



STAFF REPORT

TO: Environment & Planning Subcommittee

FROM: Neil Tyson, Consent Planner - Water

REFERENCE: RM041156, RM041157, RM041158, RM041159

SUBJECT: **ELECTRIC WATERS LTD – REPORT EP05/08/01** – Report prepared for 1 and 2 August 2005 Meeting.

1. APPLICATION DETAILS

This report covers all aspects of the Electric Waters Ltd applications to replace expiring regional consents NN870870-2 and NN900160, to continue to authorize the following activities associated with the operation and maintenance of a hydro-electric power station on the Onekaka River, Takaka:

Water Permit RM041156: To dam the Onekaka River and store water behind a dam structure.

Water Permit RM041157: To take water at a rate of up to 500 litres per second from the dam and storage pond located on the Onekaka River for hydroelectric generation.

Discharge Permit RM041158: To discharge water from a hydroelectric power station via the tailrace at a rate of up to 500 litres per second to the Onekaka River.

Discharge Permit RM041159: To discharge up to 10 cubic metres of accumulated mineral debris per event at times of natural fresh via a scour valve through the dam to the Onekaka River to maintain the dam's storage capacity.

Consents NN870870-2 and NN900160 are continuing to be exercised while these replacement applications are decided.

Since notification of the above replacement applications, further information has been supplied by the applicant. This information has included Onekaka River flow data, power generation data (converted to flow data), a report *Dam Safety Review of Onekaka Dam (Dec 2002)* by Montgomery Watson Harza plus additional data on concrete core tests on the dam. At the time of writing, only partial information has been received in response to Council's request of 4 May 2005.

2. NOTIFICATION AND SUBMISSIONS

The applicant's Scheme was commissioned and has been generating power for just two years prior to the expiry of their various regional consents. In December 2004 when the applications were lodged with Council, there appeared to be grounds for the replacement applications to be processed on a non-notified basis. However, consultation by the applicant identified that written approvals would not be forthcoming from all affected parties and that the effects on the environment were more than minor. The applications were publicly notified on 2 March 2005 and 135 submissions were received and are summarised below.

Following notification, an error in the application was advised to Council. The error is the reference in number 12 of the applicant's evidence that vehicle access to the power house was from Ironworks Road when it is actually from State Highway 60.

2.1 Submissions in Support

A total of 119 submissions support the applications. The following 86 submitters were in support and stated they did not wish to be heard. Submitters in support raised various relevant matters listed below:

J Hambrook, T Price, R W Price, H N Couper, R J Oliver, P Chipperfield, M Ellis, B Hampson, B C Smith, R J Aspden, P W Lenz, Waitapu Engineering, P R Apperley, J N Wood, A Philpott, F Lewis, D J Houenden, B Cole, J M Ward, J V Lawless, K Anderson, N L Drummond, A J Walsh, K Russell, P D Bumford, J Bensemann, Golden Bay Mech 98 Ltd, CJ Curtain, M Bensemann, J B Bensemann, J B Rainey, J H Vernon, J M Clark, PHJ Caplen, Laser Electrical Golden Bay, R J Gatland, Ministry of Economic Development, A M Geange, A W Smith, T B Harley, G Leyland, M E Harley, C Pope, Esk Hydro Power Ltd, C T Barnes, L van der Weert, C Wray, A J Walsh, K J Turner, P Templer, A J Sutton, K Shaw, C H Rusbatch, K Roughton, M Robertson, C Reid, D Rawlins, C Martin, P Mckenna, G Hargraves, P R Chapman, S Boyd, R M Langford, K Heberd, B J Beatty, M Wells, R N McIntyre, G McConnon, G Prine, A J Reid, S Clarence, G W Duff, C G Fellowes, R J Duff, M Greathead, D P Roose, A McKenna, S Hambrook, P Woolf, D Darwen, Golden Bay Federated Farmers, G Ball, Y M George, Mighty River Power (**late**), J Duder (**late**), J Turnbull (**late**),

The following 25 submitters support the application and did not state whether they wished to be heard.

G Beere, G J Bates, J Pots, J Northover, T W Goodall, E W Graham, A Winwood, T Weir, S Tunstall, R Tomkinson, G W Thompson, M Sutton, M J Solly, K S Solly, D K Solly, A T Solly, M G Marshall, N A McNabb, D D Ewers, L S Duckett, R J Curtis, W Burned, N McNabb (**late**), AT Solly (**late**)

The following eight submitters were in support and stated they wish to be heard. RT Lamb, N L Wensley, Network Tasman Trust, Network Tasman Ltd, G Power, B Reijnen, J Campbell, K Tomlinson (**late**).

The submitters in support raised various reasons which are summarised below:

- Hydro-electric power generation is of significant benefit to the local community
- Utilises existing infrastructure
- Important for security of electric supply to Golden Bay and for greater self sufficiency in energy generation and supply
- Locally produced power reduces expensive transmission costs and network losses
- Extensive recent monitoring shows the Scheme has minimal adverse environmental effects and no rare or threatened aquatic species are threatened or affected by the continuation of these consents
- Any environmental effects are potentially reversible if/when future generations choose to retire the Scheme
- Mini-schemes such as this represent sustainable energy generation based on a renewable resource and should be encouraged
- Mini-schemes such as this make an important contribution to national supply system and to the government's stated energy objectives of energy efficiency and security of supply increasingly focused on renewable resources.
- Like Pu Pu hydro scheme, has opened up public access to the engineering feats of the early settlers
- Scheme is non-polluting, clean and green
- Difficult to find a Scheme with lesser environmental effects and objectors are challenged to confirm this applies to their own energy source.
- The regions 3-4% annual growth is primarily being met from the National Grid which is fast running out of capacity and to support this growth requires a new "Cobb" being built every seven – eight years.
- Onekaka is a good example of the generation projects the state is encouraging and imposing additional consent restrictions would be at odds with the government's energy policy

The decision being sought included:

- Consent granted that allow the applicant to continue to operate in an economically viable manner including matching output to critical peak load periods
- Any increase in compensatory flows will have a disastrous effect on the scheme economics which could lead to its demise or lead to replacement energy being supplied from sources that are not sustainable or environmentally friendly

- That the maximum available term of 35 years be granted. One submitter sought a 50 year term, which is longer than the RMA provides for.

2.2 Submissions in Opposition

A total of 16 submissions opposed the applications. However, a number of these submitters advise that they conditionally support the granting of renewal consents. The following nine submissions stated they wished to be heard. These were J Wells, Keep Golden Bay Beautiful, Manawhenua Ki Mohua, Royal Forest and Bird Protection Society Inc (Golden Bay), Royal Forest and Bird Protection Society Inc, Department of Conservation, P Angus, Onekaka Biodiversity Group Inc, M and A Milne

The following two submissions did not state whether they wished to be heard. These were A and J Menary, and J Mitchell (now deceased). Five submissions stated they did not wish to be heard. These were G A Milne, E R Williams, M J Baker, T Blith and C Grigson, L Bradshaw and G Williams,

The submitters opposing or conditionally supporting the applications raised various relevant matters which are summarised below. The reader is also referred to the original submissions for greater detail.

2.3 Main Reasons for Opposing

Main reasons for opposition and the decision sought by submitters are as follows:

1. Residual Flow

- The current 20 l/sec minimum flow below the dam has lead to serious and unacceptable decline in fish numbers and habitat availability, as indicated in the NIWA report (Science and Technology Series No. 21 (Richardson and Jowett)).
- Submitters are particularly critical of the Cawthron (John Stark) report including the conclusion that the very low biota immediately below the dam is **not** attributable to flow. In their view, flow is the obvious difference between the relevent two monitoring sites.
- Allowing the river section between the dam and Ironstone Creek that is suitable habitat for Blue duck feeding to go dry is unacceptable.
- The proposed minimum flow is inconsistent with Part II of the Act and Council's own policy requirements and fails to safeguard the life supporting capacity of the river.
- Onekaka River has both cultural and spiritual value and it is of immense concern that part of the river may be dying.
- Submitters are critical of the lack of flow data in the AEE (Flow data has since been provided by the applicant).

- Submitters are critical of the three (non-complying) occasions when there has been no flow over the dam, and no discharge from the powerhouse tailrace.

