

Speedys Road Hydro Limited

Evidence for Applicant

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HEARING BEFORE COMMISSIONERS

IN THE MATTER of an application under the Resource Management Act 1991

AND

IN THE MATTER OF an application by Speedy's Road Hydro Ltd to increase maximum water take and reduce residual flow for an existing hydroelectricity generation scheme at Speedies Road, Waikato

STATEMENT OF EVIDENCE OF BRENT NORRISS

1.0 Qualifications and Experience

1.1 My name is Brent Norriss. I have a Bachelor of Electrical and Electronic Engineering (First Class Honours) Canterbury (1982-1986) and am a Chartered Professional Engineer (1989).

1.2 I am *CEO* of The Lines Company Limited (TLC), appointed in April 2013. I began my career with the North Canterbury Electric Power Board as an apprentice electrician progressing to senior roles with the Board. I joined MainPower Contracting in 1992 as Contracting Manager expanding its activities into transmission live line work, meter testing and installation and helicopter live line work. In 2002 I joined The Lines Company as Engineering Manager responsible for the management of the Company's assets, and have overseen the development of three run of the river hydro schemes.

2.0 Scope of Evidence

My evidence addresses the following matters:

- Background
- Objective
- Ongoing relationships

3.0 Background:

3.1 Ownership: The run of the river hydro scheme is owned by Speedys Road Hydro Limited (SRHL); a 25% shareholding by Speedys Road Trust and Waiora Trust (Paterson family) and 75% by The Lines Company Limited.

3.2 Ownership of TLC: The shareholder of TLC is the Waitomo Energy Services Customer Trust, which passes dividends onto its beneficiaries. These beneficiaries are approximately 10,000 customers/landowners in the Otorohanga, Waitomo and part of Taupo regions i.e. the profits are returned to the region.

3.3 Existing Scheme Details:

Construction of the scheme started in Feb 2010 and it was commissioned August 2011. It has 42m of water head and this is capable of producing an output power of 2 MW. The energy output of the scheme on average is 8.8 GWh.

3.4 Environmental Focus: TLC does not want to be responsible for any environmental attenuation. The following aspects of the scheme have been designed to ensure that the effects on the environment are minimised:

- The scheme takes water out and effectively bypasses a narrow gorge that includes some large rocks and intense rapids that are effectively unable to be safely accessed by people.
- The water comes out of the side of the river meaning that there is no weir or other structure in the natural river bed that might impede the lifecycle of fish or other living organisms.
- The scheme size is relatively small and the speed of the water at the intake is relatively slow. To my knowledge there have been no fish caught on the intake screens since the scheme started.
- There is expert advice that the small eels will be able to get up the rapids at the reduced flow levels proposed.

3.5 Discussions with local People: We have spent quite a considerable amount of time with the local and other interested people explaining the intent of the resource consent application and establishing what may be acceptable. I was personally involved in those discussions. The key points coming out of these discussions were:

- The extent of the reduction and how this could impact on the river.
- The trust between the local community and TLC. As a consequence of this the importance of having an observer when the fish monitoring was taking place was noted.
- Annual meetings with the local community to ensure they are aware of what the latest happenings with the scheme are.

3.6 TLC has also funded and engaged in a cultural assessment study report to better understand the potential effects of the application on Maori values. The report seeks a more collaborative relationship between the local marae and TLC which I fully support. We would propose to build on the positive work completed (Bus trip, meals a number of meeting on site, and the cultural assessment) to further progress the positive developing relationship with the Marae. This will include an 'open door' approach that will include information sharing in relation to works proposed at the site and any ongoing information about the river. The intention is to use meetings and other available communication channels to pass this information onto the Marae. The report (cultural assessment study) also suggests a number of conditions to be included in the consent (if granted). TLC is willing to accept the majority of these conditions. These are outlined in the planning evidence of Mr Bridgwater.

3.7 *Financial Constraints of Small Hydro: Since commissioning the Scheme, the wholesale energy price has fallen by 30% meaning that the economics of the scheme have become marginal, made worse by a number of dry years. The principal reason for this is that the commissioning of a large geothermal plant in the Taupo area has reduced the wholesale price and because the scheme will only run when there is water available i.e. after wet periods, it is effectively competing with large hydro with the way the electricity spot market works.*

4.0 Objective of the application

4.1 *Tuning the scheme to the river:* Now that the scheme has been running for almost six years and the river is better understood, the objective is to tune the consents to best fit the plant and the available resource i.e. better align the plant and the environment to maximise the benefits for stakeholders.

4.2 The additional generation will provide energy equivalent to that used by 320 homes in the local area. The wholesale rate for this energy is currently approximately 7 cents per unit (kWh) and the retail rate double this. The additional cash based on SRHL continuing to sell into the wholesale market on current rates would mean that the beneficiaries of TLC's shareholder Trust would see (everything being equal) an increase in their annual distribution of approximately \$10 pre tax. (Note neither TLC or SRHL are currently selling retail energy due to market complexities and economies of scale.) This cash benefit enables local communities to provide for their needs, and can be achieved in a way that does not

compromise the environment. A viable scheme also better enables TLC as shareholder to provide direct benefits to the community.

5.0 Ongoing Relationships

5.1 *Local Community:* TLC values its relationship with the local community. It is effectively a community owned organisation, as apart from tax and the normal costs of doing business its profits stay in the region. It is a long term asset owner.

5.2 *Training our local people into higher skilled jobs:* TLC prides itself in employing local people and training to world class standards. Because of the wide range of experiences encountered in a rural environment we find our people have skills that are of value to them and the region.

5.3 *Sponsorship and community involvement:* TLC provides important financial support for many of our vital community organisations. The work with our local communities falls broadly into three areas:

5.3.1 *Youth Development* – we work closely with (and support financially) Otorohanga College, Te Kuiti High School and Taumarunui High School. The college and high schools choose what area is most beneficial for their students and the funds have been used for varied projects. These range from sports uniforms to assisting youth attend the Outdoor Pursuits Programme. In addition we have funded a youth athletics programme to cater for high school students and provide funding for an annual cricket camp for the players on our network.

5.3.2 *Community Sponsorship* – we fund a wide range of groups, such as the Coast Sports Day, White Ribbon campaign, the Meadsville promotion, Sports awards evenings, Piopio swimming pool, and many other community events.

5.3.3 *Community Support* – we fund the costs for the children of Taharoa to travel into Te Kuiti to play sport for the bigger clubs and we have funded the development of a gym in Taharoa. We also provide annual funding for a Christmas dinner in Turangi and the Dinner in the Park programme in Taumarunui. In Mangakino we have supported the local St Johns organisation and in Ohakune we have been instrumental in providing an upgraded experience at the junction end of town.

5.3.4 *North King Country Development Trust* – This trust was formed when TLC was established and holds a debenture in TLC for which it receives an annual

interest payment of \$250,000. The Trustees pass this money on to various organisations within the local area to foster business growth.

Brent Norriss

February 2017

HEARING BEFORE COMMISSIONERS

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STATEMENT OF EVIDENCE OF MARCUS PATERSON

1.0 Introduction

1.1 My name is Marcus Paterson and I have lived in the Te Anga /Marokopa district for the past 15 years. It was farming that brought me into the area. My son and I purchased the property on Speedies Rd in 1991 where the present hydro scheme operates. I am a director and shareholder with Speedys Rd Hydro Limited.

1.2 As residents here my wife and I are involved in various local activities. We are members of the Te Anga and Marokopa Hall Committees and I am personally involved in fund raising for the annual Coast and Athletic Club which has been in operation for ninety five years.

1.3 The Tawarau River forms the Eastern boundary of our farm, and it's a favourite spot for Trout fishing. The river is also a place of interest for local school children who from time to time camp in our woolshed and explore the surrounding land. DOC have upgraded the Were's Rd walking track which traverses our property terminating at the car park adjacent to our woolshed.

2.0 A Brief History of the Tawarau River Hydro Scheme

2.1 In 1995 there was a proposal to dam the Tawarau River by the Waitomo Power Board. As part of the investigation for this proposal the archaeological history of the Tawarau River and adjoining land was investigated. This assessment was carried

out by Dr Neville Ritchie at the request of the local iwi. Dr Ritchie was assisted by two local kaumatua, Pat Stafford and Bill Barlow who were appointed by the local iwi. Bill Barlow comes from a local family who have lived and worked in the area for a long time. Bill passed away a few years ago. His brother, Terrance manages Awamarino Farm which we currently own. The Barlows are very much part of the history of Marokopa and Te Anga.

2.2 Pat Stafford presently lives in Waitomo and has an extensive knowledge of this region.

2.3 The report concluded that there was no evidence of use or occupation of the open farmland adjoining the river apart from a small settlement called Waimakea identified on an 1895 survey map near to where the existing farm house is located. A copy of the 1995 report is attached to my brief.

3.0 **Local Iwi Consultation**

3.1 I have personally been involved in two meetings with local Iwi to discuss the proposed changes to the residual flow and increase in water take.

3.2 The first meeting took place on site on the 22nd July 2014 with several cars and a bus full of interested parties. The meeting was very dignified and well supported with questions being mainly directed towards the fish life of the river, in particular Tuna (eel).

3.3 A second meeting was held on the 7th December 2014 in the woolshed at Speedies Rd. The main thrust of this meeting focused on the wish of local Iwi to be involved with the monitoring of the fishery. A copy of the archaeological assessment undertaken by Dr Ritchie was distributed at this meeting to interested participants. Most of the attendees were unaware of this report and were pleased to obtain this information.

4.0 **Use of the River**

4.1 I am a keen Trout fisherman, a member of Fish and Game and have enjoyed fishing the Marokopa and Tawarau River. There appears to be two distinct fisheries in the Tawarau, both self-contained. One below the Power House is the domain of Rainbow

and Brown Trout. The other, above the intake contains Rainbow Trout but no Browns have been seen. However in this area are large numbers of Tuna. This area of water is very seldom fished for Tuna or Trout. It is not uncommon to land a trout and witness an eel in pursuit.

- 4.2 We have informed and encouraged local people to use the river as we realise the significance of Tuna to them. For me personally the river has great beauty and ambience, and is a place I like to visit whenever possible. I have not noticed any visual changes in the river since the power station was commissioned, nor in the abundance of Trout or Tuna.
- 4.3 It is very unusual to see or hear of people visiting the 800 metres of the Tawarau river from the power station to the inlet. There are several reasons for this. Access is difficult and at times could be dangerous. It is also not a fishing area due to the difficult access and the fisheries are above and below this section of river. We see the occasional trout fishermen and trampers who walk through the farm to Were Rd during the summer months. The general comment from people visiting the scheme is positive. Their remarks are in support of the environmental and sustainable use of the water.
- 4.4 I support the proposed changes to the Scheme because as it will not impact on the river. Fish and aquatic life will still have the run of the river for 365 days. I have fished the river for 20 years and see no problem.

Marcus Paterson
8 February 2017

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STATEMENT OF EVIDENCE OF RICHARD MONTGOMERIE

INTRODUCTION

Qualifications and Experience

1. My full name is Richard Neilsen Montgomerie. I am the director of Freshwater Solutions Ltd, a specialist freshwater environmental consultancy. I am a freshwater scientist with over 20 years of research and consulting experience. I have held senior roles at Kingett Mitchell Limited, the Water Research Centre (UK) and Golder Associates.
2. I hold the qualification of MSc from the University of Otago (1997). I am a member of the New Zealand Freshwater Sciences Society and have worked as a freshwater scientist and environmental consultant throughout New Zealand and in Europe since 1998. I specialise in monitoring and assessing the water quality and aquatic ecological effects associated with a wide range of activities including discharges to water, land use change, water takes, damming and diverting water.
3. I specialise in monitoring and assessing the ecological effects associated with a wide range of activities including discharges to water, land use change, water takes, damming and diverting water. I have been involved in or managed numerous hydro-electricity related effects assessments throughout New Zealand including the Waikaremoana hydro-electric powers scheme (HEPS), Waikato River, Clutha River, many of Trustpower's HEPS (including Kaimai, Patea, Esk, Hinemaiaia, Waihopai, Waipori, Mangorei, Whaeo, Matahina) as well as mini hydro projects. These assessments have involved assessing a wide range of effects associated with HEPS including water quality, ecology, fish passage and low flow effects on in-stream habitat quality and quantity.

4. I have managed a diverse range of freshwater environmental effects assessment projects in the Waikato Region, including industrial wastewater discharges, stormwater discharges, catchment flood protection related activities, hydro-electricity, landfill and mining related discharges and land development.

THE SCHEME

5. The Applicant, Speedys Road Hydro Limited, holds resource consents authorising the operation of a run of river hydroelectricity generation scheme ("Scheme"). The Scheme was commissioned in 2011, and is located at the end of Speedies Road, Te Anga, in the Waikato region, on the Tawarau River. The Speedys Road HEPS is a run of river scheme that involves diverting water at the head of a gorge 50 m along an intake channel (Figure 1) and screened intake (Figure 2). Water is passed down a large diameter pipe to the power station below the gorge (Figure 3). Water is discharged from the power station to a 50 m long concrete lined channel that re-enters the Tawarau River over an apron of gabion baskets designed to prevent erosion during large floods (Figure 3).
6. The existing consents for the Scheme allow a maximum rate of take of up to 6,700 L/s of water, with a minimum or residual flow of 1,000 L/s required in the residual flow channel – being the approximate 800 m between the intake and the point of discharge into the river.



Figure 1: Tawarau River at the intake channel during low flow trial in 2015.



Figure 2: Hydro scheme intake screens during a period of no diversion.



Figure 3: Power station and tailrace.

7. The current scheme provides a minimum residual flow between the intake and outlet of 1,000 L/s and is approximately 50% of the Q5 flow.

THE PROPOSAL

8. The Applicant has applied for a change to the conditions of its existing resource consents to increase the maximum rate of take of 8,500 L/s and to reduce the residual flow rate to an instantaneous minimum of 100 L/s. This proposed instantaneous minimum flow was based on the assessment of effects undertaken by Mr Charles Mitchell with his reasons primarily being based on ensuring fish passage was maintained.
9. Following further investigations and a more detailed assessment of effects the Applicant now proposes to revise the proposed instantaneous minimum flow for the residual river of 200 L/s. This minimum flow is based on the advice of myself and Ian Jowett following the further assessments undertaken. Ian Jowett is one of New Zealand's most highly experienced specialists at assessing in-stream flow requirements and we work together regularly. I will discuss the reasons for the revised minimum flow in more detail in my evidence but for now highlight that it is supported on the basis that it not only ensures fish passage but also ensures the protection of the in-stream habitat and the life supporting capacity of the residual river.
10. The Applicant is also proposing to increase the velocity of water entering the intake from 0.32 m/s to between 0.32 m/s and 0.355 m/s (together the "Proposal").

SCOPE OF EVIDENCE

11. My evidence relates to the effects of the Proposal on aquatic ecology and in particular, algae, benthic invertebrate and fish communities.
12. I became involved in the Proposal in 2013 when I assisted with an assessment of the fish distribution in the Tawarau River. The initial assessment of effects and the previous monitoring were undertaken by Charles Mitchell, a fisheries biologist specialising in New Zealand freshwater fish. I have been engaged by the Applicant to assess the effects of the Proposal and to monitor the effects of the current operation of the scheme on fish populations and fish passage.
13. I have reviewed the reports and draft evidence prepared by Mr Mitchell as well as the reports prepared by Dr David and Dr Pingram for the Waikato Regional Council. My first visit to the site was in 2013 during a survey of fish in the Tawarau River. Along with Mr Grant Bridgwater (the Applicants in-house planner) I met with Dr David, Dr Pingram and Ms Dianne Palmer from Waikato Regional Council in December 2015 to discuss the Waikato Regional Councils views on the assessment of effects that had been undertaken up to that point and to discuss and agree on the further ecological assessments necessary to undertake a robust assessment of effects.

14. Mr Ian Jowett assisted with the flow trial in 2016 and prepared a summary of the analysis of river flow vs instream habitat for relevant taxa.
15. I have been responsible for assessing the effects and led the team that undertook the trial in June 2016 and along with my colleagues Mr Nick Carter and Mr Ian Jowett. I have analysed the survey results as part of the preparation of this evidence. The low flow trial was undertaken under the guidance of Ian Jowett and involved gathering river flow, water depth, width, habitat and benthic invertebrate data suitable for assessing in-stream habitat effects.
16. Based on that information, as well as my own experience and expertise, I have prepared this brief of evidence, which will cover the following:
 - (a) Description of the investigations undertaken.
 - (b) A description of the environment;
 - (c) An assessment of effects on aquatic ecology; and
 - (d) Recommended monitoring and/or mitigation.
17. I have read and am familiar with the section 42A report and the submissions insofar as they are relevant to my area of expertise, and will respond to the matters raised throughout my evidence.
18. I have read the Code of Conduct for Expert Witnesses in the Updated Environment Court Practice Note (2014) and agree to comply with the Code. This evidence is within my area of expertise, except where relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

INVESTIGATIONS UNDERTAKEN

19. The river flow, in-stream habitat, benthic invertebrate community and fish distribution has been thoroughly investigated within the Tawarau River. Charles Mitchell and Associates monitored fish distribution and passage in the years following the commissioning of the Scheme. Freshwater Solutions Ltd undertook fish distribution and fish passage monitoring in 2016. In my opinion there is good data on which to assess the fish distribution, fish values and fish passage for the Tawarau River.
20. Freshwater Solutions undertook sampling in the potentially affected reach of the Tawarau River in June 2016 to assess river flow, water quality, in-stream habitat, periphyton cover, benthic invertebrates and fish passage effects. This assessment was undertaken during a trial to assess the effects of reducing the current residual flow through the gorge below 1,000 L/s. River flow was gauged during the trial and quantitative in-stream habitat data (wetted width, water depth and substrate composition) was collected from 6 transects within the gorge. Sampling locations of the various in-stream habitat and biological surveys is shown in Figure 4.

21. An analysis of the flow record was undertaken in mid-2016 using the flow record from 11 April 1979 to 8 November 2007 recorded by NIWA at a site that was located just downstream of the power house site and the second being the flows recorded at the power station from 1 November 2013 to 31 March 2016.
22. The benthic invertebrate community was surveyed in June 2016 at four sites (Site US, Site – Gorge, Site DS2 and Site DS3) (see Figure 4) by collecting four Surber samples from riffle/run habitat at each site. Samples were processed separately using protocol P3 from MfE (2001). The aim of the benthic invertebrate survey was to characterise the benthic invertebrate community upstream, within and downstream of the gorge. The benthic invertebrate survey was not intended to provide results on which to directly assess the effects of the current or proposed minimum flow.

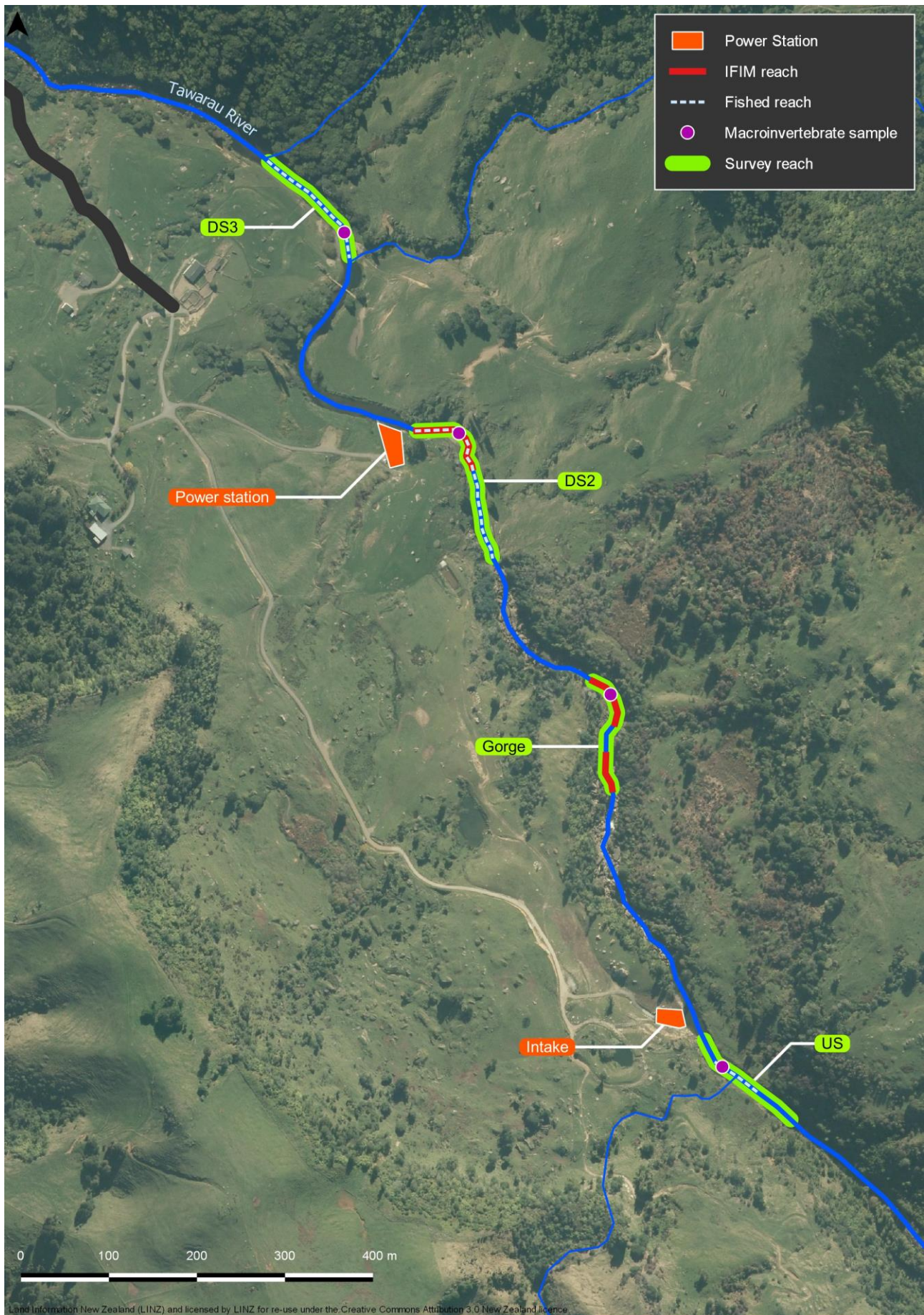


Figure 4: Sampling site locations.

DESCRIPTION OF THE ENVIRONMENT

The Tawarau and Marakopa River Catchments

23. The Scheme is located on the lower Tawarau River at the end of Speedies Road. The headwater mainstem source of the Tawarau River is steep farmed hill country between Te Anga Road and Waipuna Road approximately 12 km east of the power station (Figure 5). The mainstem of the river flows through a mixture of native and pine forest and over the Tawarau River Falls before flowing through an area of regenerating native forest upstream of the Scheme. The main tributaries upstream of the Scheme include the Mangaohae, Pomarangai and Mangarere Streams. The land use with these stream catchments is dominated by pasture farming.

