnecessary disruption, is vastly more expensive, and strains relationships between developers, Councils, the public and NZFS.

CURRENT INVOLVEMENT OF NZFS IN QUEENSTOWN

- 34 As raised in the section 42A report, NZFS currently has a memorandum of understanding in place with the Council.
- 35 Some years ago, then Southern Fire Region management and QLDC agreed to the Memorandum of Understanding regarding firefighting water supply. It relates to applying the Code of Practice to single rural family dwellings only. This MOU provides for a 20,000 litre static water supply within a 30,000 litre tank. Alternatively, the MOU accepts a 7,000 litre static supply where a domestic sprinkler system is installed. The remaining provisions of the Code of Practice in relation to road width, road surface standards and fire appliance hard standing, distance between static supply and dwelling, access to the water supply for a fire appliance, Fire Service couplings (where applicable) and signage indicating the location of the water supply still applied.
- 36 The terms of the MOU have been applied since its inception and there are now many rural residences in QLDC that meet this standard. The use of the MOU is considered to be a pragmatic response to the issue where there was no requirement within the Plan to comply with the Code of Practice and when there was a need to reduce the frequency the Commission was involved in submitting on consent proposals.
- 37 However, while the NZFS and Council have this MOU in place around conditions and advice notes being placed on any new resource consents, the inclusion of this requirement in the Plan is our preference. This would ensure

more transparency in terms of the requirements on development and subdivisions in the district, allow for all development and subdivision to be subject to the requirements of the Code of Practice, and allow its flexibility to be realised as opposed to strict volumetric requirements being imposed through the Plan or a MOU.

CONCLUSION

38 My conclusions are set out at the beginning of my evidence under the heading Executive Summary.

39 It is for these reasons that the Commission is seeking that a standard and related matter of discretion are added in the various zones to ensure that compliance with the Code of Practice is required for all new residential development and subdivision in the district.

A handwritten signature in black ink, appearing to read 'D. McIntosh', written in a cursive style.

Donald Keith McIntosh

21 April 2016

ATTACHMENT A - EXPERIENCE

Donald Keith McIntosh Employment History

PROFESSIONAL EXPERIENCE

NEW ZEALAND FIRE SERVICE

- Area Manager/Commander, Central/North Otago, 2012 to present
- Assistant Region Commander, Bay/Waikato & Southern Regions, 1998-2012
- Fire Region Commander (Acting), Northland, 1998
- Assistant Area Chief Fire Officer, Bay of Plenty, 1995-1997
- Assistant Fire Commander, Palmerston North, 1990-1995

ACADEMIC HISTORY

- Master of Business Administration (MBA) 1996
- Member (by examination) of the Institution of Fire Engineers (MifireE)

ATTACHMENT B - CODE OF PRACTICE