And the decision sought was:

- Increase the minimum flow required below the dam.
- Submitters saw this application as precedent setting for other similar mini hydro.
- Various flows above the current 20 l/sec are recommended including:
 - i) a biologically based minimum flow of 100-120 l/sec below the dam
 - ii) a compromise of 80 l/sec.
 - iii) DoC requires an increase in the minimum to 30 l/sec below the dam
 - iv) E R Williams requires a residual of 33% of the natural flow to preserve natural character
 - v) J Walls requires a minimum of 130 l/sec below the dam and a five year term

2. River Flow Fluctuation:

- Opposition to the extent of river flow fluctuation resulting from scheme operation, i.e generation effects.
- Application does not assess the ecological effect of the loss of habitat resulting from the discharge flow fluctuations and further study is required.

And the decision sought was:

- That a minimum rate of discharge via the tailrace should (continue) to be required when the dam is not overflowing.
- Suggested changes to scheme operation and generation to minimise ecological significance including supporting higher daytime flows vs night, slower refilling of dam storage and
- That a minimum rate of discharge via the tailrace be required.

3. Discharge of Mineral Debris:

- That the discharge of mineral debris be limited to accumulating sediment and debris and to **defined** natural flood events ie above a set level or flow, and frequency. There was concern that the river was carrying more sediment than pre-scheme commissioning and various (scheme related) sources of sediment ie bare slopes and slips, are identified. See Revegetation below.

- That scheme operation and maintenance continues to cause unnatural levels of siltation to the extent of adversely affecting downstream users who take from the river for domestic supply. One Submitter (P Angus) advises she is not being told of scheme related discharges and the resulting silt blocks their pump etc at these unexpected, non-flood, times. This is required under the conditions of NN900160.
- Submitters are critical of the Cawthron report for failing to identify that the access road had been constructed just prior to their 2002 baseline monitoring "...and was hardly a satisfactory baseline study".

And the decision sought was:

- Restrict the discharge of accumulated sediment to defined flood events and no more than 12 per year, the aim being to not exceed the natural sediment loading in the river. Any large scale accumulation in the dam to be trucked off-site.

4. Wild and Scenic

- The wild and scenic characteristics of the entire Onekaka River need to be recognised, and are neglected in the application and the flow regime should be compatible with maintaining the river's natural character.

5. Landuse Consent and Noise Restrictions

- One submitter is concerned that a Landuse Consent is required and has not been applied for at the same time as these Section 14 and 15 RMA consents. Specifically, noise restrictions prescribed in the landuse consent need to be retained to protect present and future landowners. This submitter also states that the power poles and wires did not take the lowest practical route to the State Highway 60 as required under C.12 of Landuse consent. The siting of poles and wires was required to be to the satisfaction of the TDC District Planner.
- The submitter states that the minimum flow conditions should also be stated on the landuse consent.

6. Ironstone Creek Culvert

- This culvert is unsightly and its small size causes regular bank scouring. Remove the (inadequate) culvert pipes on Ironstone Creek e.g. replace with a bridge, ford or similar, which would improve fish passage and allow revegetation.

7. Revegetation

- Revegetation is required adjacent to Ironstone Creek and Onekaka River to cover various scars and earthworks associated with the Scheme construction. DoC also seeks a financial contribution from the applicant and that it be directed at funding downstream (Onekaka River) enhancement works.

- Revegetation is also required of scars visible from State Highway 60, which was required under the 1993 Consent Order to be to the satisfaction of the TDC Planner. The submission states, "The District Planner may be satisfied but we are not."

8. General

- Application does not propose methods to avoid, remedy or mitigate.

And the decision sought was:

- If consent is granted it should be subject to comprehensive and robust conditions including addressing the current information deficiencies required to determine the reasons for fish population decline.
- Grant only short term consent with more rigorous monitoring of species composition and abundance.
- No discharge of oil or grease to be allowed.
- Measures such as screening to prevent fish entrainment in the tail race.
- A review condition providing for the modification of the minimum flow during the consent term.
- That the applicant provide for or improve public foot access to the site and the dam given that the dam has historic significance and in recognition that the land belongs in part by TDC and DoC. Subject to appropriate notice, DoC, NIWA or TDC staff should not be denied access for any reason.

And the decision sought was:

- Include financial contribution to allow downstream habitat enhancement

9. Expiry Dates

- Submitters support short term consents as appropriate because of the limited data on effects of the Scheme. Also provide for a review of conditions e.g. if the health of the river does not return to its previous state. DoC are seeking a 15 years term for consents others as short as five years.

3. ASSESSMENT OF EFFECTS

3.1 Background

3.1.1 Previous Consents

There are four consents relating to the Onekaka Scheme which are expiring (31 May 2005) and one non-expiring (district) land use consent. The expiring (regional) consents NN870870-2 and NN900160 were granted on 15 May 1990 by the then Nelson-Marlborough Regional Council, under the provisions of the then Water and Soil Conservation Act. The one non-expiring land use consent RM910092 was granted by the Tasman District Council (the Council) on 8 June 1992, but the decision was appealed. The appeal decision was issued by Planning Tribunal by Consent Order on 27 October 2003.

Note: The Nelson-Marlborough Regional Council was abolished on 30 June 1992 and, within the Tasman District, the regional council functions were taken over by the Tasman District Council, which is now a *Unitary* Council.

It is relevant that the four regional consents were varied as to their conditions in July 1992 under the provisions of the Resource Management Act. The changes included the adoption of a minimum 20 l/sec flow below the dam and an increase in the take rate to 500 l/sec. All changes of these regional consent conditions were prior to the notification of the Council's regional plan for water, which was notified on 3 November 2001.

Land Use Consent RM910092

Firstly, the correct consent reference number for the decision of the Planning Tribunal in 1993 is land use consent RM910092.

RM910092 authorises the various (Section 9 RMA) land use activities e.g the site of the powerhouse, the construction of the Scheme penstock, various tracks and access routes, power pole location, re-vegetation requirements, Heritage Inventory, dam certification and issues relating to Scheme operation including noise restrictions. Consent RM910092 runs with the land, has no expiry date and therefore the various conditions including noise restrictions continue to apply.

Some confusion is created by the applicant and the reference to reapplying for the land use consent for the construction of the power station and ancillary works "...in order to bring that consent into the same administrative regime as the other four consents." Council staff's assessment was (as stated above), that consent RM910092 runs with the land and does not expire.

RM910092 and its various conditions and any compliance issues relating to RM910092 are therefore largely irrelevant to this (regional) consent renewal process. Some conditions of RM910092, on first glance, appear to duplicate conditions of the regional consents. On closer inspection, this isn't the case and the writer's assessment is that RM910092 correctly restricts itself to Section 9 land use related matters.

Therefore, regarding the Milne submission that noise restrictions prescribed in the RM910092 need to be retained, this is not disputed as the full provisions of RM910092 continue and noise issues are appropriately addressed in that consent. The Milnes also submit that any minimum flow requirement continue as a condition of the landuse consent ie RM910092. This is not a problem provided the wording of the condition is appropriate and is limited just to the Section 9 related land use matters.

Conditions of RM910092 include the following:

15. The applicant shall not do any act, matter, deed or thing which shall have the effect of reducing the natural streamflow on the Onekaka River to less than 20 litres per second at a point measured within 50 metres downstream of the dam.
16. The applicant shall ensure the dam structure is monitored and certified as safe by a registered civil engineer experienced in dam construction. Certification shall be undertaken at not less than five yearly intervals and after any earthquake event of Force 5 or greater on the modified Mercalli scale, in the Golden Bay area. Certification shall be promptly forwarded to Council's Engineering Manager. The cost of certification shall be met by Onekaka Energy Limited or its successor.
17. In the event that any works carried out pursuant to this consent has an adverse effect on domestic water supplies, then the applicant shall take steps to ensure that a domestic water supply is provided to affected users of no less a quality than existed prior to the water supply being affected and to the satisfaction of Council's Senior Environmental Health Officer, for the period during which such domestic water supplies are affected.

The reader is referred to the following section of this report in order to compare the wording of Condition 15 RM910092 with the wording of Condition 4 NN870871. Only (regional consent) NN870871 requires the permit holder to maintain a minimum flow and this is correct.

All three of the above conditions with appropriate modified wording, are recommended conditions for any replacement regional consent. Therefore, an issue will arise if the conditions for a replacement regional consent were inconsistent with the conditions of RM910092. For example, if an increased minimum flow requirement was adopted for the replacement water permit then it would be appropriate to amend Condition 15 RM910092 so that the wording was consistent.