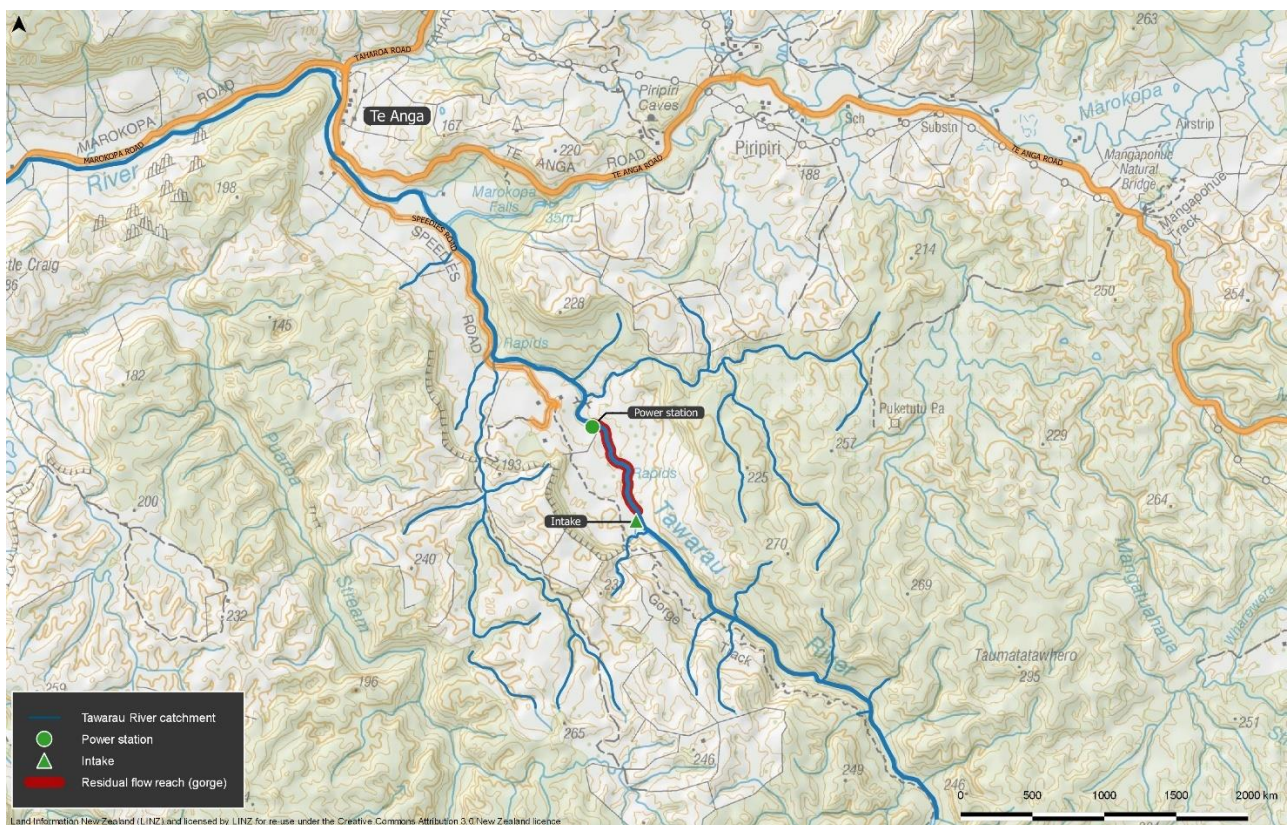


Figure 5: Location of the Speedies Road Hydro Scheme.

24. The Tawarau River catchment geology exerts a significant influence on water quality, in-stream habitat and biological communities. Basement greywacke is covered by mudstones and calcareous sandstones overlain by massive limestone. These soft and rapidly erodible sedimentary rocks results in hill country more suitable for dry stock farming and pine plantations.
25. The Scheme is located on a steep gradient karst landscape on a sheep and beef farm. Limestone has collapsed into the steep side gorge between the Scheme intake and outlet forming a series of rapids which have a significant effect on in-stream habitat and ecological

communities within the gorge and on fish distribution throughout the catchment. The Scheme is sited to utilise the gradient of very steep section (42 m vertical fall over an 820 m length of river between the intake and power station).

Immediately Upstream of the Gorge

26. The first 75 m of river immediately downstream of the intake channel is low gradient and slow flowing due to the natural hydraulic control created by the boulder strewn section downstream (Figure 6).



Figure 6: Section of Tawarau River immediately downstream of intake channel.

Within the Gorge

27. According to Charles Mitchell, in the geologically 'recent' past, a huge amount of limestone rock has collapsed across the river. The river has worked its way between and beneath these boulders. During flood flows, water cascades down the steep boulder strewn section, but at most river flows a high proportion of water within the 525 m steep gorge section water flows beneath massive rocks with little or no water visible (Figure 7).



Figure 7: View from within the gorge section.

28. Within the gorge section there is a short section that is slightly more open and accessible and where the in-stream habitat and benthic invertebrate sampling within the gorge was undertaken (Figure 8).



Figure 8: View of the short 'open' section within the gorge.

Immediately Downstream of Gorge

29. Downstream of the steep gorge section the gradient decreases rapidly creating a 230 m section of deep very slow flowing water between the downstream end of the gorge and the outlet channel (Figure 9).



Figure 9: View of the 235 m section downstream of the gorge and immediately upstream of the outlet channel.

30. Downstream of the Scheme the Tawarau River flows through a series of steep rapids for approximately 2 km before entering the Marakopa River. The Marakopa River downstream of its confluence with the Tawarau River is a gentle gradient meandering lowland river that enters the sea via an extensive estuary near the settlement of Marakopa.

Tawarau River Hydrology

31. The power station record comprises the flow measured by the turbine and the residual flow measured at a site just below the power station intake. The total river flow is the sum of these two flows. A comparison of the flow duration curves for the periods of NIWA record and power station record shows a difference at low flows when the river flow is less than about $5 \text{ m}^3/\text{s}$ with the NIWA flow record being the most reliable.
32. The station aims for maximum generation while maintaining the residual flow at 100 L/s above the required current instantaneous minimum flow of 1,000 L/s. The combination of the current minimum flow requirement and the minimum generation flow means that the station should not operate when the river is less than $3.1 \text{ m}^3/\text{s}$. Records of generation show that the station did not operate for 35% of the time between 2013 and 2016 because the river flow was less than the $3.1 \text{ m}^3/\text{s}$ needed to operate (Figures 10 and 11).

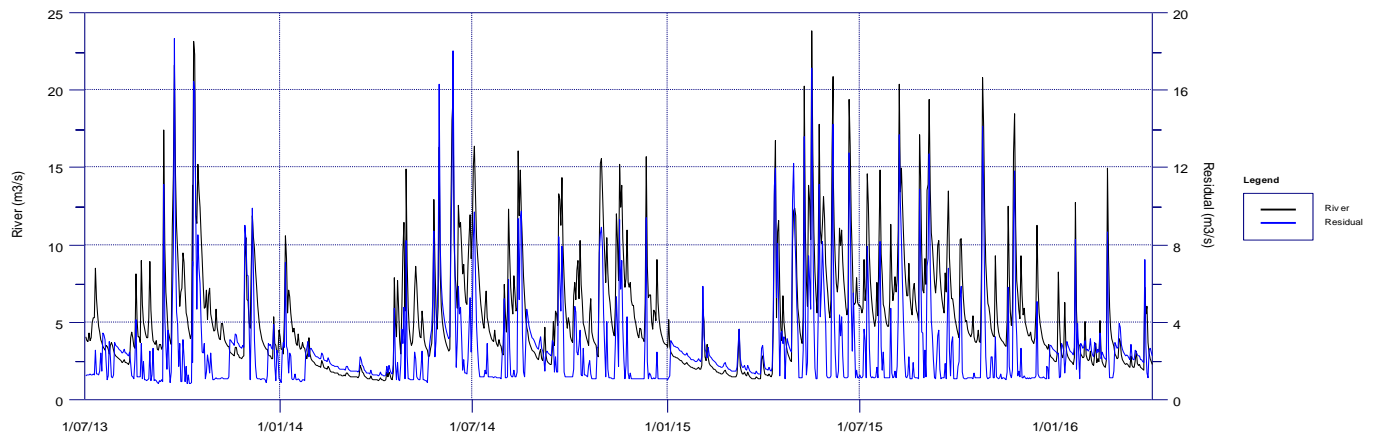


Figure 10: Total river flow and residual flow recorded between November 2013 to March 2016.

33. The hydrological statistics for the Tawarau River recorded by NIWA (1979-2007) and at the power station and used to assess the effects of the current and proposed residual flow on the flow, water quality and ecological values of the Tawarau River are presented in Table 1.

Table 1: Hydrological statistics for the Tawarau River.

Statistic	NIWA 1979-2007	Power Station 2013-2016
Mean flow	6.36	5.45
Mean annual flow (for complete years only)	6.27	5.78
Median flow	4.58	4.34
Coefficient of Variation	0.89	0.69
Fre3 (frequency of flows > 3 x median per year)	9.6	9.5
MALF (mean annual 1-day low flow for complete years)	2.31	1.29
MALF (mean annual 7-day low flow for complete years)	2.41	1.33

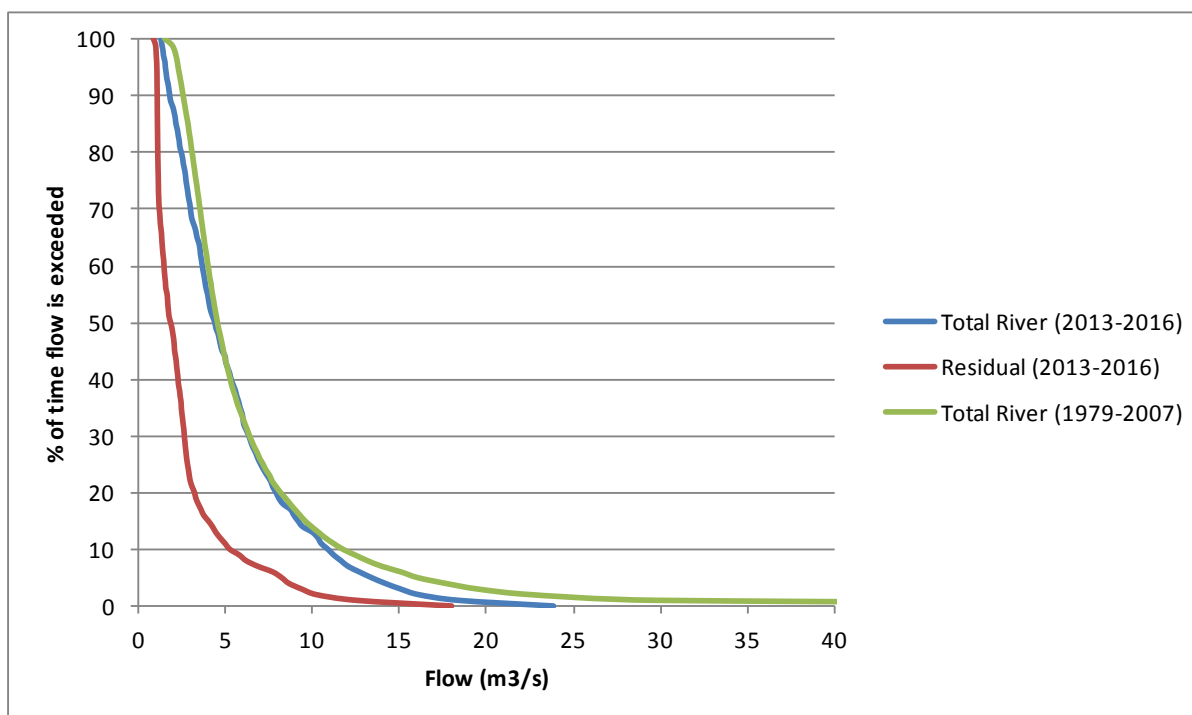


Figure 11: Flow duration curves for the NIWA flow record (1979-2007) and the power station PS record of residual flow and total river flow (2013-2016).

Biological Values of the Tawarau River

34. The following section of my evidence sets out the key findings from surveys and analysis undertaken by Mr Charles Mitchell between 2011 and 2015 and surveys and analysis that I managed in 2016.

In-stream Habitat

35. The Tawarau River immediately upstream, within and immediately downstream of the gorge provides very different in-stream habitat conditions that reflect the geology and gradient within each section. These differing habitat conditions provide very different conditions for periphyton and benthic invertebrate communities and fish populations. The habitat upstream and downstream of the gorge and residual river section is suited to supporting prolific periphyton growths and diverse benthic invertebrate and fish communities while the habitat within the gorge and in the residual river section between the station outlet and the gorge is not suitable for supporting diverse and abundant periphyton, benthic invertebrate or fish communities. In the following section of my evidence I will outline the key features of the instream habitat within each of the sections of the river.
36. Upstream of the intake the river is characterised by a wide, moderately steep gradient riffle and run and cobble (25% cover) and gravel (75% cover) dominated habitat (Figure 12).



Figure 12: View of invertebrate and fish sampling site upstream of the intake.

37. Habitat throughout most of the gorge (residual river section) is dominated by large boulders with the river flowing beneath (Figure 7).
38. In the only open section within the gorge and where the in-stream habitat data was collected the habitat is characterised by chute and pool habitat with no riffle and a small amount of run habitat. Substrate in the open section within the gorge comprises bedrock (20% cover), boulders (45% cover) and sand/silt (35% cover) and is less suited to supporting a diverse and abundant benthic invertebrate community compared to upstream (Figure 12).



Figure 12: View of benthic invertebrate sampling and in-stream habitat survey site within the gorge.

39. Habitat immediately downstream of the gorge (between the lower end of the gorge and the power station outlet and still within the residual river section) changes significantly compared to habitat within the gorge and is characterised by very slow flowing, deep pool and run habitat dominated by boulders (50% cover), cobbles (25% cover), gravels (10% cover) and sand (5% cover) and is much less suited to supporting a diverse and abundant benthic invertebrate community compared to upstream of the gorge (Figure 13).



Figure 13: View of benthic invertebrate sampling site immediately downstream of the gorge and upstream of the station outlet.

40. Habitat approximately 1 km downstream of the power station is characterised by riffle pool run sequences more like upstream of the gorge although the river channel is wider and has a lower gradient compared to the upstream site. Habitat reflects the wider and low gradient channel and is dominated by cobbles (40% cover), gravels (45% cover) and sand (15% cover) and is slightly less suited to supporting a diverse and abundant benthic invertebrate community compared to upstream of the gorge (Figure 14).



Figure 14: View of benthic invertebrate and fish sampling site approximately 1 km downstream of the gorge.

Periphyton Community

41. Visual observations of the stream bed during the June 2016 survey indicated that the substrate, water depth and velocity and unshaded nature of the habitat is suited to supporting nuisance periphyton growths upstream of the gorge, immediately downstream of the gorge and at Site DS3 – 1 km downstream of the gorge. Bedrock and sand dominated substrate and a lack of shallow riffles within the gorge makes it less suited to supporting nuisance periphyton growths. Periphyton growths were sparse at all sites during the June 2016 survey. A similar observation of very sparse growths was made by Mr Charles Mitchell in June 2015 during a low flow trial.

Benthic Invertebrate Community

42. Mr Charles Mitchell sampled benthic invertebrates during the June 2015 low flow trial by collecting five Surber samples from a very limited amount of gravel and cobble substrate at the same site Freshwater Solutions sampled in June 2016 (referred to as the Gorge Site). The June 2015 benthic invertebrate survey results were characterised by low mean taxa number (10), low mean abundance (46), moderate %EPT (58%) and a high mean QMCI score (7.2) indicative of excellent water quality.
43. Overall the benthic invertebrate community was healthy among all the sites with water and habitat quality sensitive mayflies, stoneflies and caddisflies been the dominant groups (range 43–89%). The benthic invertebrate community was also characterised by moderate taxa number (range 16–21 taxa), low abundance within the gorge (190 individuals), moderate abundance upstream and downstream of the gorge (range 527–576 individuals) and QMCI scores ranging from 4.4 immediately downstream of the gorge (fair quality) to 5.9 approximately 1 km downstream of the gorge (good quality).
44. The benthic invertebrate community index scores reflect the habitat differences among sites with the upstream site and the most downstream site having the highest EPT relative abundance (81% and 89% respectively), taxa number (21 taxa) and QMCI scores (5.7 and 5.9 respectively) (Figures 15–18). The site in the gorge had the lowest EPT relative abundance (43%), taxa number (16 taxa), abundance (190 individuals), second lowest QMCI score (5.2) (Figures 15–18) and the lowest number of EPT taxa (7) and %EPT (43%).
45. The Gorge site clearly separates out from the other sites using an MDS analysis (Figure 19). The benthic invertebrate community within the gorge section reflects the less suitable habitat (lack of riffle and cobble/gravel habitat).

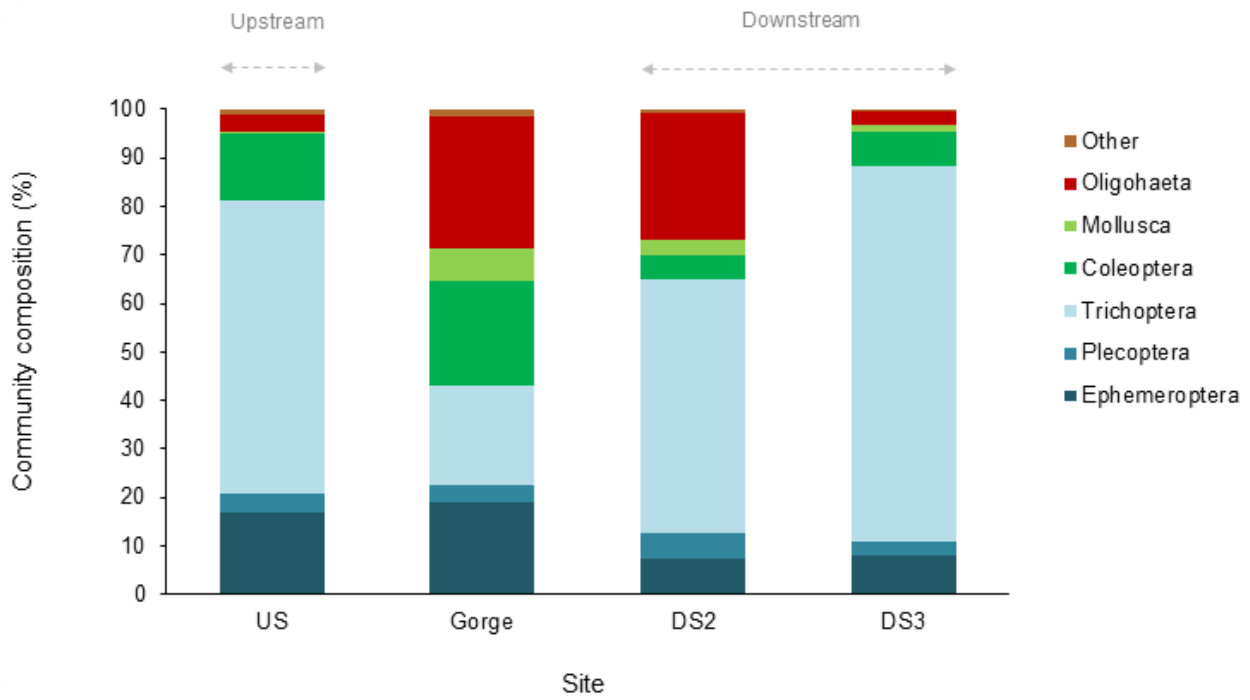


Figure 15: Community Composition recorded in June 2016.

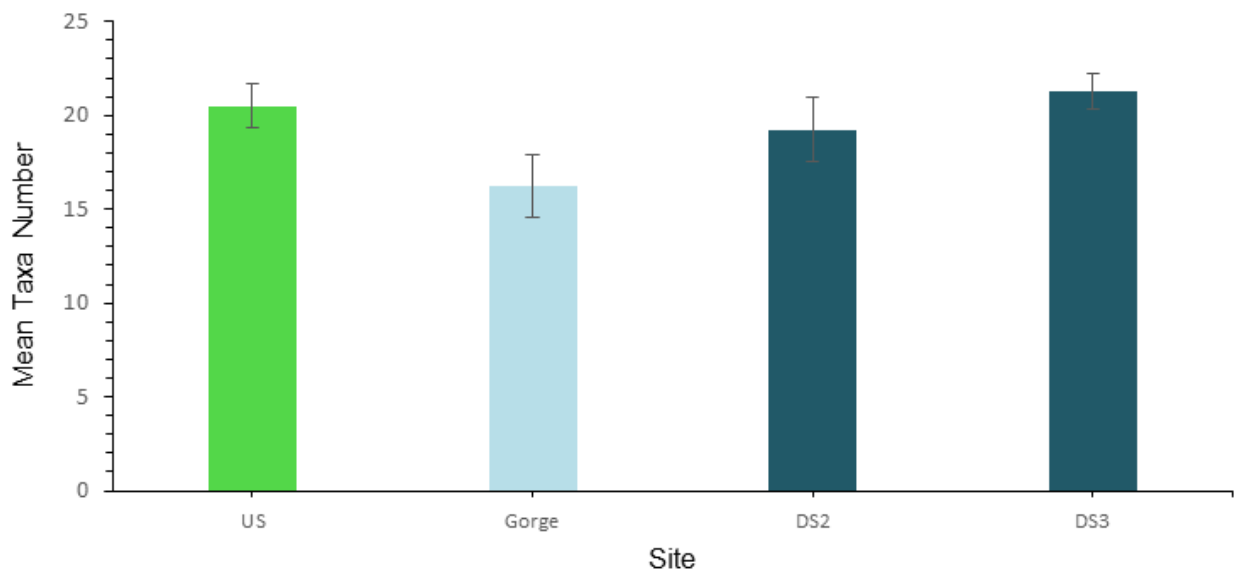


Figure 16: Mean taxa number recorded in June 2016.

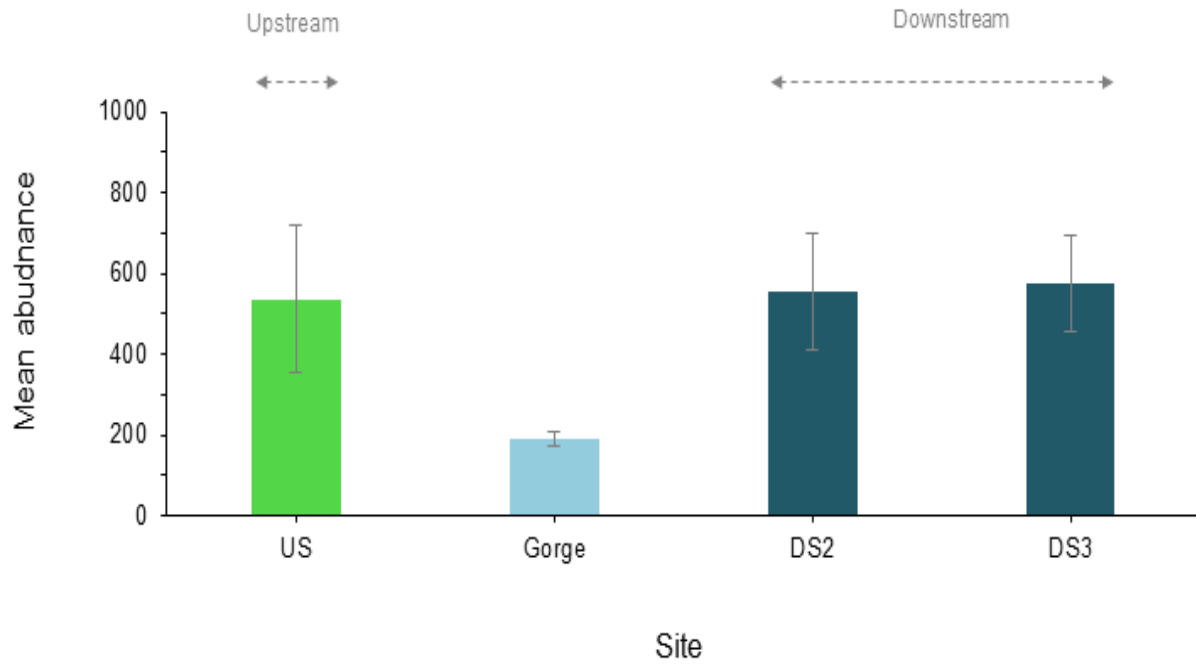


Figure 17: Mean abundance recorded in June 2016.

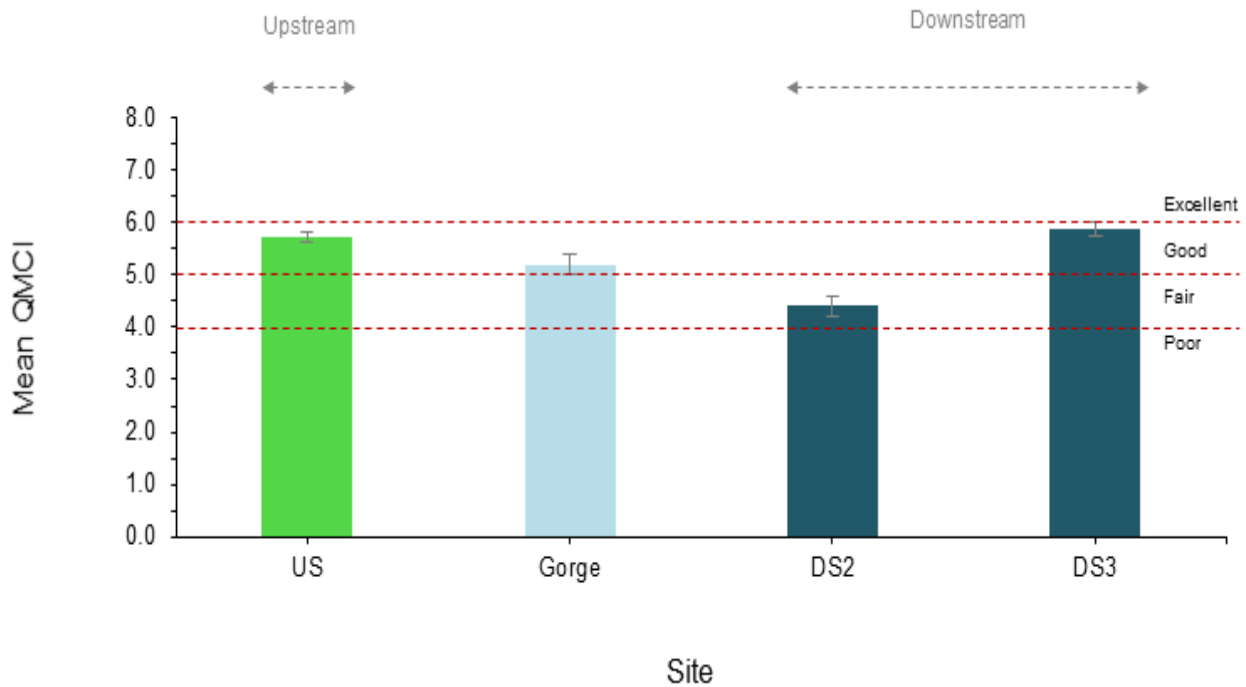


Figure 18: Mean QMCI score recorded in June 2016.

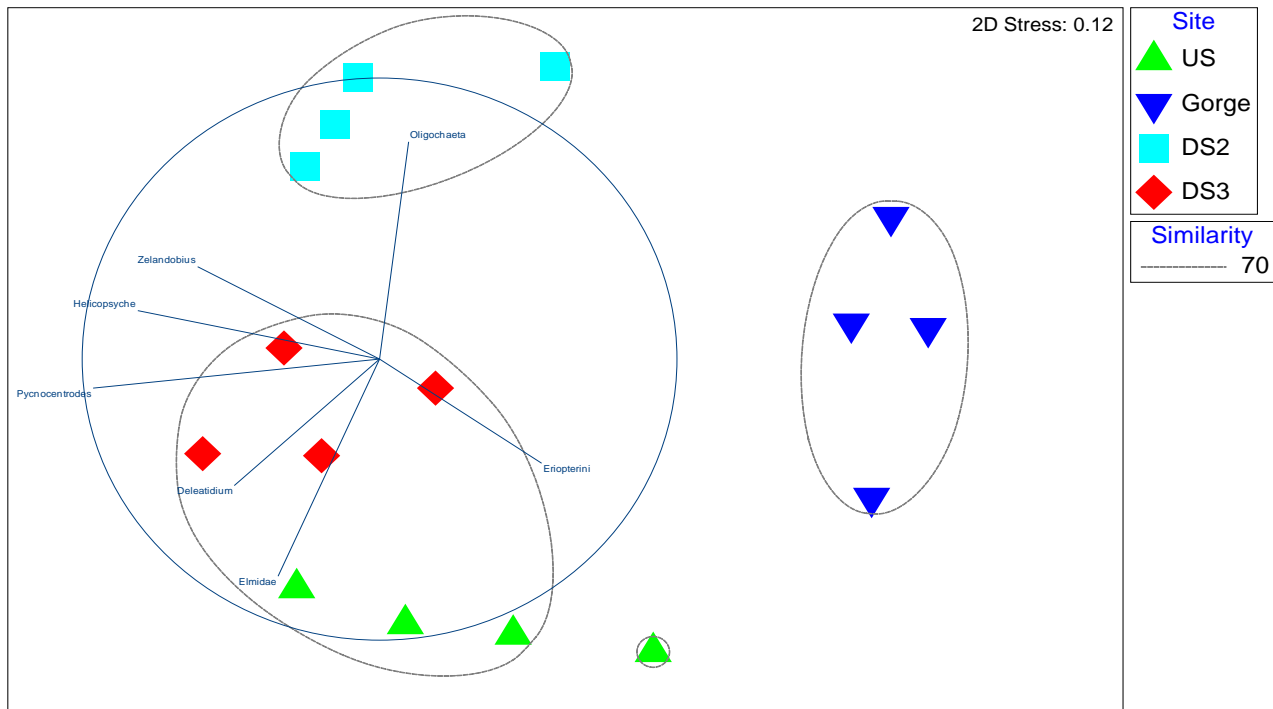


Figure 19: Community similarity recorded in June 2016.

Native Fish

46. Mr Charles Mitchell considered that the most significant potential effect of the proposal was on fish passage - a view that I share. There has been a considerable amount of monitoring and assessment addressing the potential of the scheme to affect fish passage including catchment wide surveys by Mr Charles Mitchell and the Waikato Regional Council in recent years and monitoring surveys immediately upstream and downstream of the power station and gorge by Mr Charles Mitchell and Freshwater Solutions Ltd. In this section of my evidence I discuss the key findings from these surveys.
47. The gorge section is a barrier to upstream migration to any fish without very strong climbing ability and thus the gorge exerts a strong influence on the distribution of native fish within the Tawarau River catchment. Fish and large macro invertebrate fauna species recorded in the Tawarau River downstream of the gorge are longfin eels, redfin bullies, common bullies, freshwater shrimp and freshwater crayfish. Fish and large macroinvertebrate fauna species recorded in the Tawarau River upstream of the gorge are longfin eels and freshwater crayfish. Brown trout occur downstream of the gorge while rainbow trout occur upstream of the gorge.
48. Based on observations made by Mr Charles Mitchell during surveys in 2011 and 2012, regular checking of the intake screen by the farmer land owner, various surveys within the river by Mr Charles Mitchell, and the New Zealand Freshwater Fish Database records, the following conclusions were drawn by Mr Charles Mitchell in 2013:

- The fish community near the power scheme is neither abundant nor diverse due to the steep gradients downstream of the power scheme.
- Impingement or entrainment of native fish on the fish screens was not occurring.
- Bottlenecking (unusually high numbers of migrating fish) at the powerhouse outlet was not occurring.
- Injury or morality of fish passing through the Scheme infrastructure was not occurring.
- The priority fish species is longfin eels and the impacts of the Scheme on eel migrations and other aquatic values appears to be minimal.

49. The key finding from the electric fish survey that I undertook in April 2016 was the high number of elvers captured at all three sites (Site US, Site DS2 and Site DS3). The electric fishing survey result indicated good elver recruitment occurred into the Tawarau River in Spring 2015 and that these elvers could negotiate the residual river section through the gorge.
50. The number of large longfin eels caught at each site during the April 2016 survey reflected the amount of suitable streambank cover present with two large longfin eels captured at Site US where there was some suitable cover (e.g., log jams and backwater habitat), four large longfin eels captured at Site DS2 where there was an abundance of large limestone boulders and no longfin eels captured at Site DS3 where there was a lack of suitable cover. Freshwater shrimp and redfin bully were recorded at Sites DS2 and DS3 downstream of the gorge. Fyke net survey results in March 2016 were very like the results of the previous surveys by Mr Charles Mitchell.

ASSESSMENT OF EFFECTS

51. Low flow trials in 2015 and 2016 demonstrated that the water level in the 220 m section of river between the power station outlet and lower end of the gorge is very insensitive to river flow. The effects of the current and proposed minimum flow are therefore limited to the approximately 600 m section between the intake and lower end of the gorge (approximately 220 m upstream of power station) and an approximately 300 m section upstream of the intake.
52. Observations made during the low flow trial in June 2016 showed that increasing the size of the inflow rate at the intake slightly decreased the water depth and increased the water velocity in the approximately 300 m section immediately upstream of the intake. Based on my observations the effect of the increased intake rate on the section of river immediately upstream of the intake is subtle and not what I regard as an adverse effect.
53. The key potential effects on which this section of my evidence focuses on arise from the proposed decrease in the residual flow rate from the current instantaneous minimum flow of 1,000 L/s to a proposed instantaneous minimum flow of 200 L/s and the effects of this on the

600 m section of steep gradient channel immediately upstream and within the gorge. The proposed instantaneous minimum flow of 200 L/s was selected following an analysis of the relationship between flow, key habitat variables (wetted width, water depth, water velocity, wetted perimeter, maximum water depth, maximum water velocity, %pool habitat, % run habitat and % riffle habitat) and the fish species present (Table 5).

54. The proposal will not cause any adverse effects upstream of the scheme intake or downstream of the scheme outlet. The proposal to reduce the minimum flow has the potential to result in the following effects in the 600 m section immediately upstream and within the gorge:
- Alter the flow regime resulting in changes to the algae, benthic invertebrate and fish communities and fish migration.
 - Alter water quality (primarily temperature).
 - Alter the quantity and quality of habitat for algae, benthic invertebrates and fish.
 - Alter the ability of fish to move upstream through the residual flow section.
 - Increase intake velocity and entrainment of juvenile fish.

Altered Flow Regime

55. The two residual flows analysed were an existing instantaneous minimum flow of 1,000 L/s (what the current consent provides for) and an instantaneous minimum flow of 200 L/s. An instantaneous minimum flow of 200 L/s will result in river flows fluctuating between 200 L/s and 450 L/s during periods of low river flow as set out in Mr Bridgwater's evidence. In my opinion the very short (<2 hr) periods when the turbine operation results in fluctuations in river flow between 200 L/s and 450 L/s is unlikely to result in measurable biological effects.
56. Reducing the instantaneous minimum flow to 200 L/s reduces the mean flow by 40% and the median flow by 82% and increases the coefficient of variation from 1.61 to 2.64 and the FRE3 (number of flow events exceeding 3x the annual median flow /year) from 12.1 to 14.2 and decreases the 1 and 7 day MALF (mean annual low flow) from 1,100 L/s to 200 L/s (82%) (Table 2). The changes in mean and median flows are unlikely to result in any adverse effects on the biological communities present within the residual river. The small increase in FRE3 flows is also unlikely to result in measurable changes in biological communities. I will discuss the expected biological effect of the calculated changes in the 1 and 7 day MALF's later in my evidence.

Table 2: Flow statistics at the current and proposed minimum flow.

Statistic	1,000 L/s	200 L/s
Mean flow (m ³ /s)	2,752	1,642
Median flow (m ³ /s)	1,100	200
Coefficient of variation	1.61	2.64
FRE3 (flows >3 x annual median/year)	12.1	14.2
MALF (mean annual 1 day low flow)	1,100	200
MALF (mean annual 7-day low flow)	1,100	200

57. Reducing the instantaneous minimum flow to 200 L/s reduces the mean number of events (contiguous event is when flow falls below 200 L/s or 1,000 L/s and ends when the flow increases above 200 L/s or 1,000 L/s) by 21% and increases the mean, maximum and median number of days at that flow by 54%, 8% and 50% respectively (Table 3). The increase in the mean, maximum and median length of contiguous flow has the potential to increase the risk of nuisance algal growths and deposited sediment within the residual river. I will discuss the expected biological effect of these changes in more detail later in my evidence.

Table 3: Summary of the number and duration of contiguous events at the current and proposed minimum flow.

Statistic	1,000 L/s	200 L/s
Mean number of events/year	30.5	24.0
Mean duration (days)	6.5	10.0
Maximum duration (days)	65	70
Median duration (days)	4	6

58. Assuming a flushing flow is 3,300 L/s reducing the instantaneous minimum flow to 200 L/s increases the mean number of FRE3 events by 29% and decreases the mean, maximum and median number of days between FRE3 events by 34%, 42% and 25% respectively (Table 4). The decrease in FRE3 events and decrease in the mean, maximum and median of days

between FRE3 events has the potential to influence biological communities. I will discuss the expected biological effect of these changes later in my evidence.

Table 4: Summary of the number FRE3 events and duration between FRE3 events at the current and proposed minimum flow.

Statistic	1,000 L/s	200 L/s
Mean number of events/year	18.5	23.8
Mean duration (days)	16.3	10.7
Maximum duration (days)	154	89
Median duration (days)	8	6

59. The proposed minimum flow will increase the duration of accrual periods however the number of flushing flows will remain high. The changes to accrual period length could increase the risk of nuisance algal growths within the residual river. I will discuss the effect of this on periphyton growths later in my evidence.

Altered Water Quality

60. Reducing the minimum flow and increasing the duration that the residual river is at lower flows than currently occurs has the potential to increase river water temperature and decrease dissolved oxygen levels by reducing water depth and velocity in sections of the residual river that are exposed to solar radiation. Approximately 180 m or 30% of the 600 m section of residual river is open with the remaining 70% covered in large boulders. In the section with large boulders the potential for solar heating of the river is negligible. The remaining 30% of the residual river at the proposed minimum flow retained a mean depth of 0.32 m and water velocity remained high over the bedrock and boulder chutes that occur throughout the study reach. The very large boulders and steep sides of the gorge provide a reasonable level of channel shading in the 180 m section that is not 'buried' beneath boulders. For these reasons, the potential for the proposed minimum flow to increase river water temperature even by a very small amount is very small. Consequently, I do not consider that there will be any decrease in dissolved oxygen levels associated with reducing the minimum flow.

Altered Quality and Quantity of Instream Habitat

61. Reducing the minimum flow has the potential to affect the quality and quantity of instream habitat for periphyton, benthic invertebrates and native fish. In-stream habitat data (wetted width, depth and substrate) was collected during the low flow trial in June 2016. This assessment was

overseen by Mr Ian Jowett, who is very experienced in the assessment of instream flow requirements.

62. Key habitat measurements for the study reach within the open section of the residual river is presented in Table 5. The field measurements in the open section of residual river during the June 2016 low flow trial support the visual observations and characterise that section of river as highly constrained (mean width = 9.4 m, mean depth = 0.49 m and maximum depth = 1.38 m at current minimum flow), low velocity (mean = 0.23 m/s at current minimum flow), dominated by pool habitat (64% at current minimum flow) with minimal riffle habitat (2.5% at the current minimum flow) and a high proportion of bedrock and boulder substrate.
63. Between the current and proposed minimum flow the mean width decreased from 9.4 m to 6.8 m (28%), mean depth decreased from 0.49 m to 0.32 m (35%), velocity decreased from 0.23 m/s to 0.14 m/s (39%), wetted perimeter decreased from 11.1 m to 8.1 m (27%), maximum depth decreased from 1.37 m to 1.09 m (20%), maximum velocity decreased from 1.1 m/s to 0.61 m/s (45%), pool habitat increased by 22%, run habitat decreased by 56 % and riffle habitat increased by 214%.

Table 5: In-stream habitat recorded during low flow trial in June 2016.

Flow (L/s)	Width (m)	Depth (m)	Vel. (m/s)	Wetted perimeter (m)	Max. Depth (m)	Max. vel. (m/s)	Pool (%)	Run (%)	Riffle (%)
100	5.7	0.29	0.12	6.8	1.00	0.66	76.4	8.2	15.4
200	6.8	0.32	0.14	8.1	1.09	0.61	78.3	14.8	6.9
300	7.9	0.34	0.15	9.2	1.16	0.70	75.8	22.5	1.7
400	8.4	0.36	0.16	9.8	1.19	0.79	72.9	26	1.1
500	8.7	0.39	0.17	10.2	1.23	0.86	74.1	24.9	1.0
600	8.9	0.41	0.18	10.5	1.26	0.91	69.9	29.1	1.0
700	9.1	0.43	0.20	10.7	1.29	0.96	66.8	32.3	0.9
800	9.2	0.46	0.21	10.8	1.32	1.01	64.7	33.8	1.5
900	9.3	0.48	0.22	11.0	1.34	1.05	64.7	33.8	1.5
1,000	9.4	0.49	0.23	11.1	1.37	1.10	64.0	33.8	2.2

64. Habitat preference curves for the species present (adult longfin eel, juvenile longfin eel, redfin bully and *Deleatidium* sp.) were used to assess the effect of the proposed minimum flow on these key species. The proposed minimum flow would retain 77% of juvenile longfin eel habitat, 46% of adult longfin eel habitat and 159% of redfin bully habitat compared to MALF (2.4 m³/s). Reducing the minimum flow from 1,000 L/s to 200 L/s would increase the riffle habitat preferred by *Deleatidium* sp.
65. The gorge section lacks the gravel and cobble dominated riffle habitat preferred by elvers. In my opinion most elvers would pass through the gorge and take up residence in suitable habitat upstream. The small decrease in elver habitat between MALF and the proposed minimum flow and the small area affected relative to the wider catchment makes it very unlikely that the proposed minimum flow would result in a detectable effect on elver or adult eel abundance in the Tawarau River.
66. Large adult longfin eels are highly territorial and prefer deep pools with plenty of instream cover and tend to feed at night opportunistically among a wide variety of habitats (riffles, runs and pools). Several large longfin eels were observed during the low flow trial so it is clear there is habitat suitable for large longfin eels within at least the open section of the gorge where the instream habitat survey was undertaken. The estimate of 46% retained adult longfin compared to MALF needs to be viewed with considerable caution given that adult longfin eels prefer deep pool habitat during the day and that this habitat is almost unaffected by the proposed minimum flow. Based on my observations during the low flow trial the proposed minimum flow will ensure plenty of suitable habitat is available for large longfin eels.
67. Redfin bully are present in the low velocity habitat between the gorge and the power station but they have not been recorded upstream of the gorge. It is possible that redfin bully could penetrate part way up the gorge. If they are present, then the proposed minimum flow would result in an increase in their habitat compared to MALF.
68. The proposed minimum flow increases the amount of riffle habitat preferred by many benthic invertebrate taxa. Any effect on periphyton through grazing pressure or food production for fish or the life supporting capacity of the reach associated with the increase in the amount of riffle habitat is in my opinion likely to be very small.
69. A view of pool and chute/riffle habitat at 200 L/s are shown in Figures 20 and 21.



Figure 20: View of pool habitat within study reach at 200 L/s.



Figure 21: View of chute/riffle habitat within study reach at 200 L/s.

Altered Fish Passage

70. The gorge section is a significant natural barrier that based on fish survey results appears to prevent the upstream migration by all fish except elvers. If present within the catchment it is possible that lamprey and kōaro could negotiate the gorge.
71. At the current residual flow survey results by Mr Charles Mitchell prior to 2015 and by Freshwater Solutions in 2016 showed that elvers could negotiate the gorge with large numbers of elvers recorded immediately upstream of the intake.
72. There are no tools or methods that can be used to assess the likely effect of river flow on fish passage in the type of habitat present within the gorge. Steep gradients, waterfalls and shallow water can all prevent upstream passage of native fish. Measurements made during the low flow trial in June 2016 showed that reducing the minimum flow from 1,000 L/s to 200 L/s resulted in mean depth decreasing from 0.49 m to 0.32 m (35%) and velocity decreasing from 0.23 m/s to 0.14 m/s (39%). In my opinion these changes in water depth and velocity are very unlikely to reduce the ability of elvers, lamprey or kōaro to pass through the gorge. In my opinion, reducing the minimum flow could in fact make it easier for elvers, lamprey or kōaro to negotiate the gorge by reducing water velocity over the narrow bedrock chutes that are likely to currently present a significant challenge to even the strongest climbers (Figures 22 and 23).



Figure 22: Example of bedrock chute within the low flow trial survey reach at 1,000 L/s.



Figure 23: Same bedrock chute shown in Figure 20 during low flow trial survey reach at approximately 200 L/s.

73. Dr Bruno David has raised a question about the potential for the proposed increase in flow through the power station and a reduction in flow down the residual river to alter the migratory cues and encourage elvers to leave the river and try and enter the power station. Monitoring at the power station between 2013 and 2016 indicated that the power station outfall does not attract elvers with only the occasional elver observed close to the power station during night time surveys. Mr Charles Mitchell concluded that the power station outfall structure appears to present an unattractive flow compared to the unmodified river channel. I agree with Mr Mitchell's conclusion.
74. The June 2015 and June 2016 low flow trials confirmed that due to a riffle downstream of the power station outlet acting as a hydraulic control that water level in the 220 m reach upstream of the power station outlet is very insensitive to river flow changes. For this reason, the migratory cue from residual river will not change to any significant degree and result in the power station outlet flow attracting a higher number of elvers. I note that this was also the conclusion of Mr Charles Mitchell, an expert in eel biology and native fish passage.

Entrainment at the Intake

75. Monitoring of the intake screens between 2013 and 2016 did not result in a single live or dead eel. Mr Charles Mitchell concluded that because of the intake screen, and the fact that downstream adult migrations occur in Autumn during high flows, the risk of entrainment or impingement at the intake was very low. I agree with Mr Mitchell's conclusion in this regard.

76. The current resource consent sets a maximum through screen velocity of 0.32 m/s. Using the measured decrease in water level in the intake channel during the 2015 low flow trial OPUS Consultants Ltd calculated that reducing the minimum flow in the residual river would increase the maximum intake screen velocity to 0.355 m/s. The maximum intake screen velocity at the proposed minimum flow is expected to be between 0.32 m/s and 0.355 m/s. Dr Bruno David has questioned whether this slight increase in intake velocity could result in entrainment or impingement of native fish.
77. The fish community upstream of the intake is limited to longfin eels and rainbow trout. Downstream adult longfin eels are strong swimmers and the slight increase in intake screen velocity will not affect them. Juvenile rainbow trout are also strong swimmers and the slight increase in intake screen velocity will not affect them.
78. If native fish larvae that are unable to swim were present it is possible that they could be entrained into the intake and suffer mortality passing through the power station although the limited amount of literature study of these effects suggests larval fish mortality is typically low. The absence of any native fish species with a larval freshwater life stage in the Tawarau River upstream of the gorge and off channel position of the intake means that I would not expect there to be any effect from the slight increase in intake screen velocity on native fish.

MITIGATION / MONITORING

79. The effects of the Scheme are limited to a 600 m section of the Tawarau River. Because of the natural flow variability and frequency of freshes, size and nature of the take (run of river take), nature of the habitat and biological communities and the fact that the gorge is a natural fish barrier to all but the strongest climbers the effects of the current minimum flow are in my opinion minor.
80. The key to mitigating the effects of reducing the minimum flow below the current limit of 1,000 L/s is determining the minimum flow that protects the key instream values. In my opinion the key instream ecological values that need to be protected within the 600 m residual river section is the life supporting capacity of the reach, longfin elver passage and adult longfin eel habitat.
81. The results of the low flow trial and analysis of instream habitat vs flow analysis has shown that a minimum instantaneous flow of 200 L/s will protect the life supporting capacity of the reach and maintain adult longfin eel habitat.
82. As longfin eels are the only species likely to be affected, I recommend that elver monitoring be undertaken in Year 1, Year 2 and Year 3 using the same methodology as that used in the 2016 fish monitoring survey undertaken by Freshwater Solutions Ltd which involved electric fishing riffle habitat to estimate elver density. If the survey results after Year 1, 2 or 3 clearly show lower

elver abundance in riffles upstream of the gorge compared to downstream then I would recommend that an investigation be undertaken to determine the cause. If that investigation concludes that the reduced minimum flow is the likely cause or is contributing significantly to the lower elver abundance upstream, then the current minimum flow would need to be reinstated.

SECTION 42A REPORT AND SUBMISSIONS

83. I have read the sections of the Officers Report and the submissions that relate to my evidence.

Aquatic Ecology Assessment

84. The aquatic ecology assessment of the Proposal for the Council was prepared by Dr David and Dr Pingram, both Freshwater Scientists at the Waikato Regional Council. In my opinion Dr Pingram's and Dr David's conclusions on the effects of the Proposal to reduce the instantaneous minimum flow to 100 L/s were largely based on speculation with little if any evidence to support their views. The key concerns presented by Dr Pingram and Dr David related to the proposed instantaneous minimum flow of 100 L/s were:

- (a) The Proposal would impair the natural character of the river and result in adverse ecological effects that are likely to be substantial and as such likely to be beyond that which we would consider acceptable.
- (b) Insufficient information had been provided at the time of their review regarding the ecological values that may be present or the amount of wetted area that would be available for aquatic organisms for a given volume of water removed.
- (c) There is a high risk that the proposed reduction in residual flows will have substantial adverse effects on the aquatic ecology of approximately 800 m of the river, likely through:
 - (i) A reduction in useable habitat for aquatic macroinvertebrates;
 - (ii) An increased risk of nuisance periphyton growths; and
 - (iii) Reduced flows and a loss of flow variability during spring through autumn.
- (d) There is a high degree of uncertainty because the supplied information has not adequately quantified or assessed the potential effects of the Proposal.
- (e) Other potential effects may include a reduced ability for upstream and possibly downstream migration of aquatic biota in relation to increased intake velocities and reduced residual channel flows. In the absence of any other quantitative data, the conclusion is that the adverse effects would be substantial.

- (f) Lastly, there are also questions over potential entrainment and impingement as a result of increased intake velocities and potential impacts on fish migration direction and behaviour caused by increased outflow discharges.

85. The study of the effects of the current and proposed minimum flow was adopted after discussions with Dr Michael Pingram and Dr Bruno David. In my evidence, I have addressed all of the concerns raised by Dr David and Dr Pingram. Refer to paragraphs 60 – 78 addressing concerns presented in paragraph 82 (a), paragraphs 61 – 64 addressing paragraph 82 (b), paragraphs 41 – 45, 55 – 59 and 60 – 64 addressing paragraph 82 (c), paragraphs 51 – 82 addressing paragraph 82 (d), paragraphs 70 – 74 addressing paragraph 82 (e) and paragraphs 75 – 78 addressing paragraph 82 (f).
86. In my opinion the assessment of effects undertaken is robust and allows firm conclusions to be drawn about the effects of the current and proposed minimum flow. In my opinion the results of the work undertaken prior to 2016, and by Freshwater Solutions and Ian Jowett in 2016, support the conclusion that an instantaneous minimum flow of 200 L/s will be protective of all the relevant instream values.

SUBMISSIONS

87. I have reviewed the submissions received on the application insofar as they are relevant to my area of expertise. A number of submitters raised concerns about the potential for the proposed instantaneous minimum flow of 100 L/s to adversely affect native fish and the life supporting capacity of the residual section of the Tawarau River.

Pita Te Pou Haereiti and Patrick Maikuku

88. These submitters comment that the monitoring regime has to be specific and should aim to achieve a specific minimum set of standards. They consider that eels and fish life were plentiful in the area in the past. They would like monitoring to include effects on native species in the vicinity of the hydro dam. In my opinion the monitoring that has been undertaken to date has been appropriate and that the proposed elver monitoring is the most effective way of monitoring possible fish passage effects associated with the proposal.
89. They also seek evidence that confirms that the creeks and streams downstream of the intake point will supplement the flow of water and that this is sufficient to provide for fish passage. This was raised previously by Charles Mitchell. I have not considered the potential benefits of any stream flow into the residual river and my assessment of the effects and conclusion that effects will be minor does not rely on possible flow that comes from streams into the residual river section.

90. A concern was raised about the drop in river water level. The assessment of effects and low flow trial has demonstrated that the water level drop within the residual river is very small and my opinion will not result in any adverse effects.

Leanne Wikitoria Tane

91. Leanne Tane has raised concerns about the potential impact of the Proposal in terms of the migration of tuna from the Waitomo Caves to Marokopa. In my opinion the proposed instantaneous minimum flow will ensure that tuna are able to migrate upstream and downstream through the residual river section.

Betty Brown (Chairperson Marokopa Marae)

92. Concerns are raised regarding adverse effects on native fisheries, crustaceans, habitat, flora and fauna. I have addressed this in my evidence. In summary I consider that the proposed minimum instantaneous flow of 200 L/s will protect habitat and biological communities (periphyton, benthic invertebrates and fish).
93. The other issues raised in the submissions which are not directly related to ecological matters are dealt with in the evidence of Grant Bridgwater.
94. In my opinion, all of the concerns raised by submitters and relevant to my area of expertise have been addressed through the assessment of effects undertaken in 2016 and presented in my evidence.

CONCLUSION

95. The Speedys Road Hydro Scheme affects a 600 m section of the Tawarau River immediately upstream and within the gorge section between the intake and outlet (residual river). The section of river affected by the scheme is very steep, dominated by large boulders and bedrock. The periphyton and benthic invertebrate communities upstream, within and downstream of the gorge are healthy and reflect the habitat conditions present. The fish community within the Tawarau River is strongly influenced by the gorge with only elvers able to negotiate through it.
96. In my opinion the results of the various surveys and the assessments of experts including Mr Ian Jowett and Mr Charles Mitchell support the conclusion that an instantaneous minimum flow of 200 L/s will be protective of all of the relevant instream values. The existing and proposed mitigations (intake screen, minimum flow of 200 L/s and elver monitoring) will, in my opinion, reduce the effects of the proposal to minor.
97. If elver density monitoring clearly shows lower elver abundance in riffles upstream of the gorge compared to downstream then I would recommend that an investigation be undertaken to determine the cause of the differences. If that investigation concludes that the reduced minimum

flow is the likely cause or is contributing significantly to the lower elver abundance upstream, then the current minimum flow would need to be reinstated.

Richard Montgomerie

1 February 2017

HEARING BEFORE COMMISSIONERS

IN THE MATTER of an application under the Resource Management Act 1991

AND

IN THE MATTER OF an application by Speedy's Road Hydro Ltd to increase maximum water take and reduce residual flow for an existing hydroelectricity generation scheme at Speedies Road, Waikato

STATEMENT OF EVIDENCE OF GRANT BRIDGWATER

1.0 Qualifications and Experience

- 1.1 My name is Grant David Bridgwater. I am the Planning Manager for Clearwater Hydro Limited. Clearwater Hydro Limited is a division of the Lines Company Limited and manages a number of hydro-electric power schemes on behalf of their owners.
- 1.2 I have the degree of Bachelor of Science (Zoology) from Auckland University and Masters of Resource Management (Hon) from Canterbury University. I am a member of the New Zealand Planning Institute.
- 1.3 I have been practising as a Resource Management planner since 1987. I have held positions in central and local government and in private consulting. I joined Clearwater Hydro Limited in June 2009.

2.0 Scope of Evidence

- 2.1 My evidence addresses the following matters:
- a) Background and Proposal
 - b) Resource Consent Activity Status
 - c) Submissions
 - d) Environmental Effects
 - e) Resource Management Policies and Plans, and Part 2 of the RMA

- 2.2 I have read the Code of Conduct for Expert Witnesses in the Updated Environment Court Practice Note (2014) and agree to comply with the Code. This evidence is within my area of expertise, except where relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

3.0 Background and Proposal

- 3.1 Consents were first granted for the Speedys Road hydroelectric power scheme (the scheme) on the Tawarau River in November 2007.¹ The consent provided for the take and discharge of 1000 l/s from and to the Tawarau River for a small hydro-electric power scheme. In 2009 a variation to these consents was granted which increased the water take and discharge from 1000 l/s to 6700 l/s and provided for the increased scale of intake and discharge structures to accommodate the increased flows.²
- 3.2 The scheme was commissioned in August 2011. At the time of commissioning, consent (Auth 123084) for a small water take was also obtained to provide water for lubricating and cooling the turbine's bearing. This consent allows up to 1 litre per second to be taken from an unnamed tributary of the Tawarau River. The Tawarau River is a tributary of the Marokopa River and does not fall within the Waikato River Catchment.
- 3.3 The location of the scheme and a description of the environment in which it is located is detailed in the evidence of Richard Montgomerie (refer Figure 5 of his evidence for the relevant map). The intake is approximately 800 metres upstream of the powerhouse and discharge point. There are no other existing water takes in the reach between the intake and the discharge point. The station generates a maximum of 2 MW of electricity using 6700 litres per second of water using 42 metres of head (vertical drop). The location of the Intake, Powerhouse and Penstock route were chosen to maximise the available head for generation while keeping the cost of construction as economic as possible. The nature of the river between the intake and discharge is described in detail in Mr Montgomerie's evidence. He describes three distinct sections³ from the intake down:
- a) The first 75m of river immediately downstream of the intake channel, which is low gradient and slow flowing due to the natural hydraulic control created by the gorge.

¹ Four consents were granted for the scheme:

113342	Divert water from the Tawarau River
113343	Discharge water taken and passed through turbine(s) to the Tawarau River;
113344	Clear vegetation, undertake earthworks, disturb the riverbed, erect an intake structure and canal, construct access roads;
116518	Take and use up to 86,400 cubic metres per day of water (at a rate of 1000 l/s) from the Tawarau River for hydro electrical generation by way of a water turbine.

² Environment Waikato File Number 61 33 53A.

³ Refer to Richard Montgomerie's evidence at paragraphs 26 to 29.

- b) The longest section is the gorge which is largely cascades covered in massive boulders. This section is approximately 525m long.
- c) The lower section is a deep and slow flowing pool downstream of the gorge and immediately upstream of the outlet channel. This section is approximately 235m long.

These sections are shown in the available drone footage that is being filed with this evidence.

- 3.4 The scheme is fully automated. It will adjust generation output depending on how much water is in the river. Just downstream of the intake is a flow monitoring station which measures the flow entering the residual flow channel. The flow is recorded in real time and is used to control how much water is taken for generation so as to keep the residual flow above the consented level of 1000 litres per second. The scheme will automatically turn off when there is not enough water in the river to retain the residual flow when the scheme is running. Under the existing consent conditions the scheme can also only operate when the flow within the Tawarau River is over 3,100 litres per second.
- 3.5 The station's turbine and generator is one of the original from the Monowai Hydroelectric power scheme located in Southland. It was fully refurbished prior to being installed in the scheme. The turbine has a minimum output of 500kW and requires 2100 litres per second to operate at this output. The current maximum output is 2MW which requires 6700 litres per second for this generation.
- 3.6 The electrical output from the station is not stable and fluctuates around a midpoint over several hours. This in turn causes the residual flow to fluctuate by plus or minus 125 litres per second over the same period. The fluctuating residual flow means the station has been run at a higher than consented residual flow (approximately 1125 litres per second) to avoid the residual flow falling below the consented level.
- 3.7 Speedys Road Hydro Limited wants to increase the efficiency of the existing scheme by reducing the residual flow and increasing the maximum water take. Currently the scheme generates on average around 9GWh of electricity each year. The company is seeking a number of changes to its existing consents to allow for increased generation.
- 3.8 These are:

- a) Reduce the residual flow from 1000 l/s to a minimum of 200 l/s (the 2015 application sought a minimum of 100 l/s), which allows the scheme to operate when flows reach 2,300l/s, as opposed to 3,100l/s⁴
- b) Increase the water take and discharge from 6700 l/s to a maximum of 8500 l/s.
- c) Increase the flow through the intake screen from 0.32 m/s to 0.355 m/s.
- d) Amend a small water take consent (Auth 123084) to allow water used for the turbine bearing cooling and lubrication to be taken while the scheme is operational.

3.9 The proposal would allow the scheme to operate a greater proportion of the time than it is presently able to. These changes would add in an average year another 2.25GWh of electricity generation per year.

3.10 The proposed changes do not require any physical works to the intake or discharge structures. The changes only require some reprogramming of the computer system that runs the scheme.

3.11 Freshwater Scientist Charles Mitchell was engaged by Speedys Road Hydro Limited in 2011 to undertake annual environmental monitoring work for the scheme pursuant to the existing consent conditions (Conditions 14 & 15, Auth116518). He also prepared the assessment of environmental effects in support of this application (at the time it was lodged, the proposed residual flow was 100 l/s). Mr Mitchell also provided additional information on the potential effects of the proposed changes in response to a further information request from the Waikato Regional Council. Mr Mitchell was to prepare and present expert evidence at the hearing scheduled for September 2015. Unfortunately Mr Mitchell passed away prior to the hearing and consequently the hearing was deferred until the company was in a position to obtain the services of another freshwater ecologist.

3.12 Mr Richard Montgomerie of Freshwater Solutions Limited was subsequently engaged to review the proposed changes to the water take and residual flow and to prepare evidence on the potential effects of the proposed changes. Mr Montgomerie has reviewed all of the work undertaken by Mr Mitchell and has undertaken his own extensive investigations. Mr Montgomerie will present evidence on the general ecology of the

⁴In response to the findings of the additional studies undertaken by Richard Montgomerie of Freshwater Solutions Limited, to assess the potential effects of the proposed changes, the company accepts a revised residual flow of a minimum of 200 l/s to safeguard the life-supporting capacity of the Tawarau River. While this change will reduce the amount of potential additional electricity generation from 2.5 GWh to 2.25 GWh the additional generation remains significant.

Tawarau River and on the potential environmental effects on the river arising from the changes sought. Mr Montgomerie also addresses the concerns raised in the reports of the Regional Council scientists concerning the potential effects of the changes as well as concerns raised by submitters relating to his area of expertise.

4.0 Submissions

- 4.1 The application was publicly notified on 2 June 2015.
- 4.2 Seven submissions were received. Six of these were from individuals affiliated with the Mirumiru (Marokopa) Marae and one was from New Zealand Fish and Game.
- 4.3 New Zealand Fish and Game made a neutral submission raising a point about the velocity of the flow of water through the intake screens. Mr Montgomerie, in his evidence, addresses the potential effects of the small increase in flow through the screen and concludes he would not expect there to be any effect on eels or trout, the only fish found in this part of the river, given they are strong swimmers.⁵
- 4.4 Most of the submissions received from tangata whenua oppose the application. The main issues raised in the submissions are:
 - a) The need for a cultural impact assessment (N Willison, B Brown, K Willison, R Tahi Takerei, L Wikitoria Tane).
 - b) Adverse effects on Mana Whenua cultural values (B Brown, K Willison, P Haereiti & M Maikuku).
 - c) Adverse effects on the environment (B Brown, K Willison, P Haereiti & M Maikuku).
 - d) Adverse effects on Waahi Tapu sites (B Brown).
 - e) Lack of, or inadequate, supporting evidence regarding effects on the environment (K Willison, P Haereiti & M Maikuku).
 - f) Requesting a collaborative approach to drafting consent conditions and development and implementation of monitoring programme (K Willison, P Haereiti & M Maikuku).
 - g) Monitoring (R Tahi Takerei, P Te Pou Haereiti and P Maikuku & K Willison).

⁵ Evidence of Richard Montgomerie at paragraph 77.

- 4.5 In response to the submissions which sought clarification and collaboration the company requested a pre-hearing meeting to see if matters raised in the submissions could be addressed prior to a substantive hearing. This pre-hearing meeting was held on 30 July 2015. The Chairman's report under s.99 of the Resource Management Act on this meeting is included at Appendix 1 to the s.42A report. The pre-hearing meeting was an opportunity to openly discuss the specific nature of the changes and, as concluded by Chairman David Hill, achieved significant clarification about technical misunderstanding.
- 4.6 One of the key matters addressed in the pre-hearing meeting was the scope and possibility of preparing a Cultural Impact Assessment which was raised by five submitters. Facilitating a Cultural Impact Assessment was seen as a positive way forward to restoring the relationship between the company and the Marae and there was a genuine willingness to consider a proposal from them.
- 4.7 The company subsequently commissioned a Cultural Impact Assessment that was prepared by two of the submitters – Kylie Willison and Natasha Willison-Reardon. The Cultural Impact Assessment is attached to my evidence as Appendix 1. This assessment was undertaken with the support of Mirumiru (Marokopa) Marae Committee and outlines the range of cultural issues that the Marae members have identified in relation to the existing hydro scheme. These cultural issues are discussed in section 6 of my evidence.
- 4.8 Overall, none of the submissions seek to have the application declined. The matters raised in the submissions have in my opinion been addressed through the evidence presented by Mr Montgomerie, through the preparation of the Cultural Impact Assessment, and through the conditions offered to mitigate potential effects (which will also be discussed further throughout this evidence).
- 4.9 The company desires a more collaborative relationship with the Marae and its members and welcomes their involvement in the on-going monitoring and reporting on the environmental performance of the scheme. While specific cultural effects arising from the proposed changes outlined in the application have not been detailed in either the cultural impact assessment or individual submissions, it is accepted that further evidence in relation to the specific effect of the proposed changes on cultural values may be presented at the hearing by submitters.

5.0 Activity Status

- 5.1 The previous application for changes to the consents in 2009 (Environment Waikato File Number 61 33 53A) was processed by the consent authority as a variation under section 127(3)(a) of the RMA and was accordingly a discretionary activity. The applicant took a similar approach in relation to the current proposed changes by lodging an application to

vary the conditions of the existing consented scheme. However the consent authority took a different approach to the present application on the basis that it considered the effects of the proposed changes were significantly greater than the existing effects of the consented activity and therefore determined the application for the water take to be an application for a new consent (Authority 135083).

- 5.2 I did not agree with this determination and Appendix 2 of my evidence includes correspondence I had with the consent authority regarding the activity status. Despite the Regional Council position I remain of the view that the application should be considered as a variation rather than a new application and should therefore be assessed as a discretionary activity.
- 5.3 The reason for my opinion is based on the scale and similarity of the effects to that already occurring from the existing hydro scheme. The existing consent allows a water take and residual flow which considerably exceed the regional plan standards and the effects were assessed as no more than minor in the 2009 variation decision (Appendix 3). In deciding whether an application for variation is in substance a new application, the consent authority is required to compare any differences in adverse effects likely to follow from the varied proposal with those associated with the activity in its original form. In my opinion the proposed changes are simply an extension of what is already occurring. There is no fundamental change to the activity – water continues to be taken and discharged and water, albeit at a reduced volume, remains in the residual flow channel. Mr Montgomerie has confirmed that there is no materially different adverse effect arising from the changes. He concludes that an instantaneous minimum flow of 200 L/s will be protective of all of the relevant instream values and that, taking into account the proposed mitigation, the effects of the proposal will be minor.⁶
- 5.4 On this basis, I do not consider it to be the case that the effects of the proposal to vary the conditions are such that it triggers the requirement for a new consent for a new activity. The change to the conditions should properly be assessed as a discretionary activity under section 127 of the RMA.
- 5.5 If the application is not processed as a variation to an existing consent, the Waikato Regional Plan rules need to be considered in order to determine activity status.
- 5.6 The decision on notification of the application dated 26 May 2015, (Appendix 4) concluded that the activity was discretionary under Rule 3.3.4.23 based on the take being

⁶ Evidence of Richard Montgomerie at paragraph 96.

a zero net take.⁷ I concur with the assessment that the proposed take is a zero net take, and I discuss the reasons for this in more detail shortly.

- 5.7 However, I consider that the rule referred to is incorrect. Rule 3.3.4.23 applies to catchments where existing takes exceed the Table 3-5 allocable flows as required by Policy 7. Policy 7 explains how surface water takes will be classified in catchments where existing takes exceed allocable flows.
- 5.8 Existing takes from the Tawarau River, including that from the scheme, as reported by the Regional Council on-line calculator (which treats the scheme as a zero net take – Appendix 5) do not exceed the allocable flows given in Table 3.5. While the flow is exceeded in the section between the intake and the discharge, the policies apply on a catchment level basis rather than focussing in on individual sections of rivers, and both the policies and rules require a net take assessment.
- 5.9 In my opinion Policy 8 is the appropriate policy that determines the activity status and the relevant rule for the application. Policy 8 explains how surface water takes will be classified in catchments that do not exceed the allocable flows, which is applicable to the Tawarau River catchment. Policy 8 e) i) says that these will be a controlled activity when the net take, assessed in combination with all other takes in the same catchment, is for a rate less than or equal to 70 percent of the allocable flow. Rule 3.3.4.16 is the applicable rule, which is for a controlled activity and sets out a number of matters of control.
- 5.10 After classifying the application as a discretionary activity in the notification report, the Reporting Officer then changed her opinion on the activity status in the s.42A report. She concluded that it was non-complying under Rule 3.3.4.26, but has not included any analysis. I do not agree with her assessment that the application for water take is a non-complying activity under this rule. Rule 3.3.4.26 assesses water takes on a “net take basis” and should the take exceed allocable flows listed in table 3.5 of the Regional Plan the rule triggers a non-complying status.
- 5.11 The water take is a zero net take consistent with the definition of net take contained in the glossary of the Regional Plan and therefore, in my opinion, cannot fall within the terms of Rule 3.3.4.26.
- 5.12 “Net Take” as defined in the glossary of the Regional Plan as

“Net Take: The amount of surface water that is no longer available for others to take as a result of an activity for which the water is taken.

⁷ Step 3(c), Page 3 Notification Decision

Where an associated discharge is intended to be included in the computation of a net take then:

- a) The consent to take water must be conditional upon the subsequent return of the minimum amount of water that is relied on to establish the net take; or
- b) For existing consents where there is no requirement for the subsequent return, the quantity of the net take will be assessed by the Waikato Regional Council;
- c) The associated discharge must:
 - Be of a quality sufficient to either meet the permitted activity provisions of this plan for discharges, or be authorised by way of resource consent; and
 - Be returned to the same water body in the same sub-catchment as near as practicable to the point of abstraction or upstream of the point where the take is being assessed; and
 - Occur at the same time as or within a timeframe as near as practicable to when the take is operating.
- d) Depending on the location of the discharge in relation to the location of the take, a surface water take may be assessed as having more than one net take value."

5.13 All water taken by the scheme is returned to the river and is available for others to take. Part a) and c) of the definition are also met. The consent to take includes condition 4 that requires the consent to only be exercised when consent 113343 (discharge permit) is also being exercised. The associated discharge required by part c) also meet the required standards as it is authorised by way of resource consent, is returned to the same water body as near as practicable to the point of take, and occurs at the same time as when the take is operating.

5.14 Part b) of the definition is not applicable to the water take as the existing consent requires the subsequent return of the water taken. Part d) of the definition is less clear. However in my opinion it is only relevant where there are other takes downstream of the proposed take. This interpretation is informed by Policy 3 in particular, which sets out how the Regional Plan determines the combined level of surface water allocation within a catchment to determine the activity status of a particular water take in accordance with Policies 8 and 9 (not Policy 7).

5.15 I consider the framework of the Regional Plan to be very focussed on allocation to users, while addressing the environmental impacts of such allocation. So too is the net take definition (which focusses on the amount of water no longer available for *others to take* (emphasis added)). When Policy 3 refers to affected downstream reaches it is, in my opinion, referring to each reach affected by a new take. If there is a water take between the point of intake and discharge, a proposed activity may be assessed as having more than one net take value under condition d) of the net take definition.

- 5.16 Dr Brown's evidence is consistent with this in that he explains that the inclusion of the net take construct in the planning framework was to ensure that water discharged in association with a take was included in the "*cumulative* accounting of allocation pressure" (emphasis added).⁸
- 5.17 Dr Brown provides a relevant example of how the net take definition can be applied (also refer to Policy 8 e) ii). The Huntly Power Station is assessed as having a net take of 0.7 cumecs. The actual take for Huntly is up to 40 cumecs with a corresponding discharge of up to 39.7 cumecs.
- 5.18 It is not clear why in his evidence he considers Speedys Road Hydro to be different to Huntly and prefers to compare Speedys Road Hydro with industries and activities where water is taken for consumptive purposes.
- 5.19 In my opinion it is not correct to interpret a net take activity in two parts as the reporting officer has done in her assessment on page 12 of the Section 42A Report and as referred to in Dr Brown's evidence. The reporting officer and Dr Brown both suggest that the take has two net take values – the total take at the point of take, which is 8,500l/s and then the total take at the point of discharge, which is 0 l/s. They do not consider the conditions of the net take definition and how these apply to the proposal. A consistent approach would result in the Huntly station being assessed as having a net take of 40 cumecs at the point of take and then a second net take assessed at the point of discharge.
- 5.20 According to their approach, other hydroelectric power schemes throughout the region must also have two net take values.
- 5.21 To interpret the policy framework in this way could potentially mean all existing hydro power schemes in the Waikato Region, including Wairere on the Mokau River, Mokauti, and Mangapehi along with the Waikato River Hydro power schemes, would be non-complying activities. It could also mean that any future hydro power scheme would also be non-complying and, following the interpretation of the Regional Council on this proposal, would fail the gateway test relating to the objectives and policies. This approach does not align with the other policies and objectives of the Regional Plan which seek to promote efficient and sustainable use of water by industry within the Region.
- 5.22 In my opinion, the way the Plan classifies activities and applies the net take concept does not focus on small reaches of river between an intake and discharge points in the way that is being suggested. However the rules and policies retain ample scope to consider

⁸ Evidence of Dr Brown at paragraph 16.

and address any effects that may arise as a result of a water take, including one that is assessed as having a zero net take.

- 5.23 The rule framework of the Regional Plan in my opinion is open to interpretation depending on how the net take is determined and applied. The plan gives some direction in its policies that net take is the sum of a take and a discharge and may be a zero net take if these balance each other out and they are as close as practicable to each other. This could lead to an interpretation that the proposed changes, if not considered to be a variation under s.127 of the RMA, are a controlled activity under Rule 3.3.4.16 as follows:

“3.3.4.16 Controlled Activity Rule - Taking of Surface Water

(Implements Section 3.3.3 Policy 8 e)i) and Policy 9 b))

Except as permitted by Rules 3.3.4.13 and 3.3.4.14 of this Plan, the taking of surface water up to and including 70 percent of the allocable flow identified in Table 3-5 is a controlled activity (requiring resource consent) subject to the following standards and terms:

a) The net rate of the take, assessed in combination with all other authorised water takes

(all calculated on a net take basis), shall not exceed 70 percent of the primary allocable flows for catchments specified in Table 3-5

b) The water take location shall not be within a water body classified as Natural State Water on the Water Management Class Maps.

c) Where the take is for a domestic or municipal supply a water management plan which meets the requirements of Method 8.1.2.2 shall be provided.

d) All applications to take water under this rule shall be assessed on a net take basis.

Exception

This rule does not apply to:

- The taking of geothermal energy and water.

- The taking of water for a dam or diversion. Such takes are managed by the policies....”⁹

- 5.24 The proposed water take meets all the requirements of this rule. The net take is assessed as a zero net take. Its take and discharge are equal and are as close as practicable to each other given the requirements of the scheme. The Regional Council online calculator (Appendix 5) also confirms the take is a zero net take. The take does not exceed 70 percent of the primary allocable flows for the catchment, is not from a natural state water body and is not for a domestic or municipal supply of water.
- 5.25 The rule provides a comprehensive range of matters that the Regional Council reserves control over to ensure that the effects of the activity are carefully managed. The directly relevant matters are as follows:
- “i) Measures to restore and protect the health and wellbeing of the water body for present and future generations
 - iv) Measures to avoid, remedy, or mitigate any adverse effects associated with the intake structure.
 - v) Measures to satisfy the intake velocity and screening requirements for the protection of aquatic fauna having regard to standards identified in the Water Management Class standards in Section 3.2.4.
 - x) The effect of the activity on the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga.
 - xi) Measures to maintain and enhance tangata whenua uses and values of water, the ability to exercise kaitiakitanga, and measures to protect and enhance the mauri of water bodies.
 - xiii) Measures to ensure that the net take is achieved whenever any consent granted under this rule is being exercised.”
- 5.26 Changes to consents 123084, 113342 and 113343 have been bundled with the proposed water take consent and are considered to be non-complying by the reporting officer.
- 5.27 My assessment of the activity status is different to the Reporting Officer’s conclusion on the activity status. It is clear from the various assessments undertaken by the Regional

⁹ The preamble to Chapter 3.6 explains that the provisions in Chapter 3.3 do not apply to the taking of water for a dam or diversion where water passes through or over a dam or diversion in the river channel. The scheme uses an out of river channel diversion and I therefore consider the provisions of Chapter 3.3 to apply to the take.

Council that there is also some confusion by the Council of how to apply the activity status framework to the scheme. The Regional Council in the 2009 variation decision assessed the relevant change as a discretionary activity under s.127 of the Act. Its public notification assessment of the changes considered the activity to be a discretionary activity under Rule 3.3.4.23, whereas the s42A report determined it to be a non-complying activity under Rule 3.3.4.26. There is clearly room for differences of opinion on the interpretation and application of the rule framework.

- 5.28 Nevertheless the decision of the activity status lies with the commissioners. The proposed changes could be assessed as a variation in line with what was sought in the application and would be deemed a discretionary activity under s.127. In my opinion this is the correct approach taking into account the changes proposed and the nature of the effects of the proposed changes compared to the existing effects.
- 5.29 If the Commissioners consider that the proposal is to be assessed as a new consent then it is my opinion that it should be assessed as a controlled activity under Rule 3.3.4.16. The key matters to then consider are those conditions that are required to address the matters the Regional Council reserves control over (which are comprehensive).
- 5.30 Should the Commissioners decide that the activity status is non-complying then it is my opinion that the proposed activity passes both s.104 “gateway” tests. The reasons for my opinion are explained in the next section.
- 5.31 **Gateway Test S.104D**
- 5.32 Section 104D sets out the “gateway” through which any application for a non-complying activity must pass before it can be granted consent. This section requires that either the proposal has no more than minor adverse effects or that the proposal is not contrary to the objectives and policies of any relevant plan or proposed plan. Only one of these “gateway tests” must be met for the consent to be considered further under s.104(1).
- 5.33 I have read the Officer’s Report regarding the specific interpretation of the gateway test in relation to no more than minor adverse effects, and the proposal not being contrary to the objectives and policies of the Regional Plan. I generally agree with her interpretation of the case law but come to a different conclusion that the proposal passes both gateway tests as discussed below.

No more than Minor Adverse Effect on the Environment

- 5.34 The focus of the assessment of the effects on the environment is on the differences between the effects that occur from the existing authorised scheme and that which is proposed in the application (whether processed as a variation or a new consent). Mr

Montgomerie's evidence is clear that, subject to the residual flow being a minimum of 200 l/s, the effects on the environment of the proposed changes are minor. There may even be some betterment to fish passage.

- 5.35 The assessment that has been carried out by Mr Montgomerie addresses any uncertainty about potential effects and provides a very clear analysis of the ecology of the residual flow channel. He concludes "that an instantaneous minimum flow of 200 l/s will be protective of all of the relevant instream values. The existing and proposed mitigations (intake screen, minimum flow of 200 l/s and elver monitoring) will in my opinion, reduce the effects of the proposal to minor".¹⁰
- 5.36 The Cultural Impact Assessment was commissioned in response to submitters and the Marae wanting to document the impact of the scheme and the proposed changes on cultural values. It sought to identify and document the cultural values and associations with the area and identify the effects of the proposed activity on cultural values. It also sought to identify and formulate methods to avoid, remedy or mitigate any adverse effects on cultural values.
- 5.37 The Cultural Impact Assessment expresses at a high level four potential impacts that could arise from the proposal. These are:
- Further sites and waahi tapu could be affected
 - Water is degraded further by activities
 - Fish affected by the activities of the hydro (Table 6.1 – page 22).
- 5.38 The evidence of Pita Te Pou Haereiti and Patrick Maikuku name sites including rocks, a waterfall and stream that were important for a range of historical events. Some of these sites were altered or removed as a result of the construction of the scheme in 2011. There is ongoing concern regarding potential destruction or damage to other sites of significance to tangata whenua and waahi tapu.
- 5.39 There are no physical works associated with the proposed changes to residual flow or water take. Any identifiable effect is therefore likely to be non-physical and more a spiritual component. Betty Brown also raises adverse effects on waahi tapu sites of significance and wider adverse effects on the mauri and special relationship the people have the Tawarau River. These expressions of concern about the wider relationship the people have with the river appear to stem from a concern that the changes will affect the health and natural functioning of the river.

¹⁰ Evidence of Richard Montgomerie at paragraph 96.

- 5.40 There is no effect on water from adjoining land use arising from the proposed changes. The assessment by Mr Montgomerie concludes that the ecological effect of the changes will be minor and will be protective of all relevant instream values. The proposed conditions requiring monitoring and review will ensure that the instream values are maintained.
- 5.41 While concerns about historic issues during construction of the physical works are acknowledged and the company wishes to continue to foster the relationship with tangata whenua, it is the effect on mana whenua cultural values arising from the proposed changes which are relevant in this case. In my opinion the maintenance of instream values and absence of physical works that could damage sites of significance, together with the proposed conditions of consent to enable tangata whenua involvement in monitoring and information sharing should ensure that any effects of the proposed changes on cultural values are appropriately addressed and, for the purpose of the “gateway test”, should not exceed the threshold. I will explain in more detail shortly how the proposed conditions of consent will ensure the involvement of tangata whenua in the consent.
- 5.42 In conclusion in relation to effects, the existing scheme has been in operation since 2011. Monitoring since then has not shown any measurable adverse effects on the instream values arising from its operation. The proposed changes have been assessed by Mr Montgomerie as remaining protective of the instream values of the river.

Not Contrary to Objectives and Policies

- 5.43 The variation to the Speedys Road hydroelectricity scheme in 2009 was consented under the Transitional Waikato Regional Plan. The consent evaluation report acknowledges that the Transitional Plan provided no policy guidance on the proposal and instead used Proposed Variation No. 6 (in the form proposed at that time) as the primary planning document to assess the proposed changes. The assessment concluded that the proposal overall is not inconsistent with the relevant issue, objectives and policies within Variation No.6.
- 5.44 The principal issue that now needs to be considered is whether the proposed increase in water take from 6700 l/s to 8500 l/s and the reduction in residual flow from a minimum of 1000l/s to 200 l/s, associated with the existing hydroelectric power scheme, is contrary to the objectives and policies of the Operative Regional Plan.
- 5.45 I accept in part the view of the Reporting Officer on the interpretation of contrary to the objectives and policies of the Plan under s.104D(1)(b) of the RMA. “Contrary envisages something that is opposed in nature, different to or opposite rather than merely being

inconsistent with it". I would also add my understanding is that a non-complying activity cannot automatically be ruled out simply because of an absence of support in the objectives and policies of a plan. There must be a repugnancy or opposition to the objectives and policies for it to be contrary. Also, failing to meet one particular objective or policy does not necessarily mean the activity is contrary to the objectives and policies overall. These are matters for legal submission and will be addressed by the Applicant's counsel in opening.

- 5.46 Unfortunately, however, it appears that this knock out approach has been adopted by the Reporting Officer where the focus of her analysis is, that by not meeting the minimum flow of 90% of Q5 which is sought by Policy 2, it fails to pass the gateway test.¹¹ The Reporting Officer supports her conclusion that the proposal is contrary to the objectives and policies of the regional plan by supposing that a departure from Policy 2 and the 90% of Q₅ minimum flow will give rise to adverse environmental effects and adverse effects on tangata whenua such that the proposal is so significantly different to that required by Policy 2 that it would be "opposed in nature, different to or opposite" and consequently contrary to Policy 2. She suggests that Policy 2 is the key policy because it implements all of the other policies.
- 5.47 I disagree with the Reporting Officer's assessment in two key areas. First, Policy 2 explains how the Council will determine allocable flows. It explains how Council will establish allocable flows for catchments to ensure there is no over allocation of the water resource to extractive takes and to maintain environmental values for the whole river or catchment (Objectives 3.1.2 and 3.3.2). Policy 2 is not designed to deal with zero net takes or directly with the effects of activities (as opposed to, for example Policy 11), so it is inappropriate to conclude the proposal is contrary to this policy when it is not a directly relevant policy to assess the proposal against. The way the plan implements this policy is to classify most activities exceeding the allocable flow as non-complying. If no exceedence of these flows were to be allowed, one would have expected them to be prohibited.
- 5.48 Secondly, I consider it is also incorrect to simply focus on an inconsistency with one policy (Policy 2) and conclude the proposal is contrary to the objectives and policies of the Regional Plan. While a small section of river may have less flow than the policy seeks for the catchment, the overall policy direction of the Regional Plan is met as the catchment remains under allocated and (according to expert assessment) the health of the river remains. The assessment of the activity against the objectives and policies should be assessed in this context taking into account other objectives and policies of the Regional Plan that support this type of activity.

¹¹ Refer page 14 of the s.42A report, and page 17 of the January 2017 Agenda.

- 5.49 My analysis of the objectives and policies of the Regional Plan (Appendix 6) includes the relevant objectives and policies listed in the s.42A report,¹² in addition to several other objectives and policies relating to efficient use of water and the promotion of renewable energy that I consider are also relevant to considering the proposed activity in context of the whole plan. These include 3.2.2 Policy 1, and 3.3.3 Policy 14. The assessment by the reporting officer fails to acknowledge Policy 14 of the Regional Plan. In my opinion Policy 14 is a very important policy directive as it provides for certain non-complying activities that exceed the standards in the plan being excluded from the presumption that consent will not be granted.

“Policy 14: Non-Complying Activities outside Waikato River Catchment and below Huntly within Waikato River Catchment (Implements Objectives 3.1.2 and 3.3.2)

Generally, non-complying activity applications for a takes located anywhere in the Region outside of the catchment area covered by Policy 13 shall not be granted unless the take:

- a) Is a zero net take, or
 - b) Replaces a consented take for an activity listed in Policy 15 a)v); or
 - c) Achieves a higher level of electricity generation that would otherwise be achieved were the consent declined, or
 - d) Is for the ecological enhancement of wetlands, or
 - e) Avoids the further degradation of water quality as provided for in Chapter 3.2 of this Plan.”
- 5.50 The reporting officer has not commented on the relevance of this policy to the proposal.
- 5.51 The conclusion that I draw from this analysis is that rather than being contrary to the objectives and policies, overall the proposal is generally supported by the objectives and policies of the Regional Plan. The Regional Plan seeks to enable activities. It recognises that people and communities within the Region should be able to use water and carry out activities involving the use of water provided certain safeguards are met. These safeguards include the avoidance of significant adverse effects on aquatic ecosystems and on the relationship of tangata whenua with water, maintaining overall water quality and ensuring the efficient allocation and efficient use of water. These objectives will not always be met by simply adhering to a default allocable flow. The existing consent departs from the default parameters, and there is no evidence of adverse effects occurring as a result. Each application and the particular effects it may give rise to need to be considered in its particular context. My analysis in Appendix 6 clearly demonstrates that the proposal is consistent with most of the objectives and policies and is not contrary to them.

¹² At pages 45 to 54 of the January 2017 Agenda.

S.104D Conclusion

5.52 The evidence provided by Mr Montgomerie concludes that the effects of the proposal will be minor and therefore the proposal meets the first limb of the gateway test. Based on the information I have considered from the Cultural Impact Assessment and tangata whenua submissions, I do not consider the potential cultural effects of the further proposed changes to be more than minor (noting that further evidence may be presented at the hearing). My assessment of the objectives and policies concludes that the proposal is not contrary to the objectives and policies of the Regional Plan and that this type of development which uses water efficiently with little effect on the environment is in fact supported by the Regional Plan. I consider therefore that the proposal meets both the s.104D gateway tests and is able to be assessed under s.104(1) of the Resource Management Act.

6.0 S.104(1) Assessment

6.1 The assessment of effects on the environment is in accordance with Section 104 of the RMA and corresponds with the scale and significance of the activity having regard to the existing environment.

6.2 Authority 116518 (Surface Water Take) New Authority 135083

6.3 The existing scheme has consents to take and discharge 6700 l/s of water from and into the Tawarau River. The location of the take and discharge are shown in Figure 5 of Mr Montgomerie's evidence and are approximately 800 metres apart. Existing conditions of consent require 1000 l/s residual flow to be provided and a maximum through screen velocity of 0.32 metres per second. The scheme has been operating since August 2011. The existing activity forms the basis on which the assessment of effects on the environment of the proposed changes are to be assessed, whether assessed as a variation or a new activity. The focus of the assessment is therefore on how the proposed changes of increased water take and discharge, reduced residual flow, and the small increase in through screen velocity affect the existing environment.

6.4 I consider the relevant effects to be assessed under s.104 are:

- a) effects on the river ecology within the affected part of the river arising from the changes in flow regime;
- b) the effect of increased velocity of water flowing through the intake screen;
- c) Mana Whenua cultural matters;

- d) The positive effects resulting from the increased generation that would occur.

6.5 Included in each of these are the potential cumulative effects arising from the proposed changes.

River Hydrology and Fishery Values

6.6 These matters are addressed in detail in the evidence of Mr Montgomerie. Since the application was lodged in February 2015 there has been a significant amount of additional ecological assessment work undertaken to address the concerns raised by the Regional Council scientists. This has led to a revised proposal which amends the proposed residual flow from a minimum of 100 l/s to a minimum of 200 l/s.

6.7 The assessment of effects undertaken for the proposal by Mr Mitchell that was lodged with the application concluded that there would be little potential effect on the waterway between the intake and the power house discharge. This conclusion is supported by the subsequent assessment and evidence presented by Mr Montgomerie.

6.8 The section of river mostly affected by the proposed reduced residual flow would be the reach of river gorge covered in large boulders. The lower reach of river between the gorge and the power house would have no reduction in water level. The low flow trial illustrated that there was no significant adverse effect on the quality and quantity of instream habitat. Nor was it considered to have any adverse effect on fish passage and with the reduced velocity could potentially make it easier for fish to negotiate the gorge.¹³ Nevertheless, the success or otherwise of eels to make it through the gorge can be readily assessed with annual monitoring. Mr Montgomerie in his evidence outlines what type of monitoring should be carried out and recommends a review clause in the event that investigations show that the changes are having a significant adverse effect. Proposed conditions 14 - 16 address this monitoring and review requirement as follows:

14. *The consent holder shall monitor the environmental effects of the operations of the water take and intake structure on the ecology of the river. For that purpose, the consent holder shall prior to reducing the residual flow or increasing the water take from the existing consented scheme, submit to the Waikato Regional Council for approval (in a certifying capacity) a Monitoring Plan for the purpose of defining details of monitoring to be undertaken to identify and document any potential adverse effects of the water take on aquatic fauna (particularly on upstream and downstream migrating fish).*

¹³ Evidence of Richard Montgomerie at paragraph 72.

The consent holder shall provide to the Mirumiru Marae the draft monitoring plan and shall take into consideration any comments made by the Marae prior to submitting the draft monitoring plan to the Waikato Regional Council.

A copy of the approved Monitoring Plan shall be provided to the Mirumiru Marae by the consent holder.

- 15 *The consent holder shall undertake the monitoring in accordance with the Monitoring Plan developed pursuant to Condition 12 and shall provide an opportunity for a representative of the Marae/Hapu to participate in the monitoring undertaken. The outcome of the monitoring shall, as a minimum, be summarised and supplied to the Waikato Regional Council and the Mirumiru Marae within six months of its completion.*
 16. *Within six months of the receipt of the monitoring results referred to in condition 12 the Waikato Regional Council may, following service of notice on the consent holder, commence a review of the conditions of the resource consent under s.128(1) of the Resource Management Act 1991 for the following purpose:*
 - (a) *To review the effectiveness of the conditions of this resource consent in avoiding, remedying or mitigating any adverse effects on aquatic fauna in the Tawarau River from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions.*
- 6.9 It is envisaged that more clarity around the monitoring will be included in the monitoring plan, following discussions with the Marae. Richard Montgomerie has provided some detail regarding monitoring requirements in his evidence.
 - 6.10 In the event that there is a constraint on eel migration upstream arising from the reduction in residual flow such that the changes are no longer appropriate the changes can simply and quickly be reversed or a more adaptive management approach incorporated into the consent.
 - 6.11 The affected stretch of river is only a very small part of the Tawarau River system. The Tawarau River and its tributaries above the intake has a catchment of approximately 120 square kilometres and have an overall length estimated in excess of 55 kilometres. They do not have any connection with the river system that flows through the Waitomo Caves, which was raised as a concern by Ms Wikitoria Tane in her submission.
 - 6.12 The proposed increase in water take up to a maximum of 8500 l/s from 6700 l/s would only occur when there is sufficient water in the river to raise the water level to a point where the through screen velocity would not exceed 0.355 m/s. The anticipated flows at

different water takes were outlined in Table 1, page 5 of the application and are also included in Mr Montgomerie's evidence. The effect of the extended water take on the residual flow is considered to be fully mitigated by the additional residual flow occurring as water take increases.

- 6.13 Concerns were raised by the Marokopa Marae Committee regarding adverse effects during droughts. Dr Brown also refers to the need to restrict water takes during very dry summers when river flows decline below the minimum flow of 1,845 l/s.¹⁴ I note that under the proposed conditions no water will be taken when flows are less than 2,300l/s.
- 6.14 The change to the river's flow regime arising from the increased take is also considered to be acceptable. Mr Montgomerie concludes in his evidence that the additional water take will not affect the life supporting capacity of the residual flow channel.

Increased Velocity of Water passing through the Intake Screens

- 6.15 A reduction in the residual flow will cause the water level at the intake screens to lower which will result in a small increase in the velocity of water flowing through the intake screens. This increase has been calculated by Opus International Consultants to be a change from 0.32 metres per second to 0.355 metres per second (refer Appendix 6 of the Application). Fish and Game asked in its submission that screen velocity be measured as a condition. The small increase in through screen velocity is not expected to cause an entrainment or impingement problem for resident fish. The only resident fish in this part of the water are eel and rainbow trout, both species according to Mr Montgomerie to be strong swimmers and unaffected by the flow of water through the screens. As explained in Mr Montgomerie's evidence there has been no fish recorded in the screen trash litter since the scheme began operating and in his opinion the small increase will have no effect on the potential for fish to be caught against the screens.
- 6.16 The scheme will also be operated to keep the velocity of flow through the screen low as the water take increases. This will be done by increasing the water level at the intake structure resulting in a greater surface area for the water to flow through the screens
- 6.17 I propose a condition of consent similar to existing condition 8a which provides for the screen velocity to be measured at the request of the consent authority.

The consent holder shall ensure that the velocity of the water entering the intake does not exceed 0.355 metres per second. If requested by the Waikato Regional Council to do so, the consent holder shall provide information to the Waikato

¹⁴ Evidence of Dr Brown at paragraph 23.

Regional Council confirming that the intake velocity is 0.355 metres per second or less.

Mana Whenua Cultural Values

- 6.18 The applicant has spent time liaising with members of Mirumiru (Marokopa) Marae and also liaised with Kahu Hohaia the representative of Ngati Toa Tupahau Charitable Trust Board to identify specific concerns with the proposed changes. Kahu Hohaia did not raise any concerns with the proposed changes and no submission has been lodged by the Board.
- 6.19 A site visit was organised to allow Mirumiru Marae members to see the station operating and for them to gain a better understanding of how the river was being affected by the scheme. The company commissioned a Cultural Impact Assessment to assist in determining the nature of potential effects on cultural values arising from the proposed changes (Appendix 1). The cultural impact assessment was prepared by submitters Kylie Willison and Natasha Willison-Reardon, supported by the Marae Committee. The assessment report documents historical concerns arising from the construction of the scheme (in particular the destruction of Rongomai te Kakara, a sacred site) and seeks an improved relationship between the Marae and the company through collaboration. This collaboration is fully supported by the company. Mr Norriss, the Lines Company Chief Executive, will outline his personal involvement in liaising with the Marae to improve the relationship between the Marae and the company. The company has an ongoing commitment to this engagement.
- 6.20 There are no uses or sites of significance identified within the affected reach of river in the Cultural Impact Assessment.
- 6.21 The Cultural Impact Assessment examines the values that are considered to be important to the Marae and offers a range of conditions which are considered necessary to ensure these values are maintained. Most of these conditions (as listed on page 30 of the Cultural Impact Assessment report) are acceptable to the company and largely reflect those already in the existing consent. A marked up set of conditions for the main consent (the take consent) is included in Appendix 7. Some of the conditions not included relate to new physical works and are not directly relevant to the proposed changes. Nevertheless, it is expected that the issues raised in the cultural impact assessment which relate to matters outside the scope of the consent itself will be worked through between the Marae and the company through on-going discussions. It is not clear whether the reference to a Maori values assessment has been addressed via the preparation of a Cultural Impact Assessment and the involvement of and input from tangata whenua in the monitoring.

6.22 I consider the matters that will be relevant to determine for this consent are how the proposed changes could potentially affect mana whenua cultural values over and above those that have been expressed by marae members as arising from the existing operation. While there appears to be only limited adverse effects specifically identified in the submissions or in the Cultural Impact Assessment as relating to the effects of the proposed changes, further evidence on mana whenua cultural values may be given by the submitters at the hearing. The Hearing Commissioners will need to assess the potential effect on the identified cultural values raised through the evidence to be given.

6.23 **Authority 113343 Discharge**

6.24 There are no additional effects arising from the proposed increase in the discharge. The current discharge is river water of the same quality that entered the intake. It is returned to the river through a large tail race. The additional flow is expected to be accommodated within the tail race before it exits over a weir into the river. The existing consent provides for mitigation in the event of possible bank erosion occurring from the discharge.

6.25 **Authority 113342 Diversion**

6.26 There are no new or different effects associated with the change to this consent.

6.27 **Authority 123084 Small Water Take**

6.28 This water take allows 1 litre per second to be taken from a small stream to provide cooling and lubricating water for the turbine bearings. The existing conditions provide that water can be taken when the turbine is operating and no water can be taken when the flow within the Tawarau River is less than 3100 litres per second. This flow restriction coincides with the restriction on the main water take consent. If consent is granted to the changes sought to the main water take consent, then this associated consent would need to be changed to allow water to be taken when flow in the Tawarau River is equal to or greater than 2300 litres per second so as to maintain a supply of water to the turbine while it is running.

6.29 The original consent evaluation report (Regional Council File No. 613353A) for this water take concluded that 95% of the environmental flow for this waterway was 12 litres per second and this flow is required to be maintained as residual flow as a condition of consent. The water take is for up to a maximum of 1 litre per second while the hydro scheme is operating. The proposed change allowing the take to be exercised at the lower flow within the Tawarau River would not have any effect on the unnamed tributary as at low flows the scheme will be turned off and the taking of water will cease.

6.30 Positive Effects

- 6.31 S.104(1) of the RMA requires any actual or potential effect on the environment of allowing the activity. These effects include both positive and adverse effects. The following positive effects of the proposed changes are important to the evaluation of the proposal under s.104(1).
- 6.32 In an average year the proposed reduction in residual flow and increase in water take will allow an additional 2.25 GWh of electricity to be produced. There are a number of benefits arising from this increase. Some of these have been outlined in Mr Norriss's evidence and includes a financial return to the beneficiaries of the Waitomo Energy Services Customer Trust, more efficient use of the existing infrastructure and maintenance of the economics of the scheme. It also assists in meeting New Zealand's strategic target of 90 percent of electricity generated coming from renewable energy sources by 2025 (NZ Energy Strategy 2011-2021), better transmission efficiencies, and a reduction in the amount of greenhouse gas emissions arising from thermal generation.

Conclusion

- 6.33 Based on the evidence I have considered, it is my opinion that the environmental effects of the proposed changes are no more than minor and are acceptable. A monitoring programme to monitor the effect of the reduced residual flow on eel migration and review clauses to allow the consent to be reassessed should any significant adverse effects be detected is proposed and provide sufficient safeguards are in place to protect the environment. Should monitoring show that there is an unacceptable effect on elver migration through the gorge or there is harm to the river as a whole, then the changes can simply be reversed to restore the river to its existing state. There are significant benefits that would arise from the increase in generation arising from the changes.

7.0 Resource Management Act – Part 2

- 7.1 Section 5 of the RMA promotes the sustainable development of natural and physical resources. In defining the term 'natural and physical resources', Section 5 states that resources may be used in a manner that enables people and communities to provide for their social, economic, and cultural well-being, 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.*"

- 7.2 My opinion is that granting consent to allow the proposed changes will enable communities to provide for their social, economic, and cultural well-being without compromising any of the three limbs under Section 5, and promotes the sustainable development of natural and physical resources
- 7.3 Section 6 of the RMA lists the matters deemed to be of national importance. Consent authorities must 'recognise and provide for' the matters listed when exercising their powers under the RMA. Of those matters listed, I consider the most relevant to the proposed changes is section (e), being the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.
- 7.4 Most submissions were from Marae representatives or tangata whenua individuals. None of these submitters identified specific Mana Whenua cultural values that would be affected by the proposed changes, such as effects on waahi tapu or the ability to carry out customary practices. Rather they questioned some of the information in the application and generally expressed concern about the potential for the proposed changes to affect environmental and cultural values. The effect on the environment has been addressed through the evidence of Mr Montgomerie. The consultation undertaken with the Marae gave an insight into matters of concern and the cultural impact assessment built on this consultation and provided a clearer description of the concerns that the Marae members have relating to construction of the hydro scheme.
- 7.5 In my opinion there have been no Section 6(e) matters raised through the consultation process, submissions or cultural impact assessment that do not already form part of the existing environment. I accept, however, that there could be a perception by the Marae members that the effects of the proposed changes will be more adverse than the existing scheme. The evidence presented demonstrates that there are no more than minor adverse effects on the environment. The relationship of Maori with the area will be provided for through their involvement in and input into monitoring and information sharing, which also allows for the exercise of kaitiakitanga.
- 7.6 Section 7 of the RMA lists the 'other matters' which regulatory authorities must have 'particular regard to' when considering the resource consent applications. I consider the 'other matters' of relevance to this application are:

(a) *Kaitiakitanga*

(b) *The efficient use and development of natural and physical resources;*

- (c) *The maintenance and enhancement of amenity values;*
- (d) *Intrinsic values of ecosystems*
- (g) *Any finite characteristics of natural and physical resources;*
- (i) *The effects of climate change*
- (j) *the benefits to be derived from the use and development of renewable energy.*

- 7.7 The Tawarau River has the natural features to allow for greater electricity generation than that which is already consented. The proposed increase in water take can be considered an efficient use of this natural resource as well as the physical infrastructure that already exists. While water in the river at any point in time can be considered a finite resource, the proposed water take ensures that sufficient water remains in the river to maintain an acceptable degree of amenity and quality of the environment.
- 7.8 The benefits to be derived from the additional electricity generation are tangible. An additional 2.25 Gwh of electricity production in an average year helps reduce the country's reliance on imported fuels, reduces the generation of greenhouse gases which is attributed to accelerated climate change, and there are greater efficiencies in transmission resulting in less wastage. I have discussed the role of tangata whenua in the consent to allow for the exercise of kaitiakitanga above.
- 7.9 In my opinion the proposal is consistent with Part 2 matters relevant to the consideration of this application.
- 7.10 Section 8 requires the principles of the Treaty of Waitangi to be taken into account. In relation to the principles of consultation, good faith, and participation, the Applicant engaged the Marae Committee to prepare a Cultural Impact Assessment to identify the values and potential effects on those values and met with members to discuss their concerns (including at the pre-hearing meeting). A number of the concerns raised related to ecological impacts, and further investigations and assessments were undertaken on behalf of the Applicant in relation to the potential ecological impacts of the changes. Other concerns related to the potential for impacts on sites of significance. The proposal involves no physical works. The Applicant has agreed to include the majority of the conditions proposed in the CIA in its proposed set of conditions to ensure that the concerns of tangata whenua are able to be taken into account during operations. This is consistent with the principle of active protection.

8.0 National Policy Statements

- 8.1 There are two National Policy Statements that are relevant to the assessment of the proposed changes. These are the NPS for Renewable Electricity Generation 2011 and the NPS for Freshwater Management 2014. A more detailed analysis of these two National Policy Statements is included in Appendix 8.
- 8.2 The NPS for Renewable Electricity Generation 2011 recognises the national significance of renewable energy generation and that these benefits need to be taken into account when consent authorities assess an application. The NPS for Renewable Electricity Generation 2011 supports the proposed changes.
- 8.3 The NPS for Freshwater Management 2014 identifies a range of important national values of freshwater that need to be provided for in the management of freshwater and includes electricity generation. The Policy Statement requires the consent authority to have regard to the effect of a proposal on the life-supporting capacity of fresh water and of any associated ecosystem. The proposed changes have been assessed as having minor effects on the life-supporting capacity of the water and associated ecosystem and are therefore not inconsistent with this NPS.

9.0 Regional Policy Statement

- 9.1 The Waikato Regional Policy Statement (RPS) became operative on 20 May 2016 and is the relevant policy statement to be had regard to under s.104 of the Act. The Regional Policy Statement sets out the range of issues that are important to the region and includes the objectives, policies and methods to address these issues.
- 9.2 The objectives of the RPS that are considered directly relevant to the proposal are:
- 3.2 Resource Use and Development
 - 3.5 Energy
 - 3.10 Sustainable and Efficient Use of resources
 - 3.12 Built Environment
 - 3.14 Mauri
 - 3.15 Allocation and Use of Freshwater

9.3 3.2 Resource Use and Development

Recognise and provide for the role of sustainable resource use and development and its benefits in enabling people and communities to provide for their economic, social and cultural wellbeing, including by maintaining and where appropriate enhancing:

- a) access to natural and physical resources to provide for regionally significant industry and primary production activities that support such industry;
- b) the life supporting capacity of soils, water and ecosystems to support primary production activities;
- c) the availability of energy resources for electricity generation and for electricity generation activities to locate where the energy resource exists;
- d) access to the significant mineral resources of the region; and
- e) the availability of water for municipal and domestic supply to people and communities.

Comment

Parts a) and c) of this Objective recognise the importance of maintaining and where appropriate enhancing access to energy resources for electricity generation.

9.4 3.5 Energy

Energy use is managed, and electricity generation and transmission is operated, maintained, developed and upgraded, in a way that:

- a) increases efficiency;
- b) recognises any increasing demand for energy;
- c) seeks opportunities to minimise demand for energy;
- d) recognises and provides for the national significance of electricity transmission and renewable electricity generation activities;
- e) recognises and provides for the national, regional and local benefits of electricity transmission and renewable electricity generation;
- f) reduces reliance on fossil fuels over time;
- g) addresses adverse effects on natural and physical resources;

- h) recognises the technical and operational constraints of the electricity transmission network and electricity generation activities; and
- i) recognises the contribution of existing and future electricity transmission and electricity generation activities to regional and national energy needs and security of supply.

Comment

This Objective spells out the importance of energy generation to the Region and recognises the national significance of renewable electricity generation. The existing scheme and the proposed changes are consistent with all the parts of this Objective.

9.5 3.10 Sustainable and efficient use of resources

Use and development of natural and physical resources, excluding minerals, occurs in a way and at a rate that is sustainable, and where the use and development of all natural and physical resources is efficient and minimises the generation of waste.

Comment

The existing scheme and proposed changes use natural and physical resources sustainably and efficiently. There is no loss of the resource arising from its use.

9.6 3.12 Built environment

Development of the built environment (including transport and other infrastructure) and associated land use occurs in an integrated, sustainable and planned manner which enables positive environmental, social, cultural and economic outcomes, including by:

- e) recognising and protecting the value and long-term benefits of regionally significant infrastructure;
- i) providing for the development, operation, maintenance and upgrading of new and existing electricity transmission and renewable electricity generation activities including small and community scale generation;

Comment

The existing scheme falls within the definition of regionally significant infrastructure.¹⁵ The proposed changes to the operation of the scheme will protect the value and long-term benefits of the scheme and is supported by part i) of this objective.

9.7 **3.14 Mauri and values of fresh water bodies**

Maintain or enhance the mauri and identified values of fresh water bodies including by:

- a) maintaining or enhancing the overall quality of freshwater within the region;
- b) safeguarding ecosystem processes and indigenous species habitats;
- c) safeguarding the outstanding values of identified outstanding freshwater bodies and the significant values of wetlands;
- d) safeguarding and improving the life supporting capacity of freshwater bodies where they have been degraded as a result of human activities, with demonstrable progress made by 2030;
- e) establishing objectives, limits and targets, for freshwater bodies that will determine how they will be managed;
- f) enabling people to provide for their social, economic and cultural wellbeing and for their health and safety;
- g) recognising that there will be variable management responses required for different catchments of the region; and recognising the interrelationship between land use, water quality and water quantity.

Comment

This objective reflects the holistic relationship between mauri and other values of freshwater. The existing scheme and proposed changes are consistent with this objective as they maintain the ecosystem processes of the river and species habitats while safeguarding them through appropriate monitoring and adaptive management conditions.

9.8 **3.15 Allocation and use of fresh water**

The allocation and use of fresh water is managed to achieve freshwater objectives (derived from identified values) by:

¹⁵ Regionally significant infrastructure – includes:

f) infrastructure for the generation and/ or conveyance of electricity that is fed into the national grid or a network

- a) avoiding any new over-allocation of ground and surface waters;
- b) seeking to phase out any existing over-allocation of ground and surface water bodies by 31 December 2030;
- c) increasing efficiency in the allocation and use of water; and
- d) recognising the social, economic and cultural benefits of water takes and uses.

Comment

The proposal is consistent with this objective. It does not result in over allocation, increases the efficiency in the use of water, and provides for social and economic benefits.

9.9 Policies

The relevant policies are considered to be:

6.6 Significant infrastructure and energy resources; and

8.1 Approach to identifying fresh water body values and managing fresh water bodies

9.10 Policy 6.6 Significant infrastructure and energy resources

Management of the built environment ensures particular regard is given to:

- a) that the effectiveness and efficiency of existing and planned regionally significant infrastructure is protected;
- b) the benefits that can be gained from the development and use of regionally significant infrastructure and energy resources, recognising and providing for the particular benefits of renewable electricity generation, electricity transmission, and municipal water supply; and
- c) the locational and technical practicalities associated with renewable electricity generation and the technical and operational requirements of the electricity transmission network.

Comment

Speedys Road Hydro Scheme is classed as regionally significant infrastructure. This policy recognises the importance of this infrastructure to the economy of the region and

seeks to ensure that the benefits derived from the infrastructure are recognised and provided for.

9.11 Policy 8.1 Approach to identifying fresh water body values and managing fresh water bodies

Waikato Regional Council will facilitate a process that will involve regional communities to identify values and establish subsequent fresh water objectives, limits and targets for fresh water bodies. The value setting process will:

- a) provide for variability in catchment management response;
- b) assist in ensuring that adverse effects of activities on the identified values of water bodies are managed in an integrated manner;
- c) determine any outstanding fresh water bodies and significant values of wetlands; and
- d) recognise that where a freshwater body is currently used for the purposes of renewable electricity generation or domestic or municipal supply, those uses are recognised as being values associated with that water body.

Comment

The Regional Policy Statement identifies through this policy that renewable electricity generation is an important value of a freshwater body that will be taken into account when establishing limits and targets for freshwater bodies. Implementation of this policy requires regional plans to adopt a catchment based approach to the management of water bodies which is consistent with the rule framework in the existing plan which recognises that zero net take users of water such as Speedys Road Hydro have a different status under the allocable take framework to extractive users.

- 9.12 The Objectives and Policies of the Regional Policy Statement generally support the generation of electricity from renewable resources and specifically recognise these types of industries as regionally significant.

Waikato Regional Plan

- 9.13 The Objectives and Policies of the Regional Plan generally support the proposed changes to the water take and residual flow. The evaluation of the relevant objectives and policies of the Regional Plan contained in Appendix 6 clearly illustrates that there are no objectives and policies that by themselves or collectively oppose the activity, being

changes to an existing consented water take to maximise generation efficiency, and it is considered to be consistent with the provisions of the Waikato Regional Plan.¹⁶

10.0 Other Matters

- 10.1 I have considered the Marokopa Marae Environmental Management Plan, which is raised in the submission of Kylie Willison. The Plan does not include specific detail on the river or particular sites in the vicinity of the river. There are consultation guidelines included. These are focussed on relationships with councils but the Applicant has taken these into consideration and acted consistently with them, including having face to face meetings, early discussions, and time and resourcing to prepare a Cultural Impact Assessment.
- 10.2 I have also considered the Maniapoto Environmental Management Plan, also referred to in the submission of Kylie Willison. There is no specific discussion of the Tawarau River.

11.0 Conditions

- 11.1 The existing scheme is subject to a number of conditions. Should the Hearing Commissioners grant consent to the proposed changes I consider the existing conditions can largely remain except as required to be modified for the changed water take and residual flow regime and to include revised monitoring and review conditions as recommended by Mr Montgomerie. In addition there are some conditions sought in the Cultural Impact Assessment which the company is happy to include. The suggested amendments to existing conditions are included in Appendix 7.
- 11.2 Because the proposed changes to the scheme can occur without any physical works the proposed changes in water take and residual flow can readily be reversed should the monitoring show that there are significant adverse effects occurring to the instream habitat or fishery. This adaptive management approach will reduce the risk to the environment of allowing the proposed changes to the scheme and ensure the on-going protection of the river's values.

12.0 Conclusion

- 12.1 The application is to increase the amount of water to be used in the existing Speedys Road hydroelectric power scheme by reducing the volume of residual flow and increasing the amount of water able to be taken. This will allow about 25% more electricity to be produced from the existing resource.

¹⁶ I note for completeness that proposed Plan Change 1 to the Waikato Regional Plan is not relevant to the application as the scheme is not located in the Waikato or Waipa river catchments.

- 12.2 The environmental effects of the increased water take and discharge and reduction in residual flow are assessed as being positive or acceptable. The proposed conditions of consent require a monitoring programme to be put in place to assess the potential effects of the proposed changes on river instream habitat and fishery values. The proposed review provisions will ensure that should any adverse effects be identified then appropriate mitigation methods are able to be put in place.
- 12.3 The proposal to increase the water take and water discharge associated with the existing hydroelectric power scheme is consistent with Part 2 of the RMA, the objectives and policies of the Regional Plan, gives effect to the higher order documents, and achieves the purpose of the Act.

Grant Bridgwater

8 February 2017



CULTURAL IMPACT ASSESSMENT

SPEEDYS ROAD

HYDRO SCHEME

December 2015

Prepared by Kylie Willison and Natasha Willison-Reardon

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1. EXECUTIVE SUMMARY

Mirumiru (Marokopa) Marae presents this proposal in response to the Speedys road hydro resource consent application.

Speedy Road Hydro Ltd operates a hydro power station located on the Tawarau river. The scheme is run of the river and does not involve the damming of the river, however it requires a number of resource consents that enable the operation of the power station. Resources consents were issued in 2009, and include water take, discharge, and diversion permits.

In 2015 Clearwater Hydro (CWH) made application on behalf of Speedys Road Hydro to the Waikato Regional Council (WRC) to make changes to existing consents, which sought to increase the volume of water taken and to reduce the minimum residual flow.

The proposal was considered by WRC staff who concluded that the changes sought required a new consent and changes to existing consents.

Following public notification of the proposal a number of submissions were received most of which were in opposition to the proposal. As a result of the issues raised a pre-hearing meeting was called for the purpose of clarifying and facilitating resolution of matters or issues raised in submissions.

One such matter that was raised by tangata whenua was the need for a cultural impact assessment (CIA) to document the impact of the scheme on cultural values and interests. Agreement was reached between the applicant and Marokopa Marae resulting in the commissioning of this CIA.

This cultural impact assessment report has been prepared on behalf of and by the whanau of Mirumiru (Marokopa) Marae, Marokopa. The report provides a narrative of who we are and our associations with the area, including our cultural values and history. It provides the opportunity to tell our story, to document the effects of the proposal and current operations on the whānau and Hapū, and to identify ways in which diverse effects can be mitigated.

It is envisaged that this report will better inform decision-making and provide the basis upon which to build a relationship with the applicant moving forward, so that better cultural and environmental outcomes can be achieved.

2. WHO IS MIRUMIRU/MAROKOPA MARAE?

This section provides a brief description of Mirumiru (Marokopa) Marae – who we are, where we are from and what our aspirations are.



Photo: Mirumiru/Marokopa marae

2.1 Mirumiru Marae – Marokopa Marae

Whakapapa are tribal sayings which help to identify where a person comes from. Pepeha usually include the name of maunga (mountains), awa (rivers), iwi (tribe) and can also include Hapū (sub-tribe), waka (canoe), marae and whakapapa (genealogy). This whakapapa identifies the connections with Marokopa marae and Hapū:

Ko Tainui te waka

Ko Ngāti Maniapoto te iwi

Ko Maungaroa te maunga

Ko Marokopa te awa

Ko Ngāti Kinohaku, Ko Ngāti Peehi, Ko Ngāti Te Kanawa ngā Hapū

Ko Mirumiru te marae

Tainui is the waka

Ngāti Maniapoto is the iwi

Maungaroa is the mountain

Marokopa is the river

Ngāti Kinohaku, Ngāti Peehi and Ngāti Te Kanawa are the Hapū

Mirumiru is the marae.

The Hapū affiliated with Mirumiru (Marokopa) marae are identified above along with the iwi. Ngāti Rarua also has historical associations with Marokopa



Photo: Marokopa Falls and Land shot of Marokopa township

Mirumiru (Marokopa) Marae is on the west coast of Aotearoa which lies between Harihari to the North and Awakino to the South. The Marae is one of a number of marae that form the confederation of Tainui waka iwi.

Tangata whenua (People of the land) beliefs and values associated with the natural environment are unique and differ from those held by other New Zealanders. A good example of this is Kaitiakitanga (guardianship), or the obligation tangata whenua inherit from their tūpuna (ancestors) to take care of and protect places, resources and other taonga (treasures). Currently, there is a lack of understanding within territorial authorities and communities they serve about the cultural differences. As a consequence, tangata whenua beliefs and values are often not recognised in the management of natural resources. This plan represents an indigenous view of the world, a Tangata Whenua perspective. It is a statement that has been developed in part to: Create greater awareness and understanding local authorities and the wider community of the holistic way in which tangata whenua of Marokopa view the natural environment and how this view can be applied to the management of natural resources; Identify the environmental issues that are important to tangata whenua of Marokopa; Establish effective relationships that will result in better environmental outcomes for tangata whenua of Marokopa, the wider community and local authorities; Share information and knowledge held by tangata whenua of Marokopa; Provide a foundation for the development of tangata whenua objectives, policies and methods; Guide the development of policies, plans, protocols and agreements which impact on tangata whenua values and interests within their rohe; and Provide guidelines for consultation with tangata whenua of Marokopa.

(Mirumiru, Marokopa Marae Environmental plan)

3. INTRODUCTION



Photo: Tawarau river and the paper road to where Rongomai te Kakara once stood

This document is a Cultural Impact Assessment (CIA) of the Speedys Road Hydro (applications for activities associated with Hydro Power generation). It defines our Hapu aspirations and expectations in relation to our connection to the whenua and wai (land and water).

3.1 Cultural impact assessment (CIA) purpose:

This cultural impact assessment plan is an overview of:

- ◆ What we value as a whānau, marae and hapū
- ◆ What our concerns are
- ◆ What outcomes we would like to see

This plan works in with the Ngā Taonga Tuku Iho Marokopa Marae Environmental Plan and refers to the plan throughout the document.

The CIA has been developed to:

- ◆ Provide iwi/Hapū/marae with information about and improved understanding of the proposed activity,
- ◆ Identify and document the cultural values and associations with the site area (and surrounding environment)

- ◆ Identify the effects of the proposed activity on Mirumiru (Marokopa) Marae, Ngāti Peehi, Ngāti Te Kanawa cultural values and associations with the environment,
 - ◆ Identify or assist identification and formulation of methods to avoid, remedy or mitigate any adverse effects on cultural values and associations,
 - ◆ Identify conditions of consent that could be applied if consent is granted,
 - ◆ Assist both the applicant and the council in decision-making under the Resource Management Act,
 - ◆ Develop an ongoing relationship with the applicant to achieve better cultural and environmental outcomes.
- (CIA proposal)

4. PROVIDE IWI/HAPŪ/MARAE WITH INFORMATION ABOUT AND IMPROVED UNDERSTANDING OF THE PROPOSED ACTIVITY



Photo: The construction of the Hydro on Speedys Road

Speedys road hydro is a run of the river hydro electric generating plant located on the Tawarau River in Te Anga. Clear Water Hydro (a subsidiary of the Lines Company) applied to alter the operating parameters of the scheme. This means that there are changes to 3 existing consents.

This proposal was publicly notified and 7 submissions were received. A section 42A report was conducted by Environment Waikato which stated that a s104D analysis was carried out and it was concluded that the proposal did not pass either of the gateway tests in s104D. The recommendation from Environment Waikato is that the application be **“declined on that basis” and was scheduled to a hearing**. To date the hearing has been put on hold by The Lines Company.

4.1 Background



Photo1: Janyne Willison and Te Ariki Te Uira Photo 2: Aunty Pauline and Aunty Gloria

There have been ongoing conversations between different applicants for different schemes proposed for Speedys Road, since February 1997. When the Waitomo energy services limited submitted an application to build a hydro electric power scheme which included a dam diversion pipeline. When this did not eventuate the marae received a letter in 2006 from Michael Davis Trust about the Hydro Power Project. The marae signed a letter to allow for the development of an application for resource consent. The marae did not hear back from the Michael Davis Trust, until 2009 when a letter from Clear water Hydro requested consent for amendments to an existing consent. This was the only time that Mirumiru (Marokopa) Marae knew that consent had been granted. With the destruction of several sites of significance in the pathway of the dams construction, the marae tried every avenue possible: (wrote to the prime minister, all ministers, MMTB, Department of Conservation, NZ Heritage Trust, Enviro Court, and Environment Waikato) to try and seek an agreement to amend the pathway of the construction and to get a better ruling on the significance of the area. Throughout this time whānau started to rally to the site in a desperate measure to try anything possible to stop the destruction. This was unsuccessful and on the 9th of March 2010 many ahi ka witnessed the destruction of the following taonga:

4.1.1 Rongomai Te Kakara



Photo: Rongomai Te Kakara before and during destruction

4.1.2 Tangiwai



Photo 1: Aunty Tangiwai and Uncle Pat Maikuku Photo 2: Construction

4.1.3 Ruamoko



Photo 1 and 2: Ruamoko before and after

4.1.4 Our history and taonga



Photo: Darren Kawhena, Tommy King and Hohepa Kawhena

This experience rocked a nation and has had everlasting effects on many people's lives. An important lesson that our tūpuna have always taught is that communication and relationships are the most important key to success. The hurt and the humiliation felt and expressed has assisted with a process to ensure that our future generation is never exposed to or made to experience any situation like that of the destructions that happened in 2010. Any foundations and intensions within our rohe will be communicated early so that all parties gain a positive outcome.

We take this time to thank many whanau for their efforts and their commitments to protect what was our scared area and show true courage to protect what is important to us.

It is with sadness that since this event we have lost some of the most influential kaumatua and whanau. It is only right that they be acknowledged for their courage, wisdom and guidance. This space is to recognise and show a special mention to **Tame Hohaia our respected Kaumatua (Koro Buck), Patrick Kawhena, Uncle Sonny Anderson, Aunty Pani Hepi and Paul Ormsby**. Their presence their determination will always be felt. They brought a sense of calmness, and a peaceful form of resistance with encouragement and love for all of the whānau wanting to protect this area.

A special mihi goes out to **Uncle Rore Stafford** – *thank you for believing in us and gracing us with your humility, knowledge and presence, Nanny Heeni Grant for leading us through a time of great sadness and challenge, and coaching us and ensuring tikanga was our framework, Aunty Pauline Pou Haereiti for your leadership, your courage, your commitment and unconditional love for us all and our taonga tuku iho, Uncle Pita Pou Haereiti and your whānau for showing us to stand strong for what we believe in and never doubt the process, be true to ourselves and never be swayed, making yourself available even under harsh conditions, Uncle Patrick Maikuku, Aunty Witchy and Aunty Bev Martin for your daily attention to detail, monitoring of the whenua, your commitment even when you felt alone at times, no one knows exactly how much you endured, Aunty Kahu Hohaia for everything you do for our whenua and whanau, you are a true protector, Uncle Alan Willison for your technical advice that lead us to keep trying under any circumstance, your powerful historical knowledge and love for your Marae and Hapū, Uncle Des Willison for your karakia and keeping us in a state of spiritual mind to continue, Pierre Stockman and Tania Stockman for all of your support at the drop of a hat, you both played a special role in the case study and Pierre you supported Tasha and the team all the way even under extreme pressure ngā mihi aroha ki a koe, Steve Rickard for being present and showing your aroha and tautoko for the whanau and the whenua, Aunty Gloria for all if your support and guidance, Uncle Barney Winikerei for all of your guidance, Tariana Turia for your support, guidance and belief in what we were trying to achieve, Te Ururoa Favell for advice and guidance, Kura Stafford for your unconditional support and knowledge that have assisted the whanau from the beginning, Shannon Te Huia for working with Uncle Pat and Uncle Pita to map out their korero and providing maps, Wikitoria Tane for your support and knowledge around the submissions and openness to share and support, Moana - Aroha Henry for your attention to detail and support for the finalisation of this document, Patrick Willison-Reardon for your filming and driving back and forth for supplies and just being there to support us 25/8, Aunty Betty for your support and tikanga guidance, Aunty Maxine for encouragement and support, Angeline Greensill for all of your technical*

advice and encouragement to continue on our journey, **Uncle Barney Anderson and Nga Hapu o te Uru** for all of the technical advice. **Jason Pou** for all of your support and guidance at no cost, All of our tamariki and mokopuna who came and sang and danced around our taonga, for all of the whanau that gathered to support. It was a day of true sadness and a learning experience for us all, **Janyne Willison, Puitmae Herangi, Megan Willison, Te Ariki Te Uira, Sonny Tahī, Steve Rickard, Aunty Gloria Soundy, Te Kura Kaupapa o Oparure, Nick Poa, Ronnie Takerei, The Maori Council, Te Ururoa Flavell, Tommy King, Darren Kawhena, Eva, Aunty Gloria Maikuku, Sonny-lee, Trazdyn, Aunty Tangiwai, Aunty Maringi, Uncle Clive, Weno Iti, Eva Kawhena, Aunty Rama and the trust, Armand Crown, Mike Taitoko, Rhys Ellison, Steven Fleet, the security guards** and all those that gathered and were apart of this that may not have been mentioned. Ngā mihi aroha ki a koutou katoa whānau.

5. IDENTIFY AND DOCUMENT THE CULTURAL VALUES AND ASSOCIATIONS WITH THE SITE AREA (AND SURROUNDING ENVIRONMENT)

This chapter outlines the cultural values and associations with the area. Which are Wai (water) Tangata Whenua (people of the land), Whenua (land), and Tai Moana (Coast).

5.1 Wai (water)



Photo 1: Rua o te Ata Photo 2: Marokopa township

Water is important to all life force. Within the area we have streams, rivers, oceans, wetlands, lakes and puna. These areas have been a source of food and recreation to nourish the minds, bodies and souls of

our ancestors to our grandchildren now. We must take action now to ensure the wai (water) in our area is protected and the use is sustainable.

5.1.1 Ngā take matua – Priority issues

NGĀ TAKE MATUA – PRIORITY ISSUES	NGĀ WHAINGA - EXPECTED OUTCOMES FOR LAND	NGĀ MAHI WHAKAHAERE PRIORITY ACTIONS
Land use impacts on waterways	All waahi tapu are protected	- Develop system for cultural monitoring – in all streams and rivers affected
Recognition of whānau, Marae and Hapū values and interests in freshwater management	Whānau, Marae and Hapū are actively involved in resource management processes	- Present the monitoring results in a readable report – translated into plain English
		- Work with The Lines company, EW and any other entity where there is a need for research
		- Work out a protocol for any environmental disasters

5.2 Tāngata (people)



Photo 1: Whānau whīkoi up to Tangiwai Photo 2: Janyne and Sonny-lee

Our people hold the key to sustainability of our earth. Tangata whenua are connected to ngā taonga tuku iho through whakapapa (genealogy). Respect for the whakapapa between people and the resources

shapes the way in which tangata whenua views the world. The tangata whenua belief that people are inextricably linked to ngā taonga tuku iho illustrated by the following whakatauki (proverb).

“Toi tū te marae o Tāne, toi tū te marae o Tangaroa, toi tū te lwi. If the domain of Tane survives to give sustenance and the domain of Tangaroa likewise remains so too will the people”.

(Mirumiru marae/Marokopa marae Environmental plan)

Every taonga (sacred treasure), whether an animal, plant or mineral has a physical and a spiritual component – it possesses its own mauri (life force), without which it would cease to exist. Therefore, it is vital that the mauri of ngā taonga tuku iho (the treasured resources) remain intact. As kaitiaki (guardians), Tangata whenua have an obligation to protect, manage and nurture ngā taonga tuku iho for the benefit of present and future generations.



Photo 1: Blessing area Photo 2: Putimae Herangi

5.2.1 Ngā Take Matua – Priority issues

NGĀ TAKE MATUA – PRIORITY ISSUES	NGĀ WHAINGA - EXPECTED OUTCOMES FOR LAND	NGĀ MAHI WHAKAHAERE PRIORITY ACTIONS
Recognition of whānau, marae, Hapū values and interests	Strengthen relationship for better outcomes	Review agreement and The Lines company processes involved in resource consents and any critical changes
Strategic relationships	Marokopa Marae values and interests are reflected in any	Increase capacity by involving Marokopa Marae Kaitiaki in

	decisions	projects to transfer knowledge
Active Participation	Partnership will strengthen	Present annually to Marokopa Marae the years learnings and any critical issues
		Engage in training from Marokopa Marae around the importance of the area and the history.
		Consult directly with Marokopa Marae

5.3 Whenua – (Land)



Photo 1: Raumoko Photo 2: Rueben and Damion

As mana whenua to our lands in our rohe we hold pride and strong connections of belonging. Our rohe is rich in stories and landmarks that are visible and none-visible (no longer in physical form). Each member of the whānau, marae and hapū have a strong line of genealogy that connects them to the grounds that surround us.



Photo 1: Te Ariki, Ash, Janyne, Steve Rickard Photo 2: Jayden, Sonny Tahi, Isaiah and Te Aroa Pou

5.3.1 Ngā Take Matua – Priority issues

NGĀ TAKE MATUA – PRIORITY ISSUES	NGĀ WHAINGA - EXPECTED OUTCOMES FOR LAND	NGĀ MAHI WHAKAHAERE PRIORITY ACTIONS
Land use and Development	All waahi tapu are protected	Acknowledgement of the waahi tapu that were desecrated in 2010 Identify further sites that may not have been identified yet Agree on ways to ensure no further desecration to any of remaining waahi tapu Prepare a public apology to Marae, whānau, Hapū Erect a memorial to acknowledge Rongomai te Kakara, Tangiwai and Ruamoko
Protecting Waahi tapu	Marokopa Marae is actively involved in resource management processes	Work with The Lines Company CEO to foster relationship
	Allowing access to customary resources	Set up quarterly hui to ensure that monitoring is happening and Marae Kaitiaki are involved
		Allow access to the waahi tapu site

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Photo 1: Aunty Bev and Aunty Kahu 2: Uncle Sonny Anderson

5.4 Tai Moana (Coast)



Photo 1: Marokopa township Photo 2: Kiritehere

Our sea and its foreshores are an important part of our rohe. The Tawarau river runs into the Marokopa river that flows out into our beautiful Marokopa Moana. Our Waka Tainui travelled these waters and also crossed over many parts of the north island to its final resting place Kawhia. The sustenance of the people is maintained by the gifts of the sea. We must protect what happens up the streams to ensure that there is no effect downstream.



Photo 1: Brother Paul and Auntie Betty Photo 2: Final Karakia

5.4.1 Ngā Take Matua – Priority issues

NGĀ TAKE MATUA – PRIORITY ISSUES	NGĀ WHAINGA - EXPECTED OUTCOMES FOR LAND	NGĀ MAHI WHAKAHAERE PRIORITY ACTIONS
Land use impacts	All waahi tapu are protected	Identify environmental restoration projects i.e. Habitat restoration if affected from hydro up stream
Protecting Waahi tapu		Carry out whānau, marae, Hapū monitoring if needed

6. IDENTIFY THE EFFECTS OF THE PROPOSED ACTIVITY ON MIRUMIRU (MAROKOPA) MARAE, NGĀTI PEEHI, NGĀTI TE KANAWA CULTURAL VALUES AND ASSOCIATIONS WITH THE ENVIRONMENT.



Photo: Nanny Heeni Grant, Maxine Poa and Uncle Rore Stafford

The proposed effects at Speedys road hydro are summarised in the next section. It is highly likely with the advice from our kaumātua and kuia and scientific evidence that at present the proposal:

“Will impair the natural character of the river and also result in ecological effects that are likely to be substantial and such likely to be beyond that which would be considered acceptable”.

The effects and concerns identified by the whanau, marae, hapu are from a matauranga (maori science) and western science basis. There is no doubt that the evidence submitted to Clearwater Hydro and EW back in 2010 to try and avoid the destruction of our taonga is still felt in the community today. The historical stories of the area and the scientific evidence that we presented as a Marae was not taken seriously at the time. To avoid the duplication of the information we have attached **appendix A** that relays all the stories and the importance of the area to us as tangata whenua. We know that the physical presence of Rongomai te Kakara, Tangiwai and Ruamoko were taken but the mauri of these taonga will remain in the area for eternity. At a high level the below table expresses our cultural values and the impact.



Photo 1: Tomo found Photo 2: Waitomo District Council and EW do assessment before Abatement Notice Issues to stop works

6.1 Table: Impacts

Cultural Value	Impact
Land use and Development	Further sites could be affected
Land use impacts on waterways	Water is degraded further by activities

Waahi tapu	Further Waahi tapu removed
Sustainability of fish and mātaītai (shell fish)	Fish effected by the activities of the hydro



Photo 1: Aunty Bev Photo 2: Uncle Pat Maikuku

7. IDENTIFY OR ASSIST IDENTIFICATION AND FORMULATION OF METHODS TO AVOID, REMEDY OR MITIGATE ANY ADVERSE EFFECTS ON CULTURAL VALUES AND ASSOCIATIONS

The following are list of adverse effects, the consequences and how they may be mitigated. This is not an exhausted list and may be added too.



Photo 1: Diane, Ash and Janyne Photo 2: Uncle Sonny Anderson

7.1 Consideration to avoid, remedy and mitigate – priority issues for Whānau, Marae, hapū

The significant issues for whānau, marae, hapū are categorised in the following way:

Priority issues	Explanation
Land use and Development	There is open lines of communication for any developments
Land use impacts on waterways	Any land use impacts that are considered to have adverse effects on the waterways are identified
Waahi tapu	Waahi tapu are at risk of destruction a list of waahi tapu to be presented to the Lines company
Capacity building and monitoring	Currently the capacity to respond to any changes is stretched, an agreed proposal to be developed by both parties
Sustainability of fish and mātaītai (shell fish)	Ensure they are not being effected by the activities of the hydro
Opportunities for strategic relationships	Develop opportunities for collaboration to achieve positive outcomes for all



Photo 1: Kevin Roberts, Rueben and Damion Photo 2: Koro Buck and the whanau

7.1.1 Table of consideration

Considerations to avoid or remedy	Consequences	Mitigation
Not knowing the unnamed tributary	That the tributary is harmed and the effects remain unknown	Identify the area and ensure that there are no effects
Reducing the minimum residual flow and its affects up stream life and fish stocks	Native fauna, flora and fish are effected	Study the true effects if the reduction of the residual flow, ensure that effects are minimised
Lack of information gathered about the monitoring and Marae not being involved	Relationship continues to be strained and agreement is not achieved	Ensure that a written agreement is in place so that monitors are available
Effects of other native fish not being considered	Lack of migration and decrease in population	Collect information and present in a understandable language
Lack of evidence to show how the downstream creeks and streams supplement the flow	May not be enough water from these streams.	Show the collected evidence that these streams are able to supplement the flow
Lack of evidence that shows that lowering the residual flow has no long term effects	High risk of useable habitat for aquatic macroinvertebrates	Research other ways that may be able to be used that would be more acceptable
Unsure of who is identified as the community in the AEE under section 5.1	Inconsistency in who is being consulted	Ensure that Marokopa Marae is communicated to at least quarterly with a annual report presented.
Lack of information pertaining to the proposed activity being consistent with sustainable management	Environmental effects are greater than expected	Collect information and data from similar hydro schemes to show that there is away that the scheme can run without or little effects to the environment.
Not having an agreed	The relationship is	Drafted a co-ordinated consultation and

approach to consultation	stretched and not productive	relationship agreement
Lack of cultural protocols pertaining to all areas effected, in particular Tangitangi	Work is conducted in a not culturally appropriate manner	Adapt the Marokopa Marae Protocol document on how to engage
Not being apart of the condition drafting	Cultural significance is ignored	The subcommittee sits with The Lines company to draft conditions to ensure all areas are covered
Not following or taking consideration to the Marae environment plan	Work conducted and it is conflicted with the Marokopa Marae environmental plan	Work with the plan in any future changes prior to submitting for consents
No acknowledgement for the taonga that have been taken from the 2010 bombing	Resentment and mistrust	A plaque and a story of the sites that were destroyed placed up where public are able to read and see.
Not taking in to consideration that cultural stories and history of the area	More taonga and other areas destroyed	Assist with the publishing of the stories of the area

8. IDENTIFY CONDITIONS OF CONSENT THAT COULD BE APPLIED IF CONSENT IS GRANTED



Photo 1: Bev Martin (marae, hapū monitor) Photo 2: Project in full force

Mirumiru marae and the associated Hapū acknowledge that consent conditions are apart of the resource consent process and would like place forward the table below suggested conditions that are not limited to but available to be negotiated with the Lines Company as part of the relationship building commitment:



Photo 1: Uncle Barney and Uncle Rob Photo 2: Aunty Gloria, moko and Aunty Pani



Photo 1: The erecting of the Pou for Rongomai Te Kakara memorial

8.1 Suggested Conditions

Suggested conditions
<p>1. The consent holder shall monitor the environmental effects of the operations of the water take and intake structure on ecology and river hydrology on an ongoing basis. For that purpose, the consent holder shall, by agreed dates, submit to the Waikato Regional Council for approval (in a certifying capacity) a Monitoring Plan for the purpose of defining details of monitoring to be undertaken to identify and document any potential adverse effects of the water take and the intake structure, including but not limited to:</p> <ul style="list-style-type: none"> (a) The range of approach velocities resulting from variable water takes for generation; and (b) Any effects on aquatic fauna (particularly on upstream and downstream migrating native fish). <p>The consent holder shall provide to the Mirumiru Marae the draft monitoring plan and shall take into consideration any comments made by the Marokopa Marae prior to submitting the draft monitoring plan to the Waikato Regional Council.</p>
<p>2. The consent holder shall undertake the monitoring in accordance with the Monitoring Plan developed pursuant to condition of the consent (granted) and shall provide an opportunity for a representative of the Marae/hapū to participate in the monitoring undertaken. The outcome of monitoring shall, as a minimum, be summarised and supplied to the Waikato Regional Council within</p>
<p>3. All amendments will be discussed with Marae/hapū early in the process to ensure relationship is maintained.</p>
<p>4. The proposed activity should be designed to avoid all known places and areas of significance to marae/hapū where possible by encouraging consideration of alternative development locations and including the provision of protective buffer areas.</p>
<p>5. The proposed activity should comply with any relevant comment or recommendation provided to the local authority by the Māori Heritage Council under sections 32 and 33A of the Historic Places Act 1993.</p>
<p>6. The proposed activity should not damage an archaeological site or place or area of significance to Maori or their context in a wider historic landscape.</p>
<p>7. The proposed changes will be subject to a Māori values assessment or cultural heritage impact assessment.</p>
<p>8. Within six months of the receipt of the monitoring results referred to in any conditions applicable the Waikato Regional Council may, following service of notice on the consent holder, commence a review of the conditions of this resource consent under section 128(1) of the Resource Management Act 1991 for the following purposes:</p> <ul style="list-style-type: none"> (a) To review the effectiveness of the conditions of this resource consent in avoiding, remedying or

mitigating any adverse effects on aquatic fauna in the Tawarau River from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions.

9. ASSIST BOTH THE APPLICANT AND THE COUNCIL IN DECISION-MAKING UNDER THE RESOURCE MANAGEMENT ACT



Photo: Before the construction started and during

Mirumiru Marae acknowledges the importance of strengthening relationships and ensuring any decision making must be well researched and fair. Mirumiru encourage an opportunity to draft a document in partnership with the LTA and The Lines Company to mark The Resource Management Act 1991 (RMA) Part II of the RMA contains a number of specific provisions relating to tangata whenua that must be considered in RMA processes:

- ◆ Sections 6(e),6(f) and 6(g) require that "the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga", "the protection of historic heritage from inappropriate subdivision, use and development" and "the protection of protected customary rights" is recognised and provided for.
- ◆ Section 7(a) requires that In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to— (a) Kaitiakitanga.
- ◆ Section 8 requires that the principles of the Treaty of Waitangi are taken into account.

Mirumiru marae acknowledges the past and is in a position to set a proactive relationship moving forward. The trustees are committed to ensuring that the relationship is maintained and all parties are working in sync with each other.

10. DEVELOP AN ONGOING RELATIONSHIP WITH THE APPLICANT TO ACHIEVE BETTER CULTURAL AND ENVIRONMENTAL OUTCOMES.



Photo 1: Te Aroa and Gwen Photo 2: Ngā tamariki o te whānau

Mirumiru (Marokopa Marae) and Hapū value all relationships that contribute to the health and wellbeing of the rohe. It is important that any consultation is done early and has importance. The relationship with the Lines Company should be developed and nurtured in the following way:

- ◆ Kanohi ki te kanohi – face to face
- ◆ Relevant and information is provided
- ◆ Sufficient time is allocated to ensure participation
- ◆ At least 1 hui per year to update whānau with any success stories and any times of concern
- ◆ Partnership research and activities

Mirumiru (Marokopa Marae) is the mandated authority in our rohe and must be communicated to directly not through third party. Mirumiru marae will determine who should be involved in any decision making on behalf of Marae, hapū and whānau.

The trustees state that all correspondence should be done by email or post: Details for secretary and names of the environment group are as follows:

Marae secretary

Pani Uerata –| Marae Secretary/Trustee: HOME: 07 843 4767 | WORK: 07 858 7168

6 Lancewood Avenue | Hamilton 3240
 Email: pani.uerata@education.govt.nz

Environment committee

Marokopa.marae@gmail.com

- ◆ Tasha Willison-Reardon – akoeducation@gmail.com
- ◆ Bev Martin - gizzymartin@farmside.co.nz
- ◆ Ronnie Takerei - takerei@xtra.co.nz
- ◆ Pita Pou-Haareiti- petertepou@gmail.com
- ◆ Alan Willison - alan.willison@yahoo.com.au

10.1 Consultation Protocol

It is proposed that the Lines Company meet either quarterly or two times per year to update the committee on the monitoring and if there are any issues and good stories to share. It is important for The Lines Company to know and understand the area. It is suggested that the history of the area be presented to the Board of the Lines Company to develop a stronger appreciation to the area. The whānau, Marae, Hapū request that the Marokopa Marae environmental plan is used to guide any changes to the Hydro and consultation is followed and honoured so that the relationship moves into a trusting and truthful relationship.

10.1.1 When is consultation needed?

Consultation is needed when there are any changes to the environment that could cause potential affects ancestral lands, water, waahi tapu and coastal areas.

Mirumiru, whānau, marae Hapū consider themselves to be affected parties to any activities within our rohe. It is important to note that if an area has not had an archaeologist report that there is not an assumption that there is no importance to the area. Marokopa whānau, marae, Hapū will be the determiner of this decision.

Mirumiru Marae has a draft discovery protocol that is useful for applicants to view and use to guide any discoveries. From time to time there will be a request for site visits to ensure that any sites of significance are avoided and not disturbed.

10.1.2 Relationships agreements

This agreement is aimed at establishing a relationship with the Lines Company to ensure that moving forward there is a relationship that is honest and trusting. It is there for proposed that a memorandum of understanding is drafted and agreed by both parties.

11. SCHEDULED SITES OF SIGNIFICANCE

Taonga – waahi tapu	Taonga – site type
Ruamoko	kōhatu – no longer physically visible
Rongomai te kakara	kōhatu – no longer physically visible
Tangiwai	waterfall -diverted
Kimiora	underground karse - removed
Tangitangi	rapids – will be affected and needs further discussion
Rua o te ata	waahi tapu
Pa tuna	area of gathering only for poukai
Waaka route	river and streams
Puketutu or te koipo pa	pā site
Waimeka	pā site
Tomo	underground water karse
Roto	eel gathering site

Source: Marokopa Marae area of significance document



Photo 1: Rongomai te Kakara Photo 2: Confederated flag on Rongomai Te Kakara



Photo 1: Some of the tamariki from Te Kura Kaupapa o Oparure Photo 2: Destruction of Rongomai Te Kakara

12. CLOSING

In closing Mirumiru Marae/Hapū and whānau would like to specifically acknowledge the commitment and openness of Brent Norris (CEO of The Lines Company). His willingness to nurture a relationship that can take both parties into a better future is appreciated and the whānau, hapū, marae members welcome the future potential. This CIA would not have been possible if Brent had not shown a commitment to build the relationship with the marae/hapū. This information is intended to clarify the highlighted issues pertaining to the cultural aspects of the consent application submitted to EW in 2015. The marae welcome a robust discussion with The Lines Company CEO to discuss the culture impact outlined in this paper.

13. APPENDIX LIST

Appendix one – Marokopa Marae document

Appendix two – Map

14. GLOSSARY

Maunga – mountain	Tikanga – customary practices
Awa – river	Karakia – recite ritual chants/prayers
Iwi – tribe	Tautoko – support
Hapū – sub tribe	Tamariki – children
Waka – canoe	Mokopuna – grandchildren
Whakapapa – genealogy	Waahi tapu – sacred grounds
Tangata whenua – people of the land	Whīkoi – walk
Kaitiakitanga – guardianship	Whakatauki – proverb
Tūpuna – ancestors	Mauri – life force
Taonga – treasures	Rohe – tribal boundary
Whenua – land	Kaumātua – elderly
Wai – water	Kuia – elderly woman
Mihi – acknowledgement	

Grant Bridgwater

From: Diane Palmer <Diane.Palmer@waikatoregion.govt.nz>
Sent: Thursday, 12 March 2015 3:29 p.m.
To: Grant Bridgwater
Subject: Speedys Road Hydro - Application

Hi Grant,

We have received the application for a number of s127 changes to the consents held for the Speedys Road Hydro. Specifically the consents proposed to be changed are as follows:

Reference Id	Activity Description
AUTH113342.01.03	Divert water from the Tawarau River in association with a hydro electricity generation scheme
AUTH113343.01.03	Discharge water taken and passed through the turbine(s), to the Tawarau River all in association with a proposed hydro electricity generation proposal
AUTH116518.01.04	Take and use up to 578000 cubic metres per day of water (at a rate of 6,700 l/s) from the Tawarau River for hydro electrical generation by way of a water turbine
AUTH123084.01.03	To take and use up to 86.4 cubic metres per day of water from an unnamed tributary of the Tawarau River for use in a hydro power generation scheme

We have considered your proposal and concluded that it is not legally appropriate to process all of these as s127 changes and instead they will be treated as applications for new consents. This is because case law has established that a change is not appropriate if it would expand or extend the activity such that there is an increase in adverse effects over that currently authorised.

The particular aspects that we consider expand or extend the activity such that there is an increase in adverse effects are:

- The increase in daily volume of water abstracted from 578,00 m³/day 734,400 m³/day;
- The increase to the maximum rate of abstraction from 6,700 l/s to 8,500 l/s;
- The reduction to the residual flow from 1000 l/s to 100 l/s;
- The reduction to the minimum upstream flow at which operation is to cease from 3,100 l/s to 2,325 l/s;
- The increase to the maximum intake velocity from 0.32 m/s to 0.355 m/s.

We will therefore process the proposed changes to resource consents 113342 and 116518 as new consents, as these are the consents which would be expanded or extended to the extent that there is an increase in adverse effects over that currently authorised. We consider the proposed changes to 113343 and 123084 are consequential to the outcome of the changes to 113342 and 116518 and can process these as a s127 change rather than new consents. However if you wish we could process these as new consents. Before proceeding we will wait your feedback on this last point.

Processing some or all of the changes as new consents is a legal matter and is required due to the limitation of what can be changed under s127. You will not be required to submit new application documentation and the considerations we make in relation to information requirements and notification will remain unaltered. The way we assess the proposal will remain the same except the activity status will be non complying.

We are intending to publicly notify the proposal, but will wait for confirmation from you as to whether or not you would prefer new consents for 113343 and 123084. We will also forward you the press add prior to publication. Under the RMA notification is to occur within 10 working days from when an application is

received. Given the procedural matters outlined above, we are invoking special circumstances under section 37A(4) to double the timeframe to 20 working days.

We are also preparing a s92 request for further information which will be forwarded to you shortly.

Kind regards

Diane Palmer | Senior Resource Officer | Resource Use Directorate
Waikato Regional Council

P: +64 7 859 0703

F: +64 7 859 0998

Private Bag 3038, Waikato Mail Centre, Hamilton 3240

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Visit our website at <http://www.waikatoregion.govt.nz>



PO Box 9229
Greerton
Tauranga 3142

17 March 2015

Diane Palmer
Waikato regional Council
Private Bag 3038
Waikato Mail Centre
Hamilton 3240

Dear Diane

Speedys Road Hydro

Thanks you for your email dated 12 March 2015 advising of Councils opinion that it is not legally appropriate to process all of the proposed changes to conditions of consent for Speedys Road Hydro as variations. My understanding of case law relating to this matter is that a variation may not be appropriate where the proposed changes would result in materially different effects. In this case the application does not result in any different effects than what the existing consents allow. The effects may be slightly greater, but this is no reason for the applications to be dealt with as new consents.

We would appreciate reference to the particular higher court decision that you consider determines the Councils position, to assist us in understanding this position. Alternatively we would appreciate you reconsidering the conclusion made that the proposed changes to resource consents 113342 and 116518 will be processed as new consents.

I also am in receipt of a further information request dated 13 March 2015 which request information that I understand will assist you in determining the nature of the effects that could potentially arise or be mitigated from the proposed changes. You also advise in your 12 March 2015 email, that because of the adverse effects of the proposed changes, that you intend to publicly notify the proposed applications. It would appear that the Council has already made its decision on adverse effects without being informed by the further information that has yet to be provided, which is as stated in the further information request letter is for the purpose of better understanding the effects the changes will have on the environment. In order for us to better understand how the regional council has determined the nature of the adverse effects we would like to be sent a copy of the notification assessment that was prepared for this application.

I advise that the further information requested will be provided by the due date.

Yours faithfully

A handwritten signature in dark ink, appearing to read "Grant Bridgwater".

Grant Bridgwater
Planning Manager
Clearwater Hydro Limited



PO Box 9229
Greerton
Tauranga 3142

21 April 2015

Diane Palmer
Waikato regional Council
Private Bag 3038
Waikato Mail Centre
Hamilton 3240

Dear Diane

Speedys Road Hydro Further Information Request

Thank you for the requests for further information by letter dated 13 March 2015 and by email dated 24 March 2015.

Please find attached a response from our fisheries consultant Charles Mitchell and Associates which responds to the matters raised in your requests.

One of the key concerns that is raised is the apparent perception by the regional council biologist that the number of fish in the Tawarau River can and need to be quantified through the implementation of a comprehensive scientific monitoring programme, and that any changes from year to year between and within sites could subsequently be used to determine the potential effects of the hydro scheme. As explained in the response the only meaningful and realistic data that can be obtained to monitor the potential effects of the change to residual flow and water take is the presence and absence of fish due to the wide range of natural variability both over time and location.

Additional tables have been included in the response documenting the method and fish species found at various sites shown on the maps that were included in the assessment of effects. The maps have subsequently been amended to include the corresponding site number listed in the tables. From the tables it is clear that fish species other than long-finned eels have only been found below the rivers steep rapids section despite extensive surveys over many years.

With respect to what level of effect would the consent holder accept that the residual flow would need to be increased, it is accepted that if no elver were found for two consecutive years at the proposed monitoring site then an increase in residual flow should be considered. This requirement could be included as a review condition. Two years is considered a minimum to eliminate the possibility that the first year had poor or no recruitment due to natural circumstances.

On the matter of new consents versus variations to consents we remain of the view that all consents should be processed as variations rather than new consents. While Council staff considers the proposed changes to residual flow and water take are relatively significant, the nature of the effects on the environment are similar to the existing consents. We have reviewed the case law referred to in your response to our enquiry and consider the Council interpretation is not correct. We note that the judgement does not simply include any variation that seeks to expand or extend an activity, but those that have a consequential increase in adverse effects

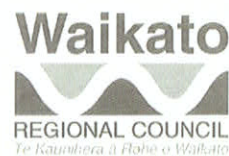
The applications do not propose a fundamental change to the activity and they are considered to have inconsequential adverse effects from that originally applied for. The studies undertaken in support of the application indicate that the potential effects on the ecology and fishery values of the river will be minor. In deciding whether an application for variation is in substance a new application, the consent authority is required to compare any differences in adverse effects likely to follow from the varied proposal with those associated with the activity in its original form. Only where the variation would result in a fundamentally different activity or one having materially different adverse effects, a consent authority may decide the better course is to treat the application as a new application. Neither of these situations exists for the applications. We therefore ask that Council review its decision to treat the proposed change to consent 116518 as a new application and process it as a variation.

Yours faithfully

A handwritten signature in black ink, reading "Grant Bridgwater". The signature is written in a cursive style with a large, stylized 'G' and 'B'.

Grant Bridgwater
Planning Manager
Clearwater Hydro Limited

File No: 61 33 53A
 Document No: 3320308
 Enquiries to: Diane Palmer



24 March 2015

401 Grey Street
 Hamilton East
 Hamilton 3216

Grant Bridgwater
 Clearwater Hydro
 PO Box 9229
 Greerton
 TAURANGA 3142

Private Bag 3038
 Waikato Mail Centre
 Hamilton 3240

ph +64 7 859 0999
 fax +64 7 859 0998
www.waikatoregion.govt.nz

Dear Grant,

Speedys Road Hydro

We are in receipt of your letter dated 17 March 2015 regarding matters associated with the proposed amendments to resource consents held for the operation of the Speedys Road Hydro. We have considered the matters raised in your letter and trust the following helps to clarify our position.

New Consent or s127 Change?

Your first point queried the basis on which we advised that it was not legally appropriate to process all the proposed changes as amendments and new consents were required. Brookers Resource Management addresses this issue and advises:

"Section 127 must be read subject to s 104(5). The local authority is entitled to determine which section is applicable in the circumstances of the case.... It is not how the application is styled that influences whether s 127 is appropriate instead of ss 104-105, but rather the effect of granting the proposed amendment: *Warbrick v Whakatane DC [1995]*... In *Warbrick*, the alteration to the activity would have a materially different character, as measured by its potential effects on the amenity values of the environment, so s 127 did not apply...."

"Where the variation would result in a fundamentally different activity, or one having materially different adverse effects, or one that seeks to expand or extend the original activity, it should be treated as a new application. See *Body Corporate 97010 v Auckland CC* ... That approach was upheld by the Court of Appeal in *Body Corporate 97010 v Auckland CC*...."

It is our opinion that the proposal to increase the volume of water abstracted and the rate of abstraction by 27% and around 26% respectively and to reduce the residual flow by 90% (and to less than 5% of the Q5) both expands or extends the original activity and are likely to materially increase the adverse effects over those currently granted.

We note your request to reconsider whether or not the proposed changes to consents 113342 and 116518 can be processed as changes and not as new consents. We have considered this and conclude that given the matters outlined above, the amendments to 116518 (which authorises the abstraction of water) fall outside of s127 and a new consent is required. However as we concluded for consents 113343 and 123084, we consider that the proposed change to 113342 (which authorises the diversion of water) could be viewed as being consequential to the amendment to 116518 and can be treated as a s127 change.

Waikato Regional Council's Freephone 0800 800 401

Paeroa phone +64-7-862 8376
 Taupo phone +64-7-378 6539
 Whitianga phone +64-7-866 0172

Notification Assessment

The comments sent to you regarding notification require clarification and my apologies if these have caused confusion. The notification decision has yet to be formally made. My role is to provide a recommendation on notification and based on my present understanding of the proposal and its effects it is likely that a recommendation for public notification will be made. The comment in the email was meant simply as a heads up for you that this was my current thinking.

Yours faithfully

A handwritten signature in cursive script, appearing to read "D. Palmer".

Diane Palmer
Senior Resource Officer, Energy

Change to Consent Evaluation Report

Applicant :	Speedys Road Hydro Ltd (C/-	File Number:	61 33 53A
Clearwater Hydro Ltd)			
Address of Site:	Speedies Road Hydro Power Station - Te Anga	Project Code:	RC8498
Consent Type(s):		Consent Number(s):	
Water permit	Diversion		113342
Discharge permit	Discharge to water		113343
Land use consent	Land - vegetation		113344
Water permit	Surface water take		116518

1 Introduction and Background

An application has been received to change conditions within current consents associated with a new hydro electricity scheme on the Tawarau River, near Speedies Road, Te Anga. In November 2007 the Michael Davis Family Trust were granted a suite of resource consents to construct and operate a hydro electricity power station adjacent to the Tawarau River. The consents granted were for earthworks associated with the construction of a penstock, intake and discharge structures and canal; and a water take; a diversion; and a discharge. A run of river take, of up to 1,000 cubic metres per day, was granted, subject to conditions, with the same volume discharged back into the river some 800 metres downstream. In 2009 these consents were transferred to Clearwater Hydro Ltd. The Speedies Road Hydro Scheme has not yet been constructed.

The Tawarau River is a tributary of the Marokopa River which has a catchment area of approximately 146 square kilometres with most of the upper catchment in native forest and scrubland and the lower catchment predominantly in scrubland. The length of river that this hydro electricity scheme is within is predominantly in pasture however, the riverbanks along this stretch of river do have riparian planting along each side. Along this reach of river is a cascading waterfall with a head of between 45 and 60 metres between the intake and power-house.

2 Description of Proposal

The Speedies Road Hydro Scheme has four consents associated with it as follows:

113342	Divert water from the Tawarau River;
113343	Discharge water taken and passed through turbine(s), to the Tawarau River;
113344	Clear vegetation, undertake earthworks, disturb the river bed, erect an intake structure and canal, construct access roads;
116518	Take and use up to 86,400 cubic metres per day of water (at a rate of 1,000 l/s) from the Tawarau River for hydro electrical generation by way of a water turbine.

Clearwater Hydro Ltd has applied to increase the volume taken from the river from 1,000 litres per second to 6,700 litres per second; increase the screen size from 3x3 millimetres to 22 millimetres in size between vertical bars, increase the canal to a 2.0 diameter culvert and increase the penstock from 1.2 metres to 1.8 metres in diameter. The applicant is also proposing a minor change to the alignment of the canal. A minor change in the location of the power station and discharge is also proposed. The change will result in a reduced area of river to be impacted on.

Water Take

The applicant proposes to now take up to 6,700 litres per second from the Tawarau River. However, the applicant has stated that the scheme will not operate when the flow in the river is below 3,100 cubic metres per second.

The power station is to operate on a "run of river" basis. Water levels within the canal and subsequently through the turbines are to be governed by the level within the river at any given time with a maximum of up to 6,700 litres per second. Operationally the scheme will commence and cease when there is at least 3,100 litres per second in the river and run when the river is at up to 7,700 litres per second taking up to 6,700 litres per second and leaving a minimum residual flow within the river of 1,000 litres per second.

The applicant has advised that a residual flow of 1,000 litres per second will be maintained within the river. The length of river potentially affected by this water take is approximately 800 metres.

Intake Structure

The powerhouse and intake are still to be located on the left bank of the Tawarau River.

The intake structure (penstock) is now to be made up of a stilling basin 8 metres long by 5 metres wide connecting to a 2.0 metre diameter steel pipe culvert. A screen and screen cleaner will be located between the stilling basin and the culvert to prevent fish and debris from entering the intake.

The intake is to be screened with an aperture size of 22 millimetres between vertical bars as opposed to the current requirement of 3x3 millimetres in diameter.

Canal

The steel culvert is to run for 300 metres to a transient chamber from which a 1.8 diameter steel culvert will carry water some further 700 metres to the powerhouse. The canal is still proposed to be buried except where it crosses small gullies and farm drains.

Discharge Structure

Given the maximum volume of water proposed to be taken is 6,700 litres per second and the hydro scheme will not have any storage for the water the discharge will be up to 6,700 litres per second.

The discharge structure is to be located on the left bank of the Tawarau River just below the power station at the bottom of a cascading waterfall that extends over an 800 metre reach of river. The nature of the riverbank and bed at the discharge location is rocky and considered high energy.

The tailrace of the scheme will exit from the underneath the powerhouse into a 20 metre wide stilling basin constructed of 230 millimetre thick rock filled reno mattresses. A low broad crested weir is to separate the stilling basin from the river. The weir is to be lined with 230 millimetre thick rock filled reno mattresses. The purpose of the tailrace and weir is to reduce the energy of the water being discharged into the river.

Earthworks

Works similar in scale and intensity are proposed at the inlet, the outlet and power station. The majority of earthworks (volume wise) are associated with the construction of the canal. Changes associated with the earthworks include the size of the stilling basin, alignment of the canal and location of the discharge structure.

Summary of Changes Proposed by the Applicant

Consent	Currently Consented	Proposed Changes
113342 – Divert Water	<ul style="list-style-type: none"> ▪ Divert up to 1,000 litres of water per second 	<p>Proposed changes to refer to new application documents</p> <ul style="list-style-type: none"> ▪ Divert up to 6,700 litres per second
113343 – Discharge water	<ul style="list-style-type: none"> ▪ Discharge up to 1,000 litres of water per second 	<p>Proposed changes to refer to new application documents</p> <ul style="list-style-type: none"> ▪ Discharge up to 6,700 litres per second
113344 – Earthworks		Proposed changes to refer to new application documents only
116518 – Take water	<ul style="list-style-type: none"> ▪ Activity authorises a daily take and use volume of up to 86,400 cubic metres per day at a rate of 1,000 litres per second ▪ Take up to 1,000 litres per second ▪ Screening requirement is currently for 3x3 millimetres ▪ No velocity requirement ▪ Requirement for a reduced take at 2,000 litres per second to ensure a residual flow of 1,000 litres per second is achieved at all times 	<p>Proposed changes to refer to new application documents</p> <ul style="list-style-type: none"> ▪ Activity to authorise a daily take and use volume of up to 578,880 cubic metres at a rate of 6,700 litres per second. ▪ Take up to 6,700 litres per second ▪ Request is for a screening requirement of 22 millimetres slots ▪ New velocity requirement of 0.32m/s ▪ Removal of the requirement for a reduced take at 2,000 litres per second to ensure a residual flow of 1,000 litres per second is achieved at all times

3 Status of Activities under the Plans

The application to change conditions of consent is a discretionary activity under section 127 of the RMA.

4 Consultation/Affected Party Approvals

4.1 Iwi

The Marokopa Marae provided affected party sign off for the original proposal. As a result the applicant has undertaken consultation with the Marokopa Marae. The consultation has consisted of the following actions:

7 July 2009	Clearwater Hydro Limited (CHL) wrote to Iwi advising of proposal and seeking advice on any matters they wished to discuss about the proposal.
10 July 2009	Marakopa Marae Committee Secretary (MMCS) emailed requesting electronic copy of information previously sent and advised would respond after the weekend.
13 July 2009	CHL provides MMCS the information requested.
18 July 2009	MMCS requests additional information and suitable dates for meeting.
20 July 2009	CHL advises MMCS of dates and agrees to Sunday 9 August for meeting and site visit.
31 July 2009	CHL seeks confirmation of 9 August meeting. Advises MMCS that CHL will be lodging consents.
5 August 2009	CHL receives request from MMCS to do presentation on 9 August in Hamilton. Copy of application to Environment Waikato also requested.
5 August 2009	CHL confirms meeting time and provides copy of application.
9 August 2009	Meeting held. CHL presents proposal to Marakopa Marae Trustees. A range of matters of interest to Trustees discussed.
10 August 2009	CHL provides MMCS flow data for Tawarau River requested at Sundays meeting.
13 August 2009	MMCS provides CHL with a list of 34 questions and asks for electronic copy of Sundays presentation.
14 August 2009	CHL provides copy of presentation.
15 August 2009	CHL provides response to questions.
24 August 2009	CHL seeks advice on whether Committee has considered the response to the questions.
24 August 2009	MMCS responds saying information just sent to whanau.
31 August 2009	CHL seeks advice on any outstanding matters and if anything needed to be done by CHL to progress the matter.
31 August 2009	MMCS advises Committee has been busy on another matter and will follow up with the committee as soon as possible.
7 September 2009	CHL follows up the MMCS on progress.

Environment Waikato staff have also undertaken consultation with the Marokopa Marae with respect to this proposal as follows:

2 November 2009	Draft consent conditions sent to Marokopa Marae representative to address fisheries issues still held by the Marae.
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12 November 2009	Changes to draft consent conditions sent to Marokopa Marae representative and clarification of remaining issues held by Marae.
16/17 November 2009	Phone messages left on Marae representative's phone following up on draft consent conditions and remaining issues.
17 November 2009	Email received from Marae representatives stating a response was still being gathered.
19 November 2009	Emails received from Marae representatives about works commencing on site and asking about the status of the application.
19 November 2009	Phone message left on Marae representative's phone regarding works that have commenced and their status under our plan.
19 November 2009	Email response sent stating application not yet signed off.
23 November 2009	Email received from Marae Representative stating that a meeting of the Marae is to be held on 29 November 2009 where this issue is to be discussed.
27 November 2009	Email received from Marae Representative detailing the following further issues: <ul style="list-style-type: none"> ▪ Consent duration; ▪ Proposed stream diversion; and ▪ Fishery issues.
30 November 2009	Email received from Marae Representative stating that the Marae is not willing to support the proposal until unanswered questions have been responded to.
30 November 2009	Applicant responds to unanswered questions.
3 December 2009	Meeting between EW staff, Marokopa Marae Chair, Marokopa Marae Consents Manager and one other representative.

Following all of this consultation I understand that the Marae has the following remaining concerns:

1. Consent duration;
2. Consultation with the Marae;
3. Fisheries – particularly potential for adverse effects on lampreys;
4. Site of significance associated with the earthworks.

The issue of duration was discussed on at a meeting between Environment Waikato staff and Marae representatives on 3 December 2009. At this meeting it was explained that this was a change to consent application and that section 127 of the RMA did not allow for a change to the consent duration to occur.

Based on the information provided by the applicant I consider that the consultation undertaken with the Marokopa Marae is adequate and I note that it covers a two month period.

The applicant has not undertaken a cultural assessment as part of this application documentation. However, following my discussions with Marae representatives I understand that the remaining issues revolve around the potential effects on in-stream fauna particularly fisheries from the hydro scheme with the increase in water to be taken as proposed. As a result I have suggested the following consent conditions be included in the water take consent to address any potential effects on fisheries from the proposal and for the Marokopa Marae to be provided with a draft monitoring plan to provide comment on, if they wish, prior to it being lodged with Environment Waikato for approval. Further, the consent holder is to take into consideration any comments made by the Marae prior to the draft plan being supplied to the Waikato Regional Council for approval. The recommended conditions are as follows:

14. The consent holder shall monitor the environmental effects of the operations of the water take and intake structure on ecology and river hydrology on an ongoing basis. For that purpose, the consent holder shall, by 1 May 2010, submit to the Waikato Regional Council for approval (in a certifying capacity) a Monitoring Plan for the purpose of defining details of monitoring to be undertaken to identify and document any potential adverse effects of the water take and the intake structure, including but not limited to:

- (a) The range of approach velocities resulting from variable water takes for generation; and
- (b) Any effects on aquatic fauna (particularly on upstream and downstream migrating native fish).

The consent holder shall provide to the Marokopa Marae the draft monitoring plan and shall take into consideration any comments made by the Marokopa Marae prior to the supply to the Waikato Regional Council.

A copy of the approved Monitoring Plan shall be provided to the Marokopa Marae by the consent holder.

15. The consent holder shall undertake the monitoring in accordance with the Monitoring Plan developed pursuant to condition 14 of this consent and shall provide an opportunity for a representative of the Marokopa Marae to participate in the monitoring undertaken. The outcome of monitoring shall, as a minimum, be summarised and supplied to the Waikato Regional Council and the Marokopa Marae within six months of its completion.

16. Within six months of the receipt of the monitoring results referred to in condition 15 the Waikato Regional Council may, following service of notice on the consent holder, commence a review of the conditions of this resource consent under section 128(1) of the Resource Management Act 1991 for the following purposes:

- (a) To review the effectiveness of the conditions of this resource consent in avoiding, remedying or mitigating any adverse effects on aquatic fauna in the Tawarau River from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions.

The applicant has advised that they are prepared to cover reasonable costs associated with monitoring earthworks to ensure no artefacts are disturbed, and accept a condition of consent providing for a representative of the Marae to monitor the earthworks activities. I understand that this was communicated to the Committee. As a result I have recommended the following condition of consent be included within the earthworks consent:

- 8a. "The consent holder shall provide opportunities for a representative of the Marokopa Marae to monitor the earthworks activities undertaken to ensure no artefacts are disturbed."

I understand that the Marae's concerns remain with respect to the potential for the activity to impact on sites of significance within the area but that the proposed condition addresses this issue.

I understand that the Marae remains opposed to the proposed increase in volume of water applied to be taken but that all of the issues the Marae has associated with the effects from this proposed increase have been addressed via proposed consent conditions.

Given the above information I consider that the applicant has consulted sufficiently with Iwi and note that s127 of the RMA requires a consent authority to only consider the effects of the changes. I consider that the above proposed consent conditions addresses any potential effects sufficiently such that any adverse effects will be avoided, remedied and/or mitigated.

4.2 Other Parties

The waterway is classified as a Fishery Class – Trout Fishery. The Fish and Game Council have provided affected party approval for this proposal.

There are no other parties considered to be potentially affected by this proposal.

4.3 Reasons for Non-notification

The decision to process these changes on a non-notified basis was undertaken prior to this report and is recorded on the file. In brief I consider that the potential adverse effects from this proposal are likely to be no more than minor and that there are no parties potentially affected by this proposal.

5 Process Matters

The application was extended pursuant to s37(1) of the RMA with the approval of the applicant.

6 Statutory Considerations

This application was deemed complete on 5 August 2009 and therefore the 2003 and 2005 RMA Amendments apply.

The changes to the consents are considered discretionary under s127 of the RMA. Therefore, section 104B (Determination of applications for discretionary or non-complying activities) of the Resource Management Act 1991 must be considered in determining the proposed changes. Consideration of section 104 is subject to Part 2 matters of the Resource Management