

**IN THE MATTER** of the Resource Management Act  
1991

**AND**

**IN THE MATTER** of applications for resource consent  
by the Central Plains Water trust and  
a notice of requirement for the  
designation of land by Central Plains  
Water Limited associated with the  
construction and operation of the  
Central Plains Water Scheme

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**JOINT SUBMISSION FROM WHITEWATER NEW ZEALAND (previously  
“NZRCA”), WHITEWATER CANOE CLUB AND ARAWA CANOE CLUB  
26 April 2010**

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**INTRODUCTION**

1. This submission is on behalf of Whitewater New Zealand, the Whitewater Canoe Club and Arawa Canoe Club (the Submitters), and complements evidence already provided to the Commissioners during the course of the hearing.
2. In particular, this evidence is in relation to matters raised by the Commissioners in Minutes 11, 12, 12A, 14 and 15, released by the Commissioners in late 2009 and early 2010.

**BACKGROUND**

3. During the course of the hearing evidence provided by the Submitters, and additional evidence provided by a number of kayakers including Mr

Ian Gill-Fox, Mr Hugh Canard and Dr Ian Huntsman sought to convince the Commissioners of a number of key points, including:

- a. the importance of the Rakaia River and more so of the Waimakariri River for kayaking, and the substantial recreational amenity offered by the rivers to large numbers of paddlers;
  - b. the desirability of a wide range of flows in the Waimakariri river;
  - c. the desired minimum flows for kayaking in the Waimakariri River vary by paddler, but that an absolute minimum flow as measured at the Old Highway Bridge of 50 cubic metres per second (cumecs) is required;
  - d. the intake structures, as proposed above the Waimakariri Gorge Bridge, are exceedingly dangerous, and may lead to paddler entrapment and death.
4. Much of this evidence appears to have been accepted by the Commissioners.
5. In particular, the Commissioners have proposed a condition referred to as the “Holiday Rule” in order to reduce the impact of loss of paddling amenity on kayakers, and inserted specific conditions regarding the intake structures on both the Waimakariri and Rakaia rivers.

#### **HOLIDAY RULE AS CURRENTLY PROPOSED**

6. The latest version of the Holiday Rule is as outlined by ECan’s Ms Angela Dean in paragraph 4 of a memorandum to the Commissioners dated 16 April 2010. As currently drafted, the condition states:

*For the periods including the days listed in Appendix 1, the following restrictions shall apply:*

*a) whenever the unmodified mean flow in the Waimakariri River, as estimated by the Canterbury Regional Council from measurements at the Old Highway Bridge, at or about map reference NZMS 260 M35:818-547, for any 24 hour period ending at noon is:*

- i) greater than 80 cubic metres per second and less than 95 cubic metres per second, then the take shall not exceed the difference between the unmodified flow and 80 cubic metres per second, or 5 cubic metres per second, whichever is the lesser. This restriction shall apply between the hours of 3pm and 3am, or a similar 12 hour period, so that the unmodified flow at Crossbank (located between map references NZMS 260 M35:701511 and M35:701517) between 7am and 7pm is between 55 and 65 cumecs.*
- ii) greater than 95 cubic metres per second, then take shall not exceed half the difference between the unmodified mean daily flow and 95 cubic metres per second.*

7. In essence, we understand that if the unmodified flows are at 80 cumecs above the CPW intake then 55 cumecs would remain instream at the Old Highway Bridge (OHB); at 85, 60; and at 95, 65 respectively.
8. Based on information provided by Maurice Duncan of NIWA and Jenna Hutchinson of URS, we note that the impact of CPW unmitigated by the Holiday Rule is that days per annum in the marginal paddling band of 55 cumecs or below, as measured at the OHB, would increase in an average year by around 16 days, from 106 to 122. The Holiday Rule in a “typical year” would reduce this by 7 or 8 days – so there would still be a significant increase in days in the marginal range.
9. Further, we note that the impact of CPW unmitigated by the Holiday Rule is that days per annum in the next flow band, 55 to 65 cumecs, as measured at the OHB, would increase in an average year by around 3

days, from 34 to 37. The Holiday Rule in a “typical year” would further increase days in this band by about 6 per annum.

