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*in the matter of:* the Resource Management Act 1991

*and*

*in the matter of:* an application CRC021091 by the Ashburton Community Water Trust and Central Plains Water Trust to take water from the Rakaia River

*and* applications by the Central Plains Water Trust to use water from the Waimakariri and Rakaia Rivers and for all associated consents required for the construction and operation of the Central Plains Water Enhancement Scheme

*and* applications by the Ashburton Community Water Trust to use water from the Rakaia River and all associated consents required for the construction and operation of a hydro-electric power scheme

*in the matter of:* a Notice of Requirement by Central Plains Water Limited to the Selwyn District Council for the designation of land for works associated with the construction and operation of the Central Plains Water Enhancement Scheme

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Second brief of evidence of Roderick Ian Charles Mackenzie

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Dated: 15 September 2008

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## **SECOND BRIEF OF EVIDENCE OF RODERICK IAN CHARLES MACKENZIE**

### **Introduction**

- 1 My full name is Roderick Ian Charles (Ian) Mackenzie.
- 2 I am chairman of the Ashburton Community Water Trust (ACWT) and am authorised to give this evidence on its behalf.
- 3 My background and interest in the Trust were set out in my first brief of evidence dated 14 April 2008. This brief of evidence is largely a repeat of my previous, but it has been updated to give a slightly wider focus than just the take of water from the Rakaia.

### **Scope of evidence**

- 4 In this evidence I outline:
  - 4.1 The background to the Trust and its wide community interest in the District's management of water;
  - 4.2 The relationship between various entities that already take water, or are connected with the take of water from the Rakaia;
  - 4.3 An overview of ACWT's interest in irrigation – to provide some context to the wider objectives of ACWT. In my last brief of evidence I also linked this to supporting CPWT;
  - 4.4 An overview of the Rakaia terrace project – particularly in relation to the nature of the joint take.
  - 4.5 Consultation and ACWT's relationship with the community.

### **The Ashburton Community Water Trust**

- 5 ACWT was established in 1999. Although it is an independent entity, it was initiated by and continues to be principally supported by the Ashburton District Council. As its name suggests it has wide community based objectives around the allocation and use of the District's water resources. The specific objectives of the Trust include:
  - 5.1 to coordinate a community approach to water;
  - 5.2 the education of the community in relation to water issues;

- 5.3 to encourage and support the further development of the region's water resources for the benefit of the Ashburton District community;
  - 5.4 the provision of encouragement as the Trustees may deem appropriate to assist with the implementation of any developments for the better use of water in the Ashburton District;
  - 5.5 the provision of grants/loans to enable feasibility studies to be undertaken in respect of water issues;
  - 5.6 funding and supporting research into water issues including the enhancement of the Ashburton river and resolution of other local environmental issues; and
  - 5.7 the acquisition of such equipment as might be necessary to further the objects of the Trust.
- 6 The ACWT trustees have a variety of backgrounds that include farming, business, service industry and environmental interests. One of the Trustees is also the District Mayor, Mr Bede O'Malley. All the Trustees have given their time to ACWT and none stand to gain any direct benefit from their involvement in the Trust's affairs and projects other than as ordinary citizens of the District.
- 7 The Trust continues to consult with those within the District and we regularly discuss issues with members of the community who have an interest, an understanding, or relevant expertise in environmental and conservation matters. For the ACWT Rakaia hydro this includes affected landowners, DoC, Forest and Bird, local fishermen, Federated Farmers, and the Rakaia Lions.
- 8 It is also clear that ACWT has the full and complete support of the Ashburton District Council. After recent consultation with its constituent rate payers, the Council considers the objectives of the trust to be a matter of high priority.
- 9 This was reinforced in the latest round of consultation meetings with ratepayers over the long-term council community plan (*LTCP*). Although several spending Council spending projects were questioned or criticised, expenditure on water resources was endorsed and this is seen as being essential to the development of the District.
- 10 ACWT is therefore very much a "community" project.

