

**BEFORE THE CANTERBURY REGIONAL COUNCIL
AND THE ASHBURTON DISTRICT COUNCIL**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of resource consent applications by Rangitata Diversion Race Management Limited to the Canterbury Regional Council and Ashburton District Council for resource consents for the construction, operation and maintenance of the Klondyke Water Storage Facility, its associated water takes from and discharges to the Rangitata River, and all associated activities.

SUMMARY OF EVIDENCE AND SUPPLEMENTARY COMMENTS OF BENEDICT RODNEY CURRY

DATED 23 APRIL 2018

Introduction

1. My name is Benedict Rodney Curry. I prepared a statement of evidence for the Klondyke Water Storage Facility Proposal dated 28 March 2018. My qualifications and experience are set out in that statement of evidence.
2. This summary statement addresses:
 - (a) The key points of my evidence, particularly the drivers for the Klondyke Water Storage Facility Proposal; and
 - (b) My supplementary comments in response to the statements of evidence of:
 - (i) Ian McIndoe, Principal Water Resources Engineer of Aqualinc Research Limited, on behalf of Rangitata Water Limited;
 - (ii) Mandy Waaka-Home on behalf of Te Rūnanga o Arowhenua and Te Rūnanga o Ngāi Tahu; and
 - (iii) Douglas Rankin on behalf of Whitewater NZ Incorporated, the Whitewater Canoe Club Incorporated, the New Zealand Rivers Association Incorporated, Hidden Valleys (NZ) Ltd, Geraldine High School and the University of Canterbury Canoe Club Incorporated.

Summary of evidence

3. My statement of evidence covered:

- (a) An overview of Rangitata Diversion Race Management Limited¹, the Rangitata Diversion Race Limited² and associated infrastructure, and an overview of RDRML's existing consents and its operations;
 - (b) The manner in which the Proposal was developed (from the Company perspective), including alternative development options prior to the lodgement of resource consents for the Proposal; and
 - (c) The consultation process and feedback that has been undertaken prior to this hearing, including identifying the general themes of the feedback and submissions received from all parties and the actions undertaken to mitigate any concerns held.
4. I now reiterate the key points of my statement of evidence, specifically the key drivers for the Klondyke Water Storage Facility Proposal from the Company's perspective.
 5. The RDR and its supply of water has been a dominant factor of the development of mid Canterbury's prosperity since 1945. The future horizon holds a number of uncertainties and risks and therefore it is beholden on the Company to make provision for the continued sustainable success of the district and the Canterbury region. Analysis of those risks leads, in RDRML's view, to the inescapable conclusion that storage is the answer. The financial cost of the proposal is substantial. The RDR shareholders who have benefitted from the substantial investment that the Crown made in developing the RDR are aware and are prepared to make the next investment for the benefit of themselves and those generations to come. The cost of the proposal not being realised could be far greater and wide ranging.
 6. As the RDR is effectively a 'run-of-river' water supply scheme³, water is unable to be held for times of higher demand. Therefore, water may be unavailable for abstraction and distribution via the RDR. In turn, this can significantly impact on the supply of water to RDRML shareholder farms and is the principal driver behind this large scale storage proposal as it would provide increased reliability of water to its shareholders.
 7. Notably, while the Company initially identified the key beneficiaries of the Proposal as being the existing RDR shareholders, other users and uses have been considered during the development of the Proposal. While the applications made to the Regional and District Councils do not seek the necessary consents to provide water for additional irrigable areas, a water supply and demand model has been prepared by PDP and summarised by Mr Veendrick in his primary statement of evidence.⁴ The modelling indicates that the Proposal has the potential to increase the current supply area of approximately 75,000 hectares of land to the maximum authorised area of land in mid-Canterbury, being approximately 95,000 hectares. The model also identified that the Proposal could make water available for other uses, such as, Targeted Stream Augmentation, Managed Aquifer Recharge and Near River Recharge⁵ and other commercial initiatives like aquaculture.
 8. The regulatory framework of the management of freshwater at national and, of more relevance to RDRML, regional level has developed significantly, through the CWMS over the

¹ Hereafter referred to as '**RDRML**' or '**the Company**'.

