

IN THE MATTER

of the Resource Management
Act 1991

AND

IN THE MATTER

of submissions and further
submissions by Rangitata
Diversion Race Management
Limited to the proposed
Canterbury Land & Water
Regional Plan

STATEMENT OF SUPPLEMENTARY REBUTTAL EVIDENCE OF NIGEL ROLAND BRYCE (HEARING 2)

1.0 INTRODUCTION

1.1 My name is Nigel Roland Bryce. I am an Associate Director and Planner at Ryder Consulting Limited, an environmental consulting business. My qualifications and experience were outlined in my evidence in chief for Hearing 1.¹

1.2 I repeat the confirmation given in my evidence in chief,² that I have read and agree to comply with, the Code of Conduct for Expert Witnesses, as set out in the Environment Court's Consolidated Practice Note. I confirm, for completeness, that I have complied with the code in preparing this brief of evidence.

2.0 SCOPE OF EVIDENCE

2.1 The purpose of this brief of evidence is to respond to the evidence of the following witness:

- Mr Phillip Percy on behalf of Nelson/Marlborough, North Canterbury, and Central South Island Fish and Game Councils ('F&G');

2.2 I discuss various matters raised by this witness in turn below.

3.0 EVIDENCE OF MR PHILLIP PERCY

3.1 Mr Percy's evidence sets out, in more detail, the alternative approach to be advanced by F&G which requires that all existing farming activities must achieve a '20kg/N/ha/year sustainable leaching standard'.

3.2 Mr Percy states at paragraph 20 that:

"I will discuss the Council's proposed approach to managing water quality resources later in my evidence, but I note here that the regulatory approach in the pLWRP does not include a clear reference point for resource users. It relies on the promotion of 'good practice' without supporting evidence that such an approach will be equitable in terms of allocating the fresh water resource, or that it will be an effective regulatory approach. The approach as notified, which remains largely unmodified in the s42A report, does not define a resource cap – a total amount of resource that is available for allocation among users. As a result, resource users are not clear on where they stand in terms of actual resource use and allocation. As a result, it is unlikely to encourage change in those who are using resources inefficiently, and the regulatory approach put forward by the Council won't, in my view, compel people to make those changes either."

¹ Dated 4th February 2013 for Hearing 1.

² at paragraph 1.3 of my evidence in chief (Hearing 2).

- 3.3 I disagree with this statement for the reason that I set out below. In summary, however, the Regional Plan (as notified) does stipulate a 'resource threshold'. It comes in the form of the 10% increase in N that embodied within the definition of 'changed' in the notified version of the Regional Plan. Any proposal that exceeds this threshold must secure a resource consent to proceed. I believe that this threshold is clear, measureable and will encourage parties to reduce the diffuse limits from their properties should they look to change their activities. It will do so in a manner that does not cause unacceptable adverse social and economic effects.
- 3.4 The 'Hearing Two' rebuttal evidence of Mr Willis (who appears as part of the case being called by Fonterra Dairy NZ Limited ('Fonterra')) states (at paragraphs 4.4 to 4.6) that the Regional Plan (as notified) sets an NDA for all existing farms. He contends that the threshold is the 2011-2013 average annual loss +10%.
- 3.5 I agree with Mr Willis that the definition of 'changed' in the notified version of the Regional Plan does establish a 'limit' or 'threshold'. In my opinion, this 'threshold' or N 'limit' establishes an important benchmark against which resource users are able to manage their farming activities. Consequently, while Mr Percy is correct that the Regional Plan (as notified) does not include a resource cap, the definition of 'changed' does support a rule framework that establishes an interim N leaching threshold beyond which farm managers are subject to a more rigorous assessment of environmental risks, especially in over-allocated catchments (which are a non-complying activity in the Regional Plan, as notified).
- 3.6 Mr Percy states that resource users are not clear on where they stand in terms of actual resource use and allocation, given the lack of a specific resource limit. In my opinion, the area of greatest uncertainty for resource users is not the lack of a limit, but rather the manner in which the existing N leaching threshold or limit is calculated. The high level of submissions to the definition of 'changed' reflects this. Many of these submissions are centered on concerns relating to the manner in which the 10% increase in N was proposed to be calculated using OVERSEERTM (and that this was to be calculated over a 12 month period preceding 1 July in any one year). Underpinning these submissions are concerns relating to the margins of error contained within this model and the fact that the model is used to calculate long term trends in N discharge rates (as opposed to annual N discharge trends as reflected within the definition of 'changed').
- 3.7 In my evidence in chief for Hearing Two, I supported a movement away from the use of OVERSEERTM as a mechanism to calculate whether a threshold has been reached. This was on the basis that OVERSEERTM contains a margin of error, which limits the manner that it can be used in a regulatory context. While this limitation means that it would not be advisable to calculate N loss leaching rates using OVERSEERTM over a 12-month period, there is, in my opinion, a clear logic in retaining some form of N threshold within the definition of 'changed'. Quite simply, doing so would ensure that resource users are able to benchmark their N leaching rates in a more logical way. Having a threshold or limit within the definition of 'changed' also allows for a 'measure' against land use activities and at which point a resource consent is triggered.
- 3.8 In my opinion, a way around the concerns raised by submitters relating to the margins of error contained within OVERSEERTM may be to stipulate that the amount of N loss be estimated using OVERSEERTM (or equivalent model) based on a rolling 3 year average data for the period 1 June – 31 May over the 3 preceding years. This removes the concern that the definition was previously calculated using a 12 month period, which was not considered appropriate given that OVERSEERTM is a longer term forecasting model. This is a matter raised by Dr Roberts on behalf of Fertiliser Association of New Zealand, where he reinforces at paragraph 17 *"OVERSEERTM is an annual time step, long term equilibrium model. As such it currently does not reflect year to year or within year variability accurately and should not be used for this purpose"*.