- 11 ACWT has also commissioned a variety of reports and engaged a number of consultants to improve the District's knowledge and use of its water resources. These have included issues such as:
- 11.1 an understanding of the limits of the availability of ground water;
  - 11.2 the importance of the run of river schemes in recharging those groundwater resources;
  - 11.3 the availability of and limitations of further water to bring irrigation to those as yet unirrigated parts of the District; and
  - 11.4 the need to give run of river water greater reliability to ensure its economic value and what options are available to enhance the Ashburton River.
- 12 The ACWT Rakaia terrace hydro project is the first significant ACWT proposal that has advanced to a hearing. In the future it hopes to both continue the lead and offer assistance in the development of the District's wider water resources. For the Rakaia this could include advancing with the current proposal around the joint take, continuing its support around the implementation of the Canterbury Strategic Water Study, and any development under existing consents such as those held by Barrhill Chertsey Irrigation Limited (*Barrhill*).
- The southern entities**
- 13 At present there are three other schemes that are either directly related to, or relevant to, the ACWT Rakaia terrace proposal. A diagram which sets out the ACWT hydro scheme was annexed to my previous brief and marked "RI CM-1".
- 14 As previously noted, the first is Barrhill. Barrhill was granted consent in 2001 to take water from the Rakaia River for the purposes of irrigating 40,000 hectares and hydro-electricity generation (*inter alia* CRC990088). The intake site is the same as that proposed by ACWT, however at the time of giving this evidence the Barrhill irrigation scheme is yet to be constructed.
- 15 Barrhill has also entered into an agreement with Electricity Ashburton Limited (*EAL*) concerning the joint use of water under CRC990088. As a result of this EAL (and Barrhill) have sought and now been granted consents in relation to EAL's own hydro-electricity proposal which would utilise Barrhill water.

- 16 EAL has also already secured the rights in relation to what will also be the land underlying the intake and the Highbank canal (and the first part of the ACWT proposal).
- 17 I note that for this part of the ACWT scheme there is obviously significant overlap between what is applied for here and the EAL (Barrhill) scheme. To this end, although there are some minor differences, the EAL Highbank canal is in effect Stage I of ACWT.
- 18 ACWT is still applying for its own consents for intake works and the Highbank canal power stations so that it could, if needed, advance solely on the basis of its own scheme.
- 19 Further, it is worth noting that the EAL proposal is only in connection with the use of Barrhill water whereas on the Highbank canal section the ACWT proposal includes both Barrhill water and any water that will be allocated to it under the take consent application CRC021091.
- 20 Turning back to ACWT, once the water has passed through the Highbank canal and generating structures the water will then be discharged into the tailrace of the existing Highbank power station. The Highbank power station is operated by TrustPower and this is the third entity that undertakes an activity that is relevant to the ACWT proposal.
- 21 TrustPower currently receives water to generate electricity from the Rangitata Diversion Race that is not being used for irrigation within the Rangitata sub schemes (primarily during the winter months). However, for present purposes it is only the tailrace that is relevant to the ACWT proposal.
- 22 Up to a maximum of 40 cumecs of water (including ACWT/EAL Barrhill water) will pass from the existing tailrace down the ACWT terrace canal. Any combined surplus of water over the 40 cumec mark will pass back to the Rakaia River. As set in the agreement between Ashburton District Council and TrustPower, this water is available to the Council (and in this instance ACWT) for water enhancement in the District. A copy of this agreement is attached as "**RICM-3**".
- 23 The terrace canal will be formed by a combination of filling at the toe of the terrace and excavating at the top of the terrace for a total length of approximately 10.5km until reaching its terminal point. From here the water would pass through a final power station at Barrhill before being discharged back into the Rakaia River.

- 24 At this point it is also appropriate to note that the existing Barrhill irrigation scheme area falls alongside most of the terrace canal section of the ACWT canal. In the future the southern entities may explore the possibility of irrigation water being conveyed via the ACWT terrace system (whether it be ACWT's water in its own right or water already able to be taken by Barrhill for the purposes of irrigation).
- 25 It is also worth noting that pursuant to an agreement between Dairy Holdings Limited (*DHL*), Barrhill Chertsey Irrigation Limited and Synlait Limited (*Synlait*), both DHL and Synlait are required to support the southern entities (which includes ACWT) in any proposal that has an interest in the Barrhill consents - such as the present one proposed by ACWT.

**Irrigation in the Ashburton (and CPWT) Districts**

- 26 In my last brief of evidence I discussed irrigation generally and in the Ashburton District for three reasons. These reasons were:
- 26.1 ACWT is joint applicant with the Central Plains Water Trust (*CWPT*) to take water from the Rakaia under CRC021091;
- 26.2 ACWT has wide community objectives; and
- 26.3 ACWT is one of the southern entities which include Barrhill who already holds consent to take for irrigation. I also noted that in the future it is possible that as the Barrhill scheme area is developed it could seek to use the ACWT canal as a conveyance mechanism. Similarly, it is also possible that ACWT may in the future consider a separate irrigation proposal in its own right to irrigate any areas not irrigated by the final Barhill scheme.
- 27 I am not going to repeat this material in this brief however I do note that since my evidence, the Waimakariri District Council has now released its report on the contribution of the Waimakariri Irrigation scheme to the local District. The report also shows (to support my previous evidence on the absence of adverse effects in the Ashburton District) that it is unlikely that there is any noticeable change in water quality resulting from irrigation.
- 28 Turning more specifically to the need for electricity accruing from irrigation, mid Canterbury irrigators, especially in the run of river schemes are moving to more water and nutrient efficient ways of applying irrigation water.