² Hereafter referred to as '**the RDR**'.

³ A 'run of river' water supply scheme generally means that the RDR open race canals have no capacity to store any water that is abstracted under existing consents.

⁴ Section 5.0 (Supply-Demand Model for RDRML) of the Klondyke Water Storage Proposal Hydrology Assessment prepared by Pattle Delamore Partners Limited and dated July 2016.

⁵ Hereafter referred to as '**TSA**', '**MAR**' and '**NRR**', respectively.

past 6 years. Of particular interest to RDRML and its operation is the raising of the Ashburton River minimum flow levels, for which the RDRML is, and will likely be further, targeted for restrictions.

9. Plan Change 2 (Hind/Hekeao) of the CLWRP, has introduced on-farm and off-farm mitigations to achieve water quality and quality targets by 2035. Amongst the environmental mitigations is MAR, which early modelling suggests could be 125 – 250 million cubic metres⁶ annually. Investigations within the community led by the Regional Council are focusing on the bulk of that water coming from the Rangitata River via the RDR. It is also clear from the investigations that at least some of that water, even if available, would be required to be “stored” within the RDR network.
10. Furthermore, there is political risk from changing policies particularly around future iwi rights and interests. I accept that this risk is currently unqualified or unquantified, however, there has been sufficient discussion in a variety of political forums to warrant its inclusion in an analysis of the future strategic landscape that RDRML must consider, particularly in the contemplation of developing large scale and costly infrastructure.
11. The original thinking by RDRML on a large storage proposal focused on mid-Canterbury needs only. However, the company has been encouraged by discussions with both national and regional governments to also consider the benefits at a regional level. In particular, one of the matters that needs to be addressed at a regional level is that the development of the Orari-Temuka-Opihi-Paeroa Plan will place considerable restrictions on the ability of existing groundwater users to pump water from the Temuka area, affecting approximately 12,000 hectares. Alternate sources of water have been investigated for many years, but it was not until the Klondyke storage proposal started to emerge that it became a potential crucial storage node for both mid and south Canterbury. Of note is that the Regional Council has led the development of the Regional Distribution Model, in which the Klondyke storage proposal (also called the Rangitata node) is a vital component.
12. RDRML considers that a large-scale Pond is the only viable option that would provide sufficient water storage capacity for a significant number of users over the peak water demand periods of summer (between September to May each year). This is because smaller water storage facilities that are relatively cheap to construct, remove productive farmland, have only a single use and, in reality, only offer buffering of base flows rather than longer-term storage.
13. In the Company’s experience, the ability to store water for a significant number of users at times when the Rangitata and South Ashburton rivers are subject to higher flows, enhances both the reliability and ongoing functioning of the hydroelectric power generation and irrigation schemes that the RDR serves.
14. As highlighted in my evidence, the Proposal will facilitate additional irrigable areas, as well as other positive effects and opportunities including an ecological refuge, the new mechanical rotary fish screen, a white water course, additional native vegetation, open water and wetland habitat for birds, environmental restoration and enhancement through TSA, MAR and NRR, enabled public access, traffic improvements and economic benefits.

⁶ Hereafter referred to as ‘Mm³’.