Expiring Regional Consents

NN870870 – to *dam* water, has a stated dam storage of 5000 cubic metres. The replacement application number is RM041156.

NN870871 – to *take* surface water from storage for hydro-electric power generation was subject to various relevant conditions. The rate of take under NN870871 is 500 litres per second and is unchanged under replacement application RM041157. The following conditions (4-6) of NN870871 are relevant.

4. **Minimum Flow Requirement** - A continuous minimum residual flow of 20 litres per second shall be maintained within 50 metres downstream of the existing dam. If the flow into the head pond is less than 20 litres per second, the minimum residual flow shall be equal to that inflow.
5. **Monitoring Low Flow Impacts** - In conjunction with Condition 7 of Discharge Permit NN900160, that permit holder shall arrange for annual monitoring of aquatic invertebrates within that part of the river affected by the proposal. The annual monitoring programme shall commence, prior to any works being undertaken, with programme details to be agreed between the applicant or his agent, the Council and the Department of Conservation.
6. **Review of Conditions** - At any time after the first twelve months of the exercise of this consent, the Council may review the conditions of consent for the purpose of reviewing the adequacy of the minimum flow.

NN870872 – to *discharge* water from the powerhouse into Onekaka River at Iron confluence (should read Ironstone Creek confluence) is replaced by application RM041158. NN870872 had one relevant condition as follows:

4. **Discharge Conditions** - Discharge from the scheme below the powerhouse shall not be shut off unless and until the headpond is full, and water is flowing over the dam, except in the case of an emergency.

NN900160 – to *discharge* accumulated debris from behind Onekaka Dam to Onekaka River. The consent states 5000 cubic metres in 1000 cubic metre lots (to reinstate storage in the dam) and is subject to conditions. Replacement application RM041159. NN900160 was subject to various conditions of which the following are relevant:

4. **Deposition of Debris** - For reinstatement of the scheme, not more than 1000 cubic metres of debris shall be deposited over the dam at any one time, and the next 1000 cubic metres shall not be deposited until the previous dumped debris has been completely swept into the gorge and the Council has been notified.
5. **Removal of Debris** - The permit holder shall, near the Ironstone Creek confluence, and at the discretion of the Council's Environment and Planning Manager, remove from the Onekaka River all debris swept from below the dam, as soon as practicable after it reaches this point. The permit holder shall take whatever steps are necessary to minimise the environmental impact of debris removal from the river.
6. **Responsibility for Damage** - The permit holder shall be responsible for repair or recompense for any damage, including that to riverbanks or adjacent land, which results from the exercise of this permit. This shall include the provision of an alternative water supply to any downstream water user solely dependent on the Onekaka River, and whose supply may become unusable as a result of the exercise of this permit.

7. **Monitoring of Impact** - The permit holder shall, at their expense, arrange for a synoptic survey of physical stream characteristics and aquatic life to be carried out before and after the complete disposal of the debris, such a survey to be carried out at no less than two sites at and below Ironstone Creek to determine the impacts and effectiveness of the debris disposal and removal. The survey design shall be submitted for approval before implementation to the Council's Environment and Planning Manager, and all results are to be supplied to the Manager as soon as practicable following field work.
8. **Suspension of Right** - If, in the opinion of the Council's Environment & Planning Manager or his agent, the exercise of this right results in unacceptable adverse impact on the Onekaka River, the Manager may suspend the exercise of the right upon notification to the grantee.
9. **Maintenance of Scheme** - Following reinstatement of the Scheme, this right authorises the occasional sluicing of debris past the dam for scheme maintenance in quantities not exceeding 100 cubic metres at any one time, in accordance with the restrictions of Conditions 4 and 8.

A copy of the individual consents and the full conditions can be obtained from the Council.

3.2 Statutory Considerations

Part II (RMA Act) Matters

In considering an application for resource consent, Council must ensure that if granted, the proposal is consistent with the purpose and principles set out in Part II of the Act. The purpose of the RMA is to promote the sustainable management of natural and physical resources where "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Towards achieving the above purpose, Part II lists various matters of national importance which need to be recognised and provided for when considering applications under the RMA. Particularly relevant is the preservation of the natural character of rivers and their margins and their protection from inappropriate use, the protection of areas of significant indigenous fauna. Particular regard is also to be had to Kaitiakitanga, the efficient use and development of natural and physical resources and the intrinsic values of ecosystems.

Pursuant to the RMA Act, any decision regarding an application is under the provisions of Section 104. Under Section 104, regard is required to be had to the Council's Regional Policy Statement (RPS), any proposed regional plan or plan, any actual or potential effects on the environment of allowing the activity and any other matters Council considers relevant.

The Proposed Tasman Resource Management Plan (PTRMP) is considered the relevant planning document.

Regional Policy Statement (RPS)

Council's Regional Policy Statement (RPS) became operative on 31 May 1999 and identifies the significant resource management issues, objectives and policies to achieve integrated resource management. The RPS acknowledges the issues regarding freshwater allocation and the conflict between instream and out-of-stream uses. In Objective 7.2, it is stated that "While water fluctuates in availability, allocation requires maintenance of life-support or instream needs before water is available for abstractive allocation". In Policy 7.2, Council gives a commitment that each allocation limit for abstraction must provide for the maintenance of instream or life-support values of the water.

PTRMP

Section 14 of the Resource Management Act (RMA Act), requires that a resource consent be obtained to dam, divert, take and use water unless the activity is otherwise authorised by a regional plan or proposed plan. The regional plan is required to be consistent with the RPS and, as stated previously, the PTRMP is considered the relevant planning document. Under Section 13 RMA Act, consent is required to *use* the bed of a river.

Damming and Taking

The existing dam and the catchment area above the dam considerably exceeds the *permitted* activity rule in the PTRMP and requires consent. There is no "existing use" status for damming under the RMA and, under Rule 31.2.2 PTRMP, the activity of *damming* is a *controlled* activity where the damming is authorised by a water permit that is due for renewal. *Controlled* activity consents are required to be granted but can be subject to conditions over which Council has restricted its control which are:

- (1) *The rate, manner and timing of the discharge of water from the dam, including provision of a residual flow or any steps necessary to maintain any flow specified in Schedule 31.1C*
- (2) *Effects on aquatic and riparian ecosystems including of the impoundment, and upstream and downstream of the take.*
- (2A) *Maintenance of aquatic habitat within the impoundment, including management of pest plant and animal species.*
- (3) *Effects on other uses and values of the water body and those of connected water bodies such as groundwater, springs or wetlands.*

- (4) *Effects on other water users, downstream landowners and landowners affected by the dam structure or impounded water.*
- (5) *Effects on fish and eel habitat, including passage and entrainment in pipes.*
- (6) *Degree of compliance with the current New Zealand Society of Large Dams (NZSOLD) guidelines.*
- (7) *Information to be supplied and monitoring, including water meters required.*
- (8) *Monitoring the effects of the damming.*
- (9) *Structural stability of the dam.*
- (10) *The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).*
- (11) *Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).*

The dam structure and its use of the Onekaka River bed also requires a Section 13 land use consent. The PTRMP currently does not cover Section 13 matters and the application falls to the default *discretionary* activity status under Section 77C RMA. A *discretionary* activity may be granted with or without conditions or declined (Section 77B(4)RMA). However, the various matters (1)-(11) above are considered to cover the relevant issues. The issues relating to this historic dam were fully considered in the original applications and the information supplied by the applicant confirms the dam is structurally safe and well maintained.

With regard to the *taking* of water, the application falls under Rule 31.1.5 PTRMP and is a *controlled* activity as the taking is authorised by a water permit that is due for renewal. Again, *controlled* activity consents must be granted but can be subject to conditions over which Council has restricted its control, the relevant matters being:

- (1) *Effects of the take on aquatic and riparian ecosystems, including in the impoundment, and upstream and downstream of the take.*
- (2) *Effects of the take on other uses and values, including those given in Schedule 30.1 of the water body and those of connected water bodies such as groundwater, springs or wetlands.*
- (3) *Effects on other water users.*
- (4) *Effects on fish and eels, including entrainment in pipes*
- (5) *Information to be supplied and monitoring, including water meters required.*
- (6) *The quantity, rate and timing of the take.*
- (8) *The duration of the consent as provided for in Schedule 31.1A (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).*
- (9) *Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).*

The relevant matters from (1)-(9) above are discussed below.