10. It is clear that even with the Holiday Rule in place in its present form kayaking amenity is negatively affected.
11. One way to further reduce the impact is to increase the period that the Holiday Rule applies from that noted in Ms Dean’s memorandum. As now proposed the holiday period is set out in Appendix 1 as:

*The restrictions specified in condition (4) of CRC061972, shall occur starting the day prior to:*

*all weekend days and public holidays between 1 November and 15 March; and*

*all weekdays from 21 December to 15 February; and*

*the fourth Monday of October (Labour Day) and the Easter weekend starting Good Friday and ending on Easter Monday*

12. This is a shorter time period than that originally proposed by the Commissioners in Minute 12 – which suggested the end of February and March, rather than 15 February and 15 March as above, and does not include any midweek days other than during the 21 December to 15 February period, despite the Commissioners noting that some days would be desirable.
13. We submit that the period be extended at the start of the season to include all weekend days from **1 October**, and **two midweek** days through the whole of the period. This will also support the use of the Waimakariri for training for the Arawa Classic race, which is usually held on the first weekend of December.
14. We note that the Holiday Rule as now drafted specifically relates to flows as measured at Crossbank – this is near the put-in point for the commonly paddled section from where the pylons cross the Waimakariri River down to the OHB. This is a key section, and it is important that we achieve an

outcome at that point without needing to specify when takes cease – whether that is 3pm to 3am, or whatever other time.

15. Further, we submit that the hours need not be stated as 7am and 7pm at Crossbank – rather, it might be useful to state that the hours should be from **30 minutes before sunrise to 30 minutes after sunset**.
16. We note that the primary benefit from the Holiday Rule is intended to provide mitigation for the loss of kayaking amenity. We submit that from time to time that the needs of the Applicant and the needs of the Submitters may mean that the parties jointly agree to vary the Holiday Rule. For example, at present, Whitewater New Zealand has a working arrangement with Meridian Energy regarding releases from Lake Tekapo. Whitewater NZ have foregone releases required by resource consent conditions in exceptional years and had deferments for when water is available. Any such similar temporary change in the Holiday Rule would need to be undertaken as a short term change to the resource consent condition, which would need to be approved in writing by Whitewater New Zealand as the national representative body.
17. The Commissioners asked during the March 2010 hearing about the impact of incremental changes in flows, and whether such changes would be noticeable and beneficial to paddlers. We have consulted with three extremely experienced users of the lower Waimakariri, and they have all responded with similar comments. They confirm that at lower flows an increment of 2-3 cumecs is hardly noticeable, but that an extra 5-10 cumecs is both noticeable and beneficial. One comment follows:

*Possibly would not notice 2 or 3 cumecs in the lower braids, but 5 or 10 change is noticeable. Currently paddling Downs Road to SH1 every couple of weeks, at 40 it is a drag, 45 it is ok, 50 you can start to move and at 60 life is sweet, but this is variation of flow within a semi stable braid network. If we have a flood event and things shift, then the flow drops back to even 60 cumecs quickly navigation is a nightmare. Then it takes 3 or 4 weeks to re-establish braid networks and a semi confined flow, to make flows under 60 doable without leaving gel coat on the*

*bottom. My ultimate flow range for the Downs road-SH1 section is 100-200 because that is where the river starts to push through the flat spots in the lower reaches.*

*Also at flows under 50 cumecs the risk from tree hazards and poorly designed (in relation to river users) river protection work is heightened as you have significantly less room and options.*

## **INTAKE STRUCTURES**

18. A considerable amount of discussion has taken place between the Applicant and the Submitters with respect to intake structures. The latest versions we have of the Conditions with respect to the intake structures, which we understand are largely agreed with the Applicant, are **attached**.
19. The key objective is that the safety features are designed in order to achieve an overall International Grade 2 standard, suitable for racing kayaks.
20. Key aspects of the design include inclined trash racks with limited approach velocities to enable a person swept on to the rack to be able to self rescue, and that the rack must be cleared of accumulating debris to ensure its continual safe operation.
21. The intake structures must be certified by independent experts prior to construction and prior to commissioning, and both Whitewater New Zealand and the New Zealand Jet Boat Association will be invited to take part in a series of tests after commissioning.
22. In relation to signage the proposed condition is currently not overly prescriptive. If the Commissioners wish to insert more detail we recommend the additional details set out below.
23. The main put in and take out locations at which signage should be placed are:

- a. Mt White Bridge (put in)
  - b. Woodstock (put in)
  - c. At the Waimakariri Gorge Bridge (take out)
24. In addition it is requested that the signs need to be at least 2m x 1 m, weatherproof and UV proof.
25. Despite our involvement in trying to mitigate the effect of the intake structures, we continue to assert that any intake structure is inherently more dangerous than no intake structure, and further that an operating intake structure is inherently more dangerous than one which is not operational due to intake velocities.