Supplementary comments

15. The following sections of my evidence responds to factual errors in the primary statement of expert evidence of Mr Ian McIndoe, Principal Water Resources Engineer of Aqualinc Research Limited⁷, Mandy Waaka-Home on behalf of Te Rūnanga o Arowhenua and Te Rūnanga o Ngāi Tahu, and Douglas Rankin on behalf of Whitewater NZ Incorporated, the Whitewater Canoe Club Incorporated, the New Zealand Rivers Association Incorporated, Hidden Valleys (NZ) Ltd, Geraldine High School and the University of Canterbury Canoe Club Incorporated.
16. In his statement, at paragraph 33, Mr McIndoe records that water is supplied to existing irrigation, or continues through the RDR to Highbank power station. As set out in my evidence, at paragraphs 1.2, 4.1, 4.2, 4.4, 4.5, and 4.6, I note that importantly, the overriding function of the RDR is to ensure that water is available all year-round for stockwater supply and this forms a cornerstone of the Company's responsibilities to its shareholders (including the Ashburton District Council owned Ashburton Stockwater Supply system).
17. In his statement, at paragraph 34, Mr McIndoe states that additional water is also able to be taken to replenish the Carew storage pond (up to a maximum of 6 million cubic metres of water). This is incorrect, there is no such additional take.
18. In his statement, at paragraphs 35 and 49, Mr McIndoe refers to 'part' of the Ashburton-Lyndhurst irrigation scheme being piped. At this point in time, I consider that most, being 99.5 per cent of the Ashburton-Lyndhurst irrigation scheme, has been piped.
19. In his statement, at paragraph 36, Mr McIndoe notes that surplus water available to RWL occurs typically in the first two weeks of May when the RDR is switched off for maintenance. However, I record that maintenance is normally undertaken in September. These shutdowns occur every two years and is therefore a known entity. The two-thirds/one-third split of water is the average that has been made available to RWL since the start of the water swap arrangement in 2013.
20. In his statement, at paragraph 39, Mr McIndoe records that 26 per cent of the total RWL take was RDR water. In this instance, this was due to a 2.5 week total shutdown in May 2017 of the RDR. The next planned total shutdown is in September 2019. If this occurs, RWL will be advised in advance and will be able to exercise their component of the water swap arrangement to its fullest extent.
21. In his statement, at paragraph 41, Mr McIndoe responds to my primary statement of evidence where I noted that water will still be available for abstraction by RWL when the RDR is shut down for scheduled maintenance. In this regard, Mr McIndoe comments that there is no guarantee that if the maintenance period was early May, sufficient water would be available to fill the RWL ponds. However, as noted in paragraph 20 of this evidence above, maintenance is typically undertaken in September each year. September is considered better for RWL as the water will be available close to the start of the irrigation season and therefore, there will be less time for a significant amount of the water to be lost from the RWL ponds, due to their known leakage rates.
22. In addition to scheduled maintenance that occurs every two years, typically in September, RDRML also undertakes partial maintenance. Mr McIndoe is incorrect in stating, at paragraph

⁷ Mr McIndoe provided expert evidence with respect to the hydrological effect of the Proposal on the supply of irrigation water to the Rangitata South Irrigation Scheme. Mr McIndoe was engaged by Rooney Water Limited (hereafter referred to as 'RWL').

42 of his statement, that any maintenance on the RDR requires the whole scheme to be shut down. In fact, sections of the RDR may be shut down, such as occurred between the 16 to 20 April this year from the Methven Check Gate to Highbank.