Discharges

The applicant has not applied to discharge any contaminant, rather water to water. Section 15 of the Resource Management Act (RMA), requires consent to discharge water into water unless the activity is authorised by a regional plan or proposed plan. Under the PTRMP, the discharge of water from the powerhouse requires resource consent as a *discretionary* activity under Rule 36.2.8 and consent may be granted or refused. The other Scheme related (water to water) discharges via the dam spillway, the residual flow pipe or the dam discharge pipe through and under the dam fall to *permitted* activities under Rule 36.2.7(f) which states:

- (f) Where the discharge is from a dam:
 - (i) the discharge during floods does not exceed the natural inflow;
 - (ii) the discharge does not exceed the amount required on any resource consent to dam water.

The size and construction of the Onekaka dam and the buffering effect within the head pond means that the discharge from the Onekaka dam during floods cannot exceed the natural inflow and is therefore *permitted* under (i) above. Regarding the residual flow or other discharge from the dam, this falls to *permitted* under (ii) above provided they are specifically required under a consent condition such as the *damming* consent.

Regarding RM041159 and the discharge from the dam of accumulating mineral debris during natural defined flood events, the sediment being discharged is defined as a *contaminant* and requires resource consent as a *discretionary* activity, again under Rule 36.2.8 PTRMP.

3.3 Discussion of Main Reasons for Opposing

Discussion of the various issues from Section 2.3 follows. The exception is regarding the issues of residual flow and river flow fluctuation. Which are addressed in Section 4.

3.3.1 Consents Required

The notified applications relating to the Onekaka dam concern the renewal of consents for the activities of *damming, taking and use* of water for hydro-electric power generation and the *discharge* of water to water below the powerhouse. These are activities requiring consent under Sections 13, 14 and 15 RMA and, under the RMA, can be granted for a maximum term of 35 years but a shorter of 31 May 2019 is envisaged under Schedule 31.1A PTRMP.

One submitter questions whether consents are required in addition to those notified. The writer's assessment is that the publicly notified applications address **all** the consents required by the applicant and additional applications are not required. In the case of the dam, a landuse consent (Section 13 RMA) plus a water permit (Section 14 RMA) is required but this can be practically achieved in a single consent.

All Scheme related structures in a river bed require current consent under Section 13 RMA (and may require consent under Section 14). Section 20 RMA *existing use* rights do not apply to historical structures in river beds and, currently, Council has no relevant plan or proposed regional plan addressing Section 13 matters. At least one Section 13 land use consent NN020159 was granted to the applicant for the construction of various culverts as part of the access road construction. NN020159 has an expiry date of 18 June 2037. Under the RMA, Section 13 land use consents can be granted for a maximum 35 year term and, if none is specified on the consent, they expire after five years. Various submitters have expressed concern regarding the culvert crossing on Ironstone Creek and it is understood that the applicant is prepared to remove this structure. At the time of writing it was unclear which consent actually authorized this crossing.

The Royal Forest and Bird Protection Society Inc (Golden Bay) questioned whether a separate (Section 14 RMA) *divert* consent and a separate *use* consent are also required. Staff's assessment is that they are not because water is *taken* from the *dam* via the penstock (i.e a pipe) and is eventually *discharged* to the tailrace channel below the powerhouse. When water is in a pipe it is specifically excluded under the RMA definition of "water". Hence, no *diversion* has occurred. With regard to the submission that a separate consent to *take and use* energy from the water is required, it is considered that this activity is adequately described in the public notice.

Submitter AA and M Milne also questioned whether an additional (Section 9 RMA) landuse consent was required but this was discussed above.

3.3.2 Non-compliance

Various submitters raise concerns regarding past compliance by the applicant with their current consent conditions. Examples given included three occasions when there has been no flow over the dam and no discharge from the powerhouse tailrace. However serious the issues may be, the writer's understanding is that neither non-compliance nor compliance with previous consent conditions is a relevant matter that can be given weight to when dealing with these renewal applications. "Compliance" is considered a quite distinct matter, and there are quite separate and distinct mechanisms for following up regarding these. Matters of non-compliance should be referred to the Council's Compliance section for a decision as to appropriate action.

For regional consent applications which are status *controlled* or *restricted discretionary* under the PTRMP it is also relevant that the conditions of consent are required to be limited to those matters over which Council has reserved control and compliance or non-compliance is not a relevant matter. Compliance issues may be relevant if the wording of conditions has been uncertain and this is definitely an opportunity to review all consent conditions.

3.3.3 Discharge of Mineral Debris

With regard to NN900160 Condition 7, the applicant advises that the authorised 5,000 cubic metres of debris was not discharged over the dam, rather the bulk of the material was trucked off site. There is also a small dump site immediately upstream of the storage reservoir. The applicant acknowledges that excavating within the dam did cause downstream river discolouration, and various sediment and other discharges have occurred since including as authorised under Condition 9 via the dam scour valve. There was also rust discolouration of the river due to the commissioning of a new pipe, at least on one occasion.

Cawthron Institute have undertaken monitoring work as required under the consent conditions but submitters are critical of the report for failing to identify that the access road had been constructed prior to their 2002 baseline monitoring "...and was hardly a satisfactory baseline study". Regarding other issues raised in submissions:

The applicant accepts that consent be limited to *accumulating* sediment and debris and that discharge be restricted to 10 cubic metres per event and that "event" be defined to above a monitorable flood flow (or level) that occurs on average no more than 12 times per year. The aim is not to exceed the natural sediment loading in the river. If there is a large scale accumulation in the dam, this will require a separate consent application and excavated material will be trucked off-site for disposal.

Submitters claim the river is carrying more sediment than pre-Scheme commissioning and there is some evidence for this. State of the Environment monitoring by Council indicates the Onekaka River has relatively high levels of fine sediment compared to other similar streams but the reason for this is unclear (Resource Scientist Trevor James pers comm). Various (Scheme related) sources of sediment ie bare slopes and slips, are acknowledged by the applicant as continuing to contribute sediment and requiring of additional revegetation.

Future monitoring of the effects of this discharge is proposed by the applicant and is supported. An additional monitoring tool suggested by Council's Scientist T James is a test for resuspendable sediment with the compliance limit set at no more than a 30% increase in resuspendable solids downstream of the discharge, compared to upstream. To date there has been no comparison monitoring above the dam and, if there are too many boulders to make this test practical then some other test of fine sediment bedload should be employed. Monitoring to date at the lower site near the recorder site has found this method to be practical.

Scheme operation and maintenance from time-to-time adversely affects downstream users who take from the river for domestic supply. Submitter P Angus reports of occasions when the applicant's activities have resulted in river discolouration sufficient to render the river water unsuitable for potable water quality. Silt blocks their pump filters. She advises she has never been informed in advance of any Scheme related silt or other discharge (e.g discolouration) and that this has at times caused her distress. The Milnes also object to unacceptable water quality.

Under NN900160 Condition 6 there is a clear requirement to provide an alternative water supply to users of the Onekaka River in the event of unacceptable water quality and Condition 17 RM910092 echoes this. The need for this condition was the proposed removal of the 5,000 cubic metres of debris from the dam and, subsequently, when removing any accumulated debris from the river at the bottom of the gorge. Neither of these activities are now being applied for but the water quality continues to be an issue for domestic users.

Two replacement conditions are recommended to replace the current condition as follows:

Responsibility for Damage The permit holder shall be responsible for repair or recompense for any damage, including that to riverbanks or adjacent land, which can be shown to result from their activities including the exercise of this permit.

Provision of an Alternative Water Supply – The permit holder shall provide an alternative water supply to any downstream water user solely dependent on the Onekaka River for their household water when, as a result of the exercising of this or the permit holder's other consents, the river supply becomes unusable and the alternative water supply shall be provided to the satisfaction of the Council's Environment & Planning Manager for the entire period that the supplies are adversely affected and at no cost to the downstream water user.

It is recommended that consent be granted for mineral debris discharge at rates up to 10 cubic metres per event and a maximum of 100 cubic metres per year. The discharge should only occur at times of floods when the river is naturally discoloured, which presumably requires a reasonably significant rainfall event.

3.3.4 Ironstone Creek Culvert

The existing Ironstone Creek culverted crossing is unsightly, is now largely unnecessary and is obstructing fish passage which culverts are to avoid. The writer is also unable to locate a consent for the construction of this culvert crossing. The best option is the removal of this culvert crossing and replacement with a ford which allows for both fish passage and revegetation.