## **CONCLUSION**

26. We thank the Commissioners for the opportunity to comment on the various Conditions which particularly affect our members and other kayaking users of the Waimakariri and Rakaia rivers.
27. We would like to have the opportunity to formally sign off on the final draft of the Conditions prior to their finalisation, but note that we would not expect to introduce any matters additional to those matters covered in this submission and attachments.

1. Safety at intake – Waimakariri River

- (a) Prior to the taking of water pursuant to this consent, the consent holder shall design an intake structure that shall, as far as practicable, prevent water users becoming pinned against or washed into the intake on the Waimakariri River.
- (b) The safety features of the intake structure shall be designed in consultation with the White Water New Zealand and the New Zealand Jet boat Association.
- (c) The performance objective for the safety features will be to achieve an overall International Grade 2 standard suitable for racing kayaks. These shall generally be in accordance, where relevant, with USA Grade 2 definition, i.e. "Straightforward rapids with wide, clear channels which are evident without scouting. Occasional manoeuvring may be required, but rocks and medium-sized waves are easily missed by trained paddlers. Swimmers are seldom injured and group assistance, while helpful, is seldom needed."
- (d) The design shall incorporate the following:
  - (i) the intake shall be recessed into the face of the rock cliff so that all gates, together with their supports, and at least the upper part of the trash rack are built behind the general natural line of the cliff face,
  - (ii) an inclined trash rack shall be constructed and maintained on the upstream face of the intake gate, leading to a safety ledge and exit point, with exit paths leading both back to the river, where a kayaker may re-enter his/her racing kayak, and away from the river, at the choice of the user. The exit paths shall be such that a person carrying a racing kayak can traverse the path safely. The dimensions of the trash rack shall be such that velocities approaching it do not exceed 1 metre per second. The trash rack shall extend to the bottom of the river bed, except that this condition shall not apply when the river is in flood,
  - (iii) the surfaces presented to the water shall be free from sharp protrusions which could injure a person or snag clothing.
- (e) The design plans for the intake shall be certified by:
  - (i) a suitably qualified person with experience in the design and operation of intake structures, and
  - (ii) A person with experience in water safety, particularly for recreational boating and kayaking on rivers.
- (f) Prior to the commencement of construction of the intake structure, the consent holder shall provide to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager:
  - (i) The certified design plans;
  - (ii) A report from the certifiers which certifies the design and operation of the safety features on the intake structures which demonstrates best practice in achievement of Condition 7(a) to 7(d);

- (g) A person duly authorised by the Canterbury Regional Council shall give written notice to the consent holder stating whether or not it approves of the certified design plans within 20 working days of receipt of the plans and the certifiers report referred to in Condition 7(f)(ii) and such approval shall not be unreasonably withheld.
- (h) The consent holder shall, prior to commissioning, provide a certificate from a suitably qualified person confirming that construction of the intake structure has occurred in accordance with the certified design plans approved in accordance with Condition 7(g).
- (i) The consent holder shall install, operate and maintain an intake structure designed in accordance with the certified plans approved by a person duly authorised by the Canterbury Regional Council in accordance with Condition 7(g).
- (j) Prior to the first exercise of this consent, the consent holder shall erect and maintain two signs warning of the intake structure at two locations upstream from the intake. The signs shall be visible on the banks and by in-river users and the location, size and wording shall be developed in consultation with White Water New Zealand and to the approval of the Canterbury Regional Council. Signs should also be placed at common locations where kayakers put into, and take out of the river, upstream and downstream of the intake. The location of such signs should be determined in consultation with Whitewater New Zealand.
- (k) The consent holder shall, as far as is practicable, inform all commercial users and recreational boat clubs of the position of the intake, within one month of the start of construction. A copy of the written notice and a list of those parties notified shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager at least 20 working days prior to the construction on the intake.
- (l) Within six months of commencement of operation the consent holder shall conduct live tests of the intake under a range of river flow conditions and intake flows, and
  - (i) shall invite Whitewater NZ and the New Zealand Jet Boat Association to observe and participate in those tests, and
  - (ii) shall invite Whitewater NZ and the New Zealand Jet Boat Association to comment on potential modifications to design and operation, and
  - (iii) shall report to the Canterbury Regional Council on the tests including recommended modifications to design and operation and including comments made by Whitewater NZ and the New Zealand Jet Boat Association.
- (k) The intake screen and trash rack shall be cleaned and maintained on a regular basis such that the performance objective and design requirements to which conditions (c) and (d) refer are achieved on a continual basis.

## 2. Safety at intake – Rakaia River

- (a) Prior to the taking of water pursuant to this consent, the consent holder shall design an intake structure that shall, as far as practicable, prevent water users becoming pinned against or washed into the intake on the Rakaia River.
- (b) The safety features of the intake structure shall be designed in consultation with the White Water New Zealand and the New Zealand Jet boat Association.
- (c) The performance objective the safety features will be designed to achieve, is an overall International Grade 2 standard suitable for racing kayaks. These shall generally be in accordance, where relevant, with USA Grade 2 definition, i.e. "Straightforward rapids with wide, clear channels which are evident without scouting. Occasional manoeuvring may be required, but rocks and medium-sized waves are easily missed by trained paddlers. Swimmers are seldom injured and group assistance, while helpful, is seldom needed."
- (d) The design shall incorporate the following:
  - (i) Provide and maintain, if practicable, a wide entrance to a diversion channel,
  - (ii) Provide and maintain a widened forebay upstream from the intake gate, to lower the water velocity in the intake channel to about 0.5 m/s in median to low flow conditions when the full intake flow is operating,
  - (iii) Trial a diagonal floating boom across the diversion channel upstream from the intake gate, and adopt this permanently if it proves successful in the opinion of a relevant officer of the Canterbury Regional Council,
  - (iv) Provide and maintain an inclined trash rack on the upstream face of the intake gate, leading to a safety ledge and exit point: the size of the trash rack shall be such that velocities approaching it do not exceed 1 m/s,
  - (v) the surfaces presented to the water shall be free from sharp protrusions which could injure a person or snag clothing.
- (e) The design plans for the intake shall be certified by:
  - (i) a suitably qualified person with experience in the design and operation of intake structures, and
  - (ii) A person with experience in water safety, particularly for recreational boating and kayaking on rivers.
- (f) Prior to the commencement of construction of the intake structure, the consent holder shall provide to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager:
  - (i) The certified design plans;

- (ii) A report from the certifiers which certifies the design and operation of the safety features on the intake structures which demonstrates best practice in achievement of Condition 8(a) to 8(d);
- (g) A person duly authorised by the Canterbury Regional Council shall give written notice to the consent holder stating whether or not it approves of the certified design plans within 20 working days of receipt of the plans and the certifiers report referred to in Condition 8(f)(ii) and such approval shall not be unreasonably withheld.
- (h) The consent holder shall, prior to commissioning, provide a certificate from a suitably qualified person confirming that construction of the intake structure has occurred in accordance with the certified design plans approved in accordance with Condition 8(g).
- (i) The consent holder shall install, operate and maintain an intake structure designed in accordance with the certified plans approved by a person duly authorised by the Canterbury Regional Council in accordance with Condition 8(g).
- (j) Prior to the first exercise of this consent, the consent holder shall erect and maintain two signs warning of the intake structure at two locations upstream from the intake. The signs shall be visible on the banks and by in-river users and the location, size and wording shall be developed in consultation with White Water New Zealand and to the approval of the Canterbury Regional Council.
- (k) The consent holder shall, as far as is practicable, inform all commercial users and recreational boat clubs of the position of the intake, within one month of the start of construction. A copy of the written notice and a list of those parties notified shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager at least 20 working days prior to the construction on the intake.
- (l) Within six months of commencement of operation the consent holder shall conduct live tests of the intake under a range of river flow conditions and intake flows, and
  - (i) shall invite Whitewater NZ and the New Zealand Jet Boat Association to observe and participate in those tests, and
  - (ii) shall invite Whitewater NZ and the New Zealand Jet Boat Association to comment on potential modifications to design and operation, and
  - (iii) shall report to the Canterbury Regional Council on the tests including recommended modifications to design and operation and including comments made by Whitewater NZ and the New Zealand Jet Boat Association.

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