- 29 It is my understanding that 55% of the Mayfield-Hinds sub-scheme (part of RDR) is now utilising ponds and spray irrigation. This is having the effect of increasing power consumption.
- 30 ACWT also has the advantage of providing extra electricity generation capacity whilst being integrated into major irrigation infrastructure. This should allow for a flexible approach as to how the water can be used to its best advantage in the future

**The ACWT Rakaia terrace hydro proposal**

- 31 AS noted above the Ashburton District has shown a huge jump in electricity demand and a logical extension of this a requirement for security of supply.
- 32 Concerns around the state of the national grid and the increasing costs of distributing electricity have provided strong support for the development of generation capacity at a District level. This has ultimately culminated in the current ACWT Rakaia terrace hydro proposal.
- 33 The ACWT Rakaia terrace hydro proposal will be operated in conjunction with the wider southern entities. Although water would be taken under the Barrhill consent for irrigation in the summer, this would fall back to ACWT (and/or EAL) during the winter. Obviously ACWT would also have base flows from any water available but not being taken for irrigation by Barrhill, and residual water from the TrustPower tailrace (again primarily during the winter) as well as any water able to be taken under the joint take consent.
- 34 The joint take consent is therefore very important to ACWT. Although flows from the RDR/TrustPower tail race and Barrhill will be available in the winter (as they will not be taking for irrigation), they will be significantly reduced in the summer. ACWT is therefore reliant on water under the joint take consent to provide a more sustainable 'base flow' in the summer months, and a steady combined flow of up to 40 cumecs (the capacity of the canal) in the winter.

***Relationship with CPW***

- 35 ACWT and CPWT (through its predecessors the Selwyn District Council and the Christchurch City Council) lodged an application that included the take of up to 40 cumecs from either side of the Rakaia in 2001.
- 36 The two Trusts have always proposed undertaking separate activities on the North and South banks of the Rakaia River, but

chose to make a joint application for water takes to avoid competition for priority to the water between the two entities.

- 37 It has always been envisaged that there would be an integrated water management regime between the two Trusts, even if the take consent was eventually split or severed on an administrative basis. Under the present regime ACWT would receive 44% of the water granted under the take consent, and CPWT 56%. This could also be subject to periodic and potentially seasonal variations to better support the interests of both schemes. This is currently set out in the Memorandum of Understanding between CPWL and the two Trusts dated 15 May 2006 and a subsequent variation agreement. These are annexed and marked "**RI CM-2**" to my previous brief of evidence.
- 38 The two Trusts also continue to work co-operatively and it is envisaged that there could be future changes to take account of seasonality, water availability and the variable and changing demands on each Trust. This includes working together to allow the other access to the available water when either one of them is not taking it.

#### **Consultation**

- 39 As I noted above, the Trust continues to consult with those within the District. For the ACWT Rakaia hydro this includes affected landowners, Forest and Bird, DoC, local fishermen, Federated Farmers, and the Rakaia Lions.
- 40 Now that the local Ashburton District Council consents have been notified, ACWT has also been able to consult with more detail of the proposal with affected landowners. Although landowners are naturally concerned about the potential implications of the project, landowners have been genuinely appreciative of the consultation undertaken. ACWT has also tried to capture some of the landowners concerns and has written to them on this basis – see "**RI CM-4**".
- 41 Where appropriate it is hoped that this can be reflected on conditions of consent.
- 42 The local branch of Forest and Bird, although they may also have concerns over the implications of the proposal, has stated its desire to participate in the replanting and propagation proposed as a part of the proposal.

**Conclusion**

- 43 ACWT has a mandate and wide spread support for fulfilling its objectives from the people of our District.
- 44 It has spent considerable sums of money initiating studies and consulting to quantify the water resource, its availability and any constraints.
- 45 It has identified the environmental parameters that our community has aspirations to protect.
- 46 The Trust has developed a long term vision/plan as to how our District can move ahead in developing the water resource for the benefit of our community subject to those legitimate constraints.
- 47 This Rakaia Terrace project is part of that plan and the Trust believes that the ACWT Rakaia terrace project will enable the Ashburton District to deliver sustainable economic, social and cultural benefits to its people while not compromising its environment.
- 48 ACWT also has a very good relationship with landowners and some of the other interested parties – it hopes to continue this as the project goes forward in the future.

Dated: 15 September 2008

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Roderick Ian Charles Mackenzie