3.3.5 Revegetation:

Revegetation is a requirement of RM910092 (e.g see Condition 6) and compliance or non-compliance e.g. scars visible from State Highway 60, are irrelevant to these regional consent applications. Furthermore, the applicant has not proposed methods to avoid, remedy or mitigate. The applicant was positive about the suggestion (Keep Golden Bay Beautiful) to use Tutu seed to stabilise bare slip faces etc.

DoC in their submission seek a financial contribution from the applicant and that it be directed at funding downstream (Onekaka River) enhancement works.

3.3.6 Expiry Dates

Submissions in opposition support shorter term consents than the maximum 35 years provided for under the RMA. DoC also seek a 15 year term for consents, which is the term adopted in Schedule 31.1A PTRMP. The writer recommends the common (15 year term) expiry date of 31 May 2019 pursuant to Schedule 31.1A PTRMP.

3.3.7 Public Access

Improved public access to the dam is not considered a relevant matter for these replacement regional consents.

4. RESIDUAL FLOWS AND RIVER FLOW FLUCTUATION

4.1 Background

The remaining issues raised in submissions concern residual stream flow and river flow fluctuation resulting from Scheme operation. These two related issues are the most commented on in submissions with submissions in support seeking no increase in residual flow (because of a potentially disastrous effect on the scheme economics) versus those in "opposition" wanting to see increased residual flow to better protect the ecology of the river.

A concern for submitters was that this application may set a precedent for other mini hydro schemes, and it is relevant to refer the reader to recent decisions regarding Cobb and Pupu both of which were assessed under the policies and objectives of the PTRMP. Council is aware of investigations of other hydro schemes such as in the Para Para catchment, at Matiri and the Gowan. At a national level, the question of residual flow is a major issue regarding the hydro schemes in the Waitaki catchment.

With regard to these applications, the effects of *damming* are historic and largely unchanged and, regarding fish passage past the dam, this was found to be unnecessary and is unchallenged. Conditions of consent for the dam are now recommended to include compliance with the New Zealand Society of Large Dams (NZSOLD) guidelines and with any relevant rules in any operative plan.

The applicant's hydro scheme has only been operating for about two years and the full effects of that operation are unknown. It appears that Scheme operation has evolved from what was originally envisaged. Scheme operation has also been in contravention of consent conditions as there has not always been a continuous minimum residual flow of 20 litres per second below the dam.

Importantly, it also appears that the annual monitoring program should have included fish and included sites on the Onekaka River downstream of the powerhouse discharge. Monitoring by NIWA indicates a serious decline in fish numbers although the reasons for this are unclear.

PTRMP

The *taking* of water falls under Rule 31.1.5 PTRMP and as a *controlled* activity, consent can be subject to conditions over which Council has restricted its control. With regard to Schedule 30.1 PTRMP, the Onekaka River has stated hydro-electric power generation value as does the Takaka and Waikoropupu rivers but is otherwise not specifically listed. All surface water bodies are recognised as potentially having aquatic ecosystems, wildlife and aquatic plant habitat value plus contact and non-contact recreation activity and cultural and spiritual values and landscape values.

As is the case for most rivers in Tasman District, the PTRMP does not specifically state an allocation limit for the Onekaka River. Instead, the PTRMP relies on policies 30.1.9 -11. Therefore:

30.1.9 When assessing resource consent applications to take water, particularly those applications to take water from water bodies where no allocation limit has been established, to take into account actual and potential adverse effects, including cumulative adverse effects of the proposal in combination with any existing authorised takes, on:

- a) natural character of the water body and its margins;
- b) associated wetlands;
- c) cultural and spiritual, amenity and recreational values;
- d) aquatic habitat, including plants and animals;
- d) other water users;
- e) water reserved for other uses;
- f) hydrological regime of the water body;
- g) capacity to dilute contaminants;
- h) uses and values identified in Schedule 30.1;

30.1.10 Except as otherwise provided by a water conservation order, to manage the allocation of water for consumptive uses from rivers that have:

- a) no minimum flow or allocation limit specified in this Plan or water conservation order and;
- b) regionally or nationally significant aquatic habitat value as identified in Schedule 30.1;

so that the cumulative abstraction from the proposed and all existing authorised takes from the river does not exceed 10 percent of the 5-year, 7-day low flow.

30.1.11 Except:

- i) as otherwise provided by a water conservation order, or
- ii) for rivers in the Moutere gravel catchments;

to manage the allocation of water for consumptive uses from rivers that

- a) have no established minimum flow or allocation limit; and
- b) do not have regionally or nationally significant aquatic habitat value as identified in Schedule 30.1;

so that the cumulative abstraction between November and April inclusive, **other than in relation to hydro power**, from the proposed and all existing authorised takes from the river does not exceed 10 percent of the five-year, seven-day low flow, provided that up to 33 percent of the 5-year, 7-day low flow may be allocated if the cumulative adverse effects listed in Policy 30.1.9 from the proposed take in combination with any other authorised take are avoided, remedied or mitigated

With regard to Onekaka River and the PTRMP, there is no minimum flow or allocation limit specified, no water conservation order exists and regionally or nationally significant aquatic habitat values are currently not identified in Schedule 30.1. However, Schedule 30.1 is not an exhaustive list and it is dynamic and evolving as new data becomes available and new criteria are adopted. According to Martin Rutledge of DoC, Onekaka River is likely to have at least regionally significant aquatic habitat value and DoC as submitters to the applications are likely to present evidence to the hearing on this.

The above policies therefore provide Council with a guide as to the appropriate allocation limit for rivers when considering consumptive uses. In this case, the purpose is hydro power generation and all water taken is being returned to the river albeit further downstream. The residual flow below the dam is to provide for instream values in this “de-watered” section. Initially, the applicant proposed that the residual flow below the dam was unnecessary (John D Stark Pg 31 Cawthron Report No.934) because fish passage was not required past the dam and because there was poor quality habitat in this section for fish and macro-invertebrate and their populations would not be compromised. However, the application is for an unchanged (20 l/sec) residual flow below the dam.

Regarding flow fluctuation from Scheme operation, DoC are also likely to present evidence to the hearing on this. The issue is complex and includes the effect of flow fluctuation on the different species of fish and invertebrates present in the river. For example, red-finned bullies which spawn in the edge water are likely to be particularly vulnerable to flow fluctuation (Martin Rutledge pers comm.). A common theme of submissions is therefore to reduce flow fluctuation and it is understood that the applicant has considered various options to achieve this. Rather than a residual flow release from the power house it is understood that the applicant would prefer to release more water at the dam, such as when the Scheme is shut down for any reason. It is recommended that a condition be adopted along the following lines.

If for any reason the discharge from the Scheme power house stops, the permit holder shall maintain a minimum increased residual flow of 50 litres per second at the Onekaka River recorder site (located at Easting:2484323 Northing:6047696) being 70 metres upstream of the Ironstone Creek confluence, and an appropriate allowance of a minimum of one hour shall be made for flow travel time. (or words similar)

4.2 Hydrology

Submitters were critical of the lack of flow data in the applicant's AEE. Various flow data has since been provided by the applicant from their recorder site 70 metres upstream of the Ironstone Creek confluence. At this location, the recorder is monitoring any flows over the dam eg floods, any residual flow released from the dam and the small (approximately 5 l/sec at low flow) natural gain in flow from springs and seepage between the dam and the recorder site. The operation and maintenance of this recorder is understood to be voluntary and fully paid for by the applicant.

Table 1: Onekaka River Flow Statistics (litres/second) pre generation August 1997 to 31 October 2003

Site	Site Name	Min	Max	Mean	Median	MALF	5yr LF	10yr LF
52502	Onekaka	49	12657	468	223	69	49	37

The flow data in Table 1 above shows that for over 50% of the time the actual flow of the Onekaka River at the dam site is less than the authorised maximum rate of take of 500 l/sec. Apparently, the Scheme penstock can actually *take* in excess of 500 l/sec but this is unconfirmed, although a draft application was to take 600 l/sec. The data in Table 1 shows that for significant periods both in the summer and in dry winters, the actual river flow at the dam site is significantly less than the capacity of the penstock. The data also indicates that at the dam (i.e. five year low flow approximately 45 l/sec), around 55% of the five year low flow is taken for power generation while 45% of the available flow is the residual flow requirement of 20 l/sec. The lowest natural measured flow at the dam site is understood to be 37 l/sec.