23. In his statement, at paragraph 56, Mr McIndoe comments that the proposed changes to Ashburton River minimum flows have not been modelled or qualified. However, Mr Veendrick has prepared a water supply and demand model, which was summarised by Mr Veendrick in his evidence.⁸
24. In her statement, at paragraph 4.3, Ms Mandy Waaka-Home records that a member of the Runanga was invited to the fish screen fact finding trip to the USA, but there was no offer of fares, but the consultants who went were paid. This is incorrect. I sent an initial email to the Runanga regarding the trip on 24 February 2017, attached as Appendix A to this evidence, to which Ms Waaka-Home was copied. Within this email, I suggested that the annual financial contribution of \$7,500.00 agreed between RDRML and the Runanga within the Memorandum of Understanding between the Company and Rūnanga could be used to fund the expenses of the trip. As this agreement requires the Runanga to apply to the Company to spend the contribution on an activity with an ecological basis, Ms Waaka-Homes (or any other representative of the Runanga) could have joined the fact finding trip at little to no cost to herself. Unfortunately, despite repeated attempts to make contact regarding this trip, I had no further meaningful correspondence with the Runanga on this matter. I also note that none of the New Zealand based consultants were paid by, or had their travel expenses reimbursed by, RDRML. For completeness, RDRML did pay for one Canada based limnologist, Dr Dana Schmidt, who joined the trip for two days.
25. Furthermore, in paragraph 3.11 of Ms Waaka-Home's evidence she states that "*It is noticed by us that RDR have put water down the Hinds and Ashburton [rivers], so it obviously has water to spare*". I refute that RDRML has water to spare. All water abstracted from the Rangitata and South Branch of the Ashburton rivers is used for irrigation, stockwater or hydroelectricity generation. The RDR canal has three spillways, in effect release valves, that are critical dam safety appurtenant structures. Management of the canal water levels are monitored constantly by RDRML staff through a modern web-based control system to optimise the supply of water. However, on occasions, such as, an outage of the Highbank power station, water is released via a controlled spillway back to a river. If the spillways were not part of the RDR canal, water would spill uncontrolled over neighbouring properties. The discharge of any water via spillways is a consented activity⁹.
26. In his statement, at paragraph 158, Mr Rankin notes that the proposed white water course is potentially a one wave feature. The white water course that is proposed to be constructed is a single wave feature, and this is confirmed in the evidence of Mr Greenaway who has reviewed this aspect of the proposal. At this point in time, no changes have been made to the design, but RDRML is open to constructing a white water course that is appropriate and would be widely used by the community. To do this RDRML will continue to consult widely with the interested community. However, it is important to record that I understand that Ashburton District Council does not wish to be involved in any management or operation of such a facility. Therefore, careful consideration needs to be given as to how such a facility would be managed and operated because little would be gained from constructing a facility that will not be well-

⁸ Section 5.0 (Supply-Demand Model for RDRML) of the Klondyke Water Storage Proposal Hydrology Assessment prepared by Pattle Delamore Partners Limited and dated July 2016.

⁹ The discharge of water from the spillways on the RDR are authorised by three resource consents: CRC011244 (South Hinds), CRC011247 (South Ashburton), and CRC011248 (North Ashburton).

received and/or used by the local community, especially given Mr Greenaway's evidence that the white water course is not required as mitigation.

Benedict Rodney Curry

Chief Executive - Rangitata Diversion Race Management Limited

23 April 2018

Appendix A

From: Ben
Sent: Friday, 24 February 2017 9:46 AM
To: tigrr@clear.net.nz
Cc: mandy.home@ngaitahu.iwi.nz; ykarlrussell@gmail.com
Subject: RDR fish screen

Kia Ora John

Following on from our conversation just now, I am concerned that the fish screen design (a rock bund) that is in our consent application could have limitations in a number of areas, none the least of which is their reported poor ability to divert native fish. I remember at the hui on Klondyke a year ago, your comments regarding the importance of screening out native fish as well as exotic species from the canal.

Looking around NZ there is limited experience in screening fish and the NIWA fish screening guidelines are not that comprehensive.

I am heading over to the US (California and Washington states) to talk to state fisheries experts and law makers, fish screen designers and hopefully visiting a couple of sites in both states.

I have opened up the trip to others to come along and share the knowledge. It looks likely that Adrian Meredith from ECan and Mark Webb from F&G will come and I wondered whether anyone from Arowhenua would want to come along as well

The proposed dates are 20-24 March excluding travel. The outline itinerary, which I am working on is as follows

19 Mar (Sunday) Depart Chch

19 Mar arrive Lax

20 Mar Visit California State Water Resources Dept (Bakersfield)

20 Mar Visit International Water Screens (Bakersfield)

20 Mar Visit local screen site

21 Mar Drive to Sacramento Visit Water Intake Screens visit local screen site

22 Mar visit other screen sites

22 Mar fly to Seattle

23/24 Visit sites and Washington state Wildlife dept

25 or 26 return to NZ

I expect the cost for the trip to be about \$6k per person for flights, hire vehicles and accommodation. I appreciate that is quite an expense, but I wondered if Arowhenua was interested in the trip, whether

the RDR funding (\$7.5K annually) agreed in the MOU between RDR and Arowhenua could be used for this visit?

The offer is there, it would be great to have Arowhenua involvement. I'd be grateful if you could let me know asap whether I should include someone from the runanga.

Nga mihi

Ben