- 3.9 Further, using the Officer's definition of changed (and including my suggested amendments) it may be more appropriate to use an N loss threshold as a further consideration to be given to those triggers stipulated within the definition. Put another way, a 10% N loss threshold is a further consideration where any of the matters included within the definition are exceeded and would therefore underpin these existing triggers. Importantly, however, even if the matters already prescribed within the Officer's definition of 'changed' are exceeded, a change would not occur if the loss of nitrogen from the property used for that farming enterprise does not increase by more than 10 kg per hectare or 10% above the average nitrogen loss from the same property for the period between 1 June 2010 and 31 May 2013. This re-introduces an N leaching threshold or limit to underpin resource use, but seeks to 'iron out' a number of key concerns regarding this definition.
- 3.10 Having considered Mr Percy's evidence, I believe that the proposed rule framework can be modified so as to apply an appropriate interim limit that provides resource users the necessary levels of certainty. As such, I have included a further amendment to the definition of 'changed' as recommended by the Reporting Officer to address the points I have raised above and include:

"Change in farming activity means any one or more of:

1. *irrigation of all, or any part of, a property that was un-irrigated at 11 August 2012, except that this clause does not apply to:*
 - (a) those properties that hold shares in an irrigation scheme or a scheme operated by a Principal Water Supplier and these shares were purchased before 11 August 2012;*
 - (b) those properties that hold shares in an irrigation scheme or a scheme operated by a Principal Water Supplier and these shares were purchased after 11 August 2012, and the scheme holds a water permit that authorises the application of water (for irrigation) over the command area within which these properties are located;*
2. *an increase in the consented volume of water available to be used on the property compared with that consented at 11 August 2012, except that this clause does not apply to:*
 - (a) those properties that holds shares in an irrigation scheme or a scheme operated by a Principal Water Supplier and these shares were purchased before 11 August 2012;*
 - (b) those properties that hold shares in an irrigation scheme or a scheme operated by a Principal Water Supplier and these shares were purchased after 11 August 2012, and the scheme holds a water permit that authorizes the application of water (for irrigation) over the command area within which these properties are located;*
3. *greater than a 10% increase in the annual average stock units carried on the property, compared with the annual average stock units averaged over 1 July 2010 to 30 June 2013; or*
4. *greater than a 20% increase in the annual horticultural or arable yield, compared with the annual horticultural or arable yield averaged over the period 1 July 2010 to 30 June 2013.*

Where the matters in 1 to 4 are exceeded, a change does not occur if the loss of nitrogen from the property used for that farming enterprise does not increase by more than 10 kg per hectare or 10% above the average nitrogen loss from the same property for the period between 1 June 2010 and 31 May 2013. The amount of nitrogen loss shall be estimated using the Overseer or equivalent nutrient model using average data from the 36 months preceding 1 June in any year and expressed as kilograms per hectare per year.

and "Changed" in relation to the nutrient management policies and rules has the same meaning"

Nigel Roland Bryce, B.REP, NZPI.

29th of April 2013