Dam storage is therefore an important factor when assessing the potential for river flow fluctuation, and this was a main reason for the review of consent conditions back in 1991-2 by the Regional Council. For example, if the live storage was 5,000 cubic metres then, for a summer inflow of the MALF (i.e. 69 l/sec), it could potentially take as little as $(5,000/0.5)$ 2.8 hours to empty the storage if the plant was operated at full capacity. Refilling storage, while maintaining a 20 l/sec residual below the dam, would then take around 28 hours $(5,000/0.049)$ if there was no generation and would take progressively longer as flows reduced to five and 10 year low flows. However, the applicant operates a more complex generating regime involving two generators, which can be seen in Figure 1.

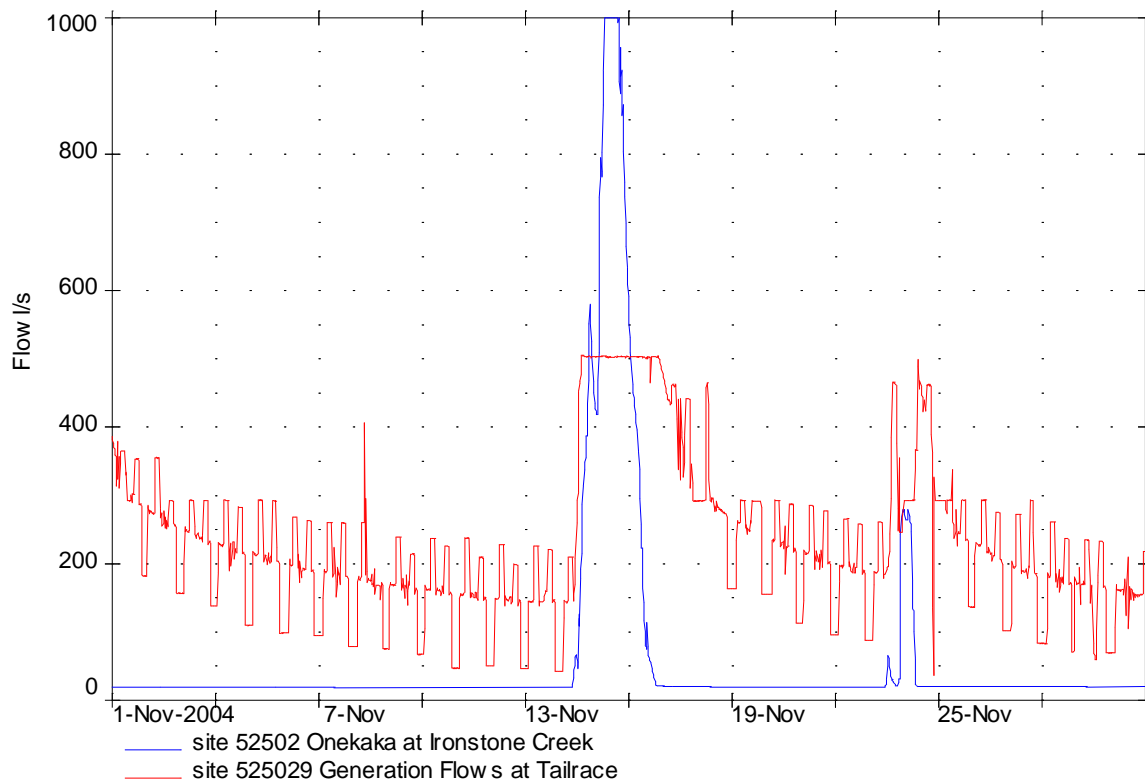


Figure 1: Close-up of residual flow recorded at the *EnviroLink* recorder site (#52502) overplotted by the generation flows at the Tail race (525029) during the month of November 2004.

Figure 1 shows the generation pattern in November 2004. The generation record shows that the discharge (ex-powerhouse) for the first two weeks in November fluctuated on a daily basis by 200 l/sec. On the 1 November, the generation range was between 400 l/sec to a minimum of 200 l/sec, reducing by the 13 November to a range between 200 l/sec and a minimum of 50 l/sec. The generation pattern shows two daily peaks, which are understood to be demand driven (within Golden Bay) and a once daily “recovery period”. The writer understands that the scheme is continuously generating and discharging to the tailrace except for maintenance shutdowns and emergencies. The writer understands there are two generators, one more efficient than the other. Gaugings in the tailrace by *EnviroLink* indicate that the generation record is of variable accuracy.

Figure 1 also shows (straight blue line on graph) the residual flow. Two flood/rainfall events can be seen during this period that have overflowed the dam. Theoretically, the natural flow of the Onekaka River should be obtained by adding the generation flow and the recorder flow. Ironstone Creek and other downstream tributaries add to the total flow of the Onekaka River.

The other hydrological data required is regarding flood events and to determine an appropriate flood flow or level that occurs around 10-12 times per year, that naturally results in river discolouration and is sufficient to allow the discharge of accumulating silts and debris. The following is the hydrograph for 2003, with flow in litres per second on the vertical (y) axis.

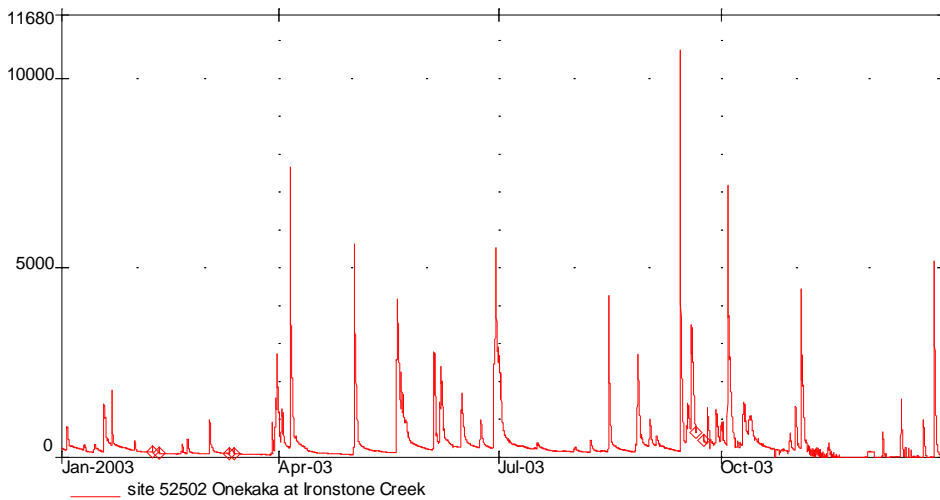


Figure 2: Onekaka flows 2003 calendar year

From Figure 2 it can be seen that a significant fresh/flood event in the Onekaka River is in the order of 5 cumecs but the fresh that occurs on average 12 times per year is in the order of 3 cumecs (i.e 3000 l/sec). Mr Tony Hewitt of *EnviroLink* has reviewed their gauging data and he confirms that 3.5 cumecs (pre-generation) is an appropriate flood flow that fits the requirements and the gauging data confirms that the river is discoloured or dirty at these flows. If the Scheme is generating and taking 500 l/sec then the flow at the recorder site is 3 cumecs.

Other flow data is collected for the Onekaka River by the Onekaka Biodiversity Group Inc and Alec Milne. This group operate a water level recorder and have been monitoring the fluctuating flow resulting from the Scheme operation immediately downstream of the powerhouse discharge. More recently, this recorder was shifted to below the State Highway 60 bridge and the same pattern of fluctuating flow was recorded but with a time delay of a few hours presumably explained by the time flow takes to travel between the two sites. According to Alec Milne, the fluctuation of water level in their monitoring pool is 200 mm under normal flow and 100 mm under low flow conditions.

4.3 Discussion of Residual Flow and River Flow Fluctuation

As can be seen under Rule 31.2.2 PTRMP, the matters (1)-(9) over which Council has restricted its control are wide ranging and the following are particularly relevant to the central issue of the adequacy of the residual flow and river flow fluctuations i.e.... *the rate, manner and timing of the discharge of water from the dam, including provision of a residual flow and effects on aquatic and riparian ecosystems including of the impoundment, and upstream and downstream of the take and effects on other uses and values of the water body and effects on other water users, downstream landowners and landowners affected by the dam structure or impounded water.*

While there are numerous submissions in support of the application, the proposition that the Scheme has had no adverse effect on the instream values of the Onekaka is not established in the writer's assessment. The monitoring by NIWA is of a significant reduction in fish numbers since the Scheme began operating and that is of concern and requiring of additional monitoring effort to determine the cause. These circumstances dictate that Council should take a precautionary approach when granting these applications. The evidence of downstream water users is also that the scheme operation is adversely affecting water quality and alternative supplies have not been provided, at such times, as required under the consent conditions.

Submitters have suggested changes to the generation pattern to minimise ecological significance and the writer understands there has been considerable discussion between DoC and the applicant on this (and other flow related matters). The writer also understands that the applicant has constructed a small tail pond with the view to reducing rapid changes in discharge from the power house. This is an example of a practical way to (potentially) minimise the ecological significance of Scheme operation.

That these solutions come at a cost to the applicant is acknowledged as are the submissions stating there is a point where the Scheme will become unviable. However, the writer has no specific information on this and the offer of a pre-hearing meeting with the applicant was not taken up.

At the time of writing (4 July), various questions to the applicant are unanswered including:

- a) the volume of live storage currently behind the Onekaka Dam
- b) the storage capacity within the penstock i.e between the dam and the powerhouse turbines
- c) the "as-built" maximum take rate of the Scheme. Can 500 l/sec be exceeded?
- d) More detail of the proposed scheme operating regime addressing particularly flow fluctuations below the tailrace discharge.
- e) Please comment on the possibility of installing a water meter to monitor any residual flow release from the dam and relocating the existing flow recorder site 52502 to the powerhouse tailrace i.e. to monitor discharge. This configuration may provide more useful consent monitoring data.
- f) Please review the five yearly requirement for comprehensive dam certification and provide information regarding this.
- g) Detail any measures proposed to avoid, remedy or mitigate adverse effects such as removal of the four barrel culverted road crossing over the Ironstone Stream.

- h) We request that your instream expert provide an updated analysis of the various instream data now available for the Onekaka River, including the 2005 monitoring data by both Cawthron and NIWA. This updated report should comment on the suggested stream modelling (see 4.3.1 of the Royal Forest and Bird Protection Society of New Zealand Inc (Golden Bay) submission) and other relevant matters in the submissions. It would also be appropriate to comment on the discrepancies, errors of data and interpretation raised in various submissions. This updated report should identify the information deficiencies to determine the reasons for native fish population decline and recommend appropriate future monitoring.
- i) Regarding the Royal Forest and Bird Protection Society of New Zealand Inc (Golden Bay) submission, we would welcome your opinion on whether a separate *divert* consent or a separate *use* consent are required.

5. RECOMMENDATION

It is recommended that the applications be granted and that the *take* and *discharge* consent can for be combined into one consent. Draft consents and conditions are appended.

Neil Tyson
Consent Planner - Water

IN THE MATTER

of the Resource Management Act 1991

AND**IN THE MATTER**of the application lodged by **ELECTRIC WATERS LTD**

for resource consents required under the Tasman Resource Management Plan (TRMP) and Sections 13 and 14 of the aforesaid Act and a decision under the provisions of Sections 104 of the same aforesaid Act

DECISION

The application has been considered as per the requirements of Section 104 and Part II of the Resource Management Act (RMA) 1991 and the Tasman District Council (Council) has resolved to grant consent for the activity of **damming** for the purposes of hydro-electric power generation for a period expiring on **31 May 2019** and subject to the following conditions:

CONDITIONS**1. Site and Dam Details**

Location:	<i>Onekaka River, Takaka</i>
Legal Description:	<i>Sec 7 Blk II Waitapu SD</i>
River or Stream Being Dammed:	<i>Onekaka River</i>
Zone, Catchment:	<i>Takaka, Takaka Catchment</i>
Dam Height (m):	<i>9 metres</i>
Crest Length (m):	<i>24 metres</i>
Storage (m ³):	<i>5,000</i>
Map Location at Dam:	<i>Easting:2483612 Northing:6047087</i>

- 2.** A continuous minimum residual flow of 30 litres per second shall be maintained at the Onekaka River recorder site located at Easting:2484323 Northing:6047696 being 70 metres upstream of the Ironstone Creek confluence provided that if the flow into the dam head pond is less than 30 litres per second, the minimum residual flow shall be equal to that inflow. (or words similar)

3. The permit holder shall, at their expense, arrange for the annual monitoring of aquatic invertebrates, fish, sediment deposition and river flow in the Onekaka River the objective being to determine the effects of the exercising of this consent on instream values and to minimise any adverse effects. The annual monitoring programme shall be agreed between the applicant or his agent, the Council and the Department of Conservation and shall be carried out at no less than two sites. A copy of the results shall be provided to the Council's Environment and Planning Manager and to the Department of Conservation as soon as practicable following field work.

The monitoring program shall include a resuspendable sediment test and there shall be no more than a 30% increase in resuspendable solids downstream of the discharge, compared to upstream.

4. The Council may within three months of the first anniversary of the granting of the consent and within three months following each annual anniversary thereafter of the granting of this consent review any or all of the conditions of the consent pursuant to Section 128 of the Resource Management Act 1991 for all or any of the following purposes:
 - a) to deal with any unexpected adverse effect on the environment which arises from the exercise of the consent including adverse effects on downstream landowners, on downstream water use and on instream values including, but not limited to, specifying a different compensatory release rate from the dam; or
 - b) to require compliance with proposed rules in the Tasman Resource Management Plan (TRMP) including requirements and rules relating to the operation and maintenance of dams and related structures with the bed of rivers; or
 - c) for the purposes of implementing a dam safety monitoring programme or such other conditions required pursuant to any new statutory requirements that may come into effect during the term of this consent.
5. The permit holder shall confirm to Council the live storage volume within the dam and within the penstock.
6. The permit holder shall provide an alternative water supply to any downstream water user solely dependent on the Onekaka River for their household water when, as a result of the exercising of this or the permit holder's other consents, the river supply becomes unusable and the alternative water supply shall be provided to the satisfaction of the Council's Environment & Planning Manager for the entire period that the supplies are adversely affected and at no cost to the downstream water user.
7. This permit may not be exercised to the extent that there is any significant adverse effect on resident eels within the dam and a minimum of 400 cubic metres of storage shall be retained within the dam at all times for their survival and all pipe intakes shall be screened to avoid entrainment of eels. This condition shall not apply if eels are absent.

8. Until such time as the dam is removed, the permit holder is required to maintain the dam, its spillway and valves and any associated structure in a good state of repair.
9. The permit holder shall ensure the dam structure is monitored and certified as safe by a registered chartered (civil) engineer experienced in dam construction at not less than five yearly intervals and after any earthquake event of Force 5 or greater on the modified Mercalli scale, in the Golden Bay area. The latest date when the next certification is due is December 2007 and certification shall be forwarded to Council's Environment & Planning Manager by the due date and the cost of certification shall be met by permit holder.
10. The consent holder shall provide evidence of a minimum \$1 million public liability insurance cover to Council and shall maintain this cover throughout the life of the dam and produce evidence of cover on request.

Attention is drawn to Landuse Consent RM910092 and the following condition:

That the applicant shall not do any act, matter, deed or thing which shall have the effect of reducing the natural stream flow on the Onekaka River to less than 30 litres per second at the Onekaka River recorder site 50 metres upstream of the confluence with the Ironstone Creek.

IN THE MATTER

of the Resource Management Act 1991

AND**IN THE MATTER**of the application lodged by **ELECTRIC WATERS LTD**

for resource consents required under the Tasman Resource Management Plan (TRMP) and Sections 14 and 15 of the aforesaid Act and a decision under the provisions of Sections 104 of the same aforesaid Act

DECISION

The application has been considered as per the requirements of Section 104 and Part II of the Resource Management Act (RMA) 1991 and the Tasman District Council (Council) has resolved to grant consent for the activity of taking, use and discharge of water, and water to water, for the purposes of hydro-electric power generation for a period expiring on **31 May 2019** and subject to the following conditions:

CONDITIONS**1. Site of Taking, Use and Discharge Details**

Location:	<i>Onekaka River, Takaka</i>
Legal Description:	<i>Sec 7 Blk II Waitapu SD</i>
River or Stream:	<i>Onekaka River</i>
Zone, Catchment:	<i>Takaka, Takaka Catchment</i>
Maximum Rates of Take, Use and Discharge:	<i>500 litres per second 1,800 cubic metres per hour 43,200 cubic metres per day 302,400 cubic metres per week</i>
Map Location at (Dam) Intake:	<i>Easting:2483612 Northing:6047087</i>
Map Location at Discharge point:	<i>Easting:2484543 Northing:6047828</i>

2. This consent shall be exercised such that a continuous minimum residual flow of 30 litres per second shall be maintained at the Onekaka River recorder site located at Easting:2484323 Northing:6047696, approximately 70 metres upstream of the Ironstone Creek confluence, and provided that if the flow into the dam head pond is less than 30 litres per second, the minimum residual flow shall be equal to that inflow. (or words similar)

3. The permit holder shall, at their expense, arrange for the annual monitoring of aquatic invertebrates, fish, sediment deposition and river flow in the Onekaka River the objective being to determine the effects of the exercising of this consent on instream values and to minimise any adverse effects. The annual monitoring programme shall be agreed between the applicant or his agent, the Council and the Department of Conservation and shall be carried out at no less than two sites. A copy of the results shall be provided to the Council's Environment and Planning Manager and to the Department of Conservation as soon as practicable following field work.

The monitoring program shall include a resuspendable sediment test and there shall be no more than a 30% increase in resuspendable solids downstream of the discharge, compared to upstream.

4. The Council may within three months of the first anniversary of the granting of the consent and within three months following each annual anniversary thereafter of the granting of this consent review any or all of the conditions of the consent pursuant to Section 128 of the Resource Management Act 1991 for all or any of the following purposes:
 - a) to deal with any unexpected adverse effect on the environment which arises from the exercise of the consent including adverse effects on downstream landowners, on downstream water use and on instream values; and/or
 - b) to require compliance with operative rules in the Tasman Resource Management Plan (TRMP) ; and/or
 - c) to require the adoption of the best practical option to remedy or reduce any adverse effects on the environment; and/or
 - d) to comply with relevant national environmental standards made under Section 43 of the Resource Management Act 1991.
6. All pipe intakes shall be screened to avoid entrainment of eels. This condition shall not apply if eels are absent.
7. If for any reason the discharge from the Scheme power house stops, the permit holder shall maintain a minimum increased residual flow of 50 litres per second at the Onekaka River recorder site (located at Easting:2484323 Northing:6047696) being 70 metres upstream of the Ironstone Creek confluence, and an appropriate allowance of a minimum of one hour shall be made for flow travel time. (or words similar)
8. The permit holder shall provide an alternative water supply to any downstream water user solely dependent on the Onekaka River for their household water when, as a result of the exercising of this or the permit holder's other consents, the river supply becomes unusable and the alternative water supply shall be provided to the satisfaction of the Council's Environment & Planning Manager for the entire period that the supplies are adversely affected and at no cost to the downstream water user.

9. The permit-holder shall keep such records as may be reasonably required by the Council and shall, if so requested, supply this information to the Council. If it is necessary to install measuring devices to enable satisfactory records to be kept, the permit-holder shall, at his or her own expense, install, operate and maintain suitable devices.

Advice Notices-The permit holder is also advised of the following:

Section 126 -Cancellation of Consent –Section 126 of the Resource Management Act 1991 states that a consent which has been given effect to but has not been exercised for five years, can be cancelled by Council provided written notice of any proposed cancellation is given to the permit holder.

Section 332 - Access by the Council or its officers or agents to the land subject to this water permit is reserved pursuant to Section 332 of the Resource Management Act.

IN THE MATTER

of the Resource Management Act 1991

AND**IN THE MATTER**of the application lodged by **ELECTRIC WATERS LTD**

for resource consents required under the Tasman Resource Management Plan (TRMP) and Section 15 of the aforesaid Act and a decision under the provisions of Sections 104 of the same aforesaid Act

DECISION

The application has been considered as per the requirements of Section 104 and Part II of the Resource Management Act (RMA) 1991 and the Tasman District Council (Council) has resolved to grant consent for the activity of **discharge** accumulating mineral debris for the purpose of maintaining 5,000 cubic metres of storage behind their dam for a period expiring on **31 May 2019** and subject to the following conditions:

CONDITIONS**1. Site and Discharge Details**

Location:	<i>Onekaka dam, Takaka</i>
Legal Description:	<i>Sec 7 Blk II Waitapu SD</i>
River or Stream:	<i>Onekaka River</i>
Zone, Catchment:	<i>Takaka, Takaka Catchment</i>
Maximum Rate of Discharge of Mineral Debris:	<i>10 cubic metres</i>
Map Location at Dam:	<i>Easting:2483612 Northing:6047087</i>

2. The permit holder is authorised to discharge via the dam scour valve a maximum of 10 cubic metres of mineral debris accumulated behind the dam per flood event to the Onekaka River provided that the flow of the Onekaka River at the recorder site (i.e. Easting:2484323 Northing:6047696) approximately 70 metres upstream of the Ironstone Creek confluence is above 3.5 cumecs less the rate being taken for generation and on a rising stage and provided that the river water is naturally discoloured or dirty and provided that no more than 100 cubic metres shall be discharged during any calendar year.

3. The permit holder shall devise methods for measuring and monitoring compliance with Condition 2 including maintaining a written record of each discharge event including the volume of mineral debris discharged, the date, time and duration of the discharge, river colour and condition and recorded flow, and a copy of this monitoring data shall be provided to the Council's Environment and Planning Manager Council upon request.
4. The Council may within three months of the first anniversary of the granting of the consent and within three months following each annual anniversary thereafter of the granting of this consent review any or all of the conditions of the consent pursuant to Section 128 of the Resource Management Act 1991 for all or any of the following purposes:
 - a) to deal with any unexpected adverse effect on the environment which arises from the exercise of the consent including adverse effects on downstream landowners, on downstream water use and on instream values; and/or
 - b) to require compliance with operative rules in the Tasman Resource Management Plan (TRMP); and/or
 - c) to require the adoption of the best practical option to remedy or reduce any adverse effects on the environment; and/or
 - d) to comply with relevant national environmental standards made under Section 43 of the Resource Management Act 1991.
5. Council reserves the right to require, near the Ironstone Creek confluence, and at the discretion of the Council's Environment and Planning Manager, the removal from the Onekaka River of all mineral debris discharged from the dam as soon as practicable after it reaches this point. The permit holder shall take whatever steps are necessary to minimise the environmental impact of debris removal from the river.
6. The permit holder shall be responsible for repair or recompense for any damage, including that to riverbanks or adjacent land, which results from the exercise of this permit.
7. The permit holder shall, at their expense, arrange for the annual monitoring of aquatic invertebrates, fish, sediment deposition and river flow in the Onekaka River the objective being to determine the effects of the exercising of this consent on instream values and to minimise any adverse effects. The annual monitoring programme shall be agreed between the applicant or his agent, the Council and the Department of Conservation and shall be carried out at no less than two sites. A copy of the results shall be provided to the Council's Environment and Planning Manager and to the Department of Conservation as soon as practicable following field work.

The monitoring program shall include a resuspendable sediment test and there shall be no more than a 30% increase in resuspendable solids downstream of the discharge authorised under this consent, compared to upstream.

8. If, in the opinion of the Council's Environment & Planning Manager or his agent, the exercise of this right results in unacceptable adverse impact on the Onekaka River, the Manager may suspend the exercise of the right upon notification to the grantee.
9. The permit holder shall provide an alternative water supply to any downstream water user solely dependent on the Onekaka River for their household water when, as a result of the exercising of this or the permit holder's other consents, the river supply becomes unusable and the alternative water supply shall be provided to the satisfaction of the Council's Environment & Planning Manager for the entire period that the supplies are adversely affected and at no cost to the downstream water user.
10. The permit-holder shall keep such other records as may be reasonably required by the Council and shall, if so requested, supply this information to the Council. If it is necessary to install measuring devices to enable satisfactory records to be kept, the permit-holder shall, at his or her own expense, install, operate and maintain suitable devices.

Advice Notices-The permit holder is also advised of the following:

Section 126 -Cancellation of Consent –Section 126 of the Resource Management Act 1991 states that a consent which has been given effect to but has not been exercised for five years, can be cancelled by Council provided written notice of any proposed cancellation is given to the permit holder.

Section 332 - Access by the Council or its officers or agents to the land subject to this water permit is reserved pursuant to Section 332 of the Resource Management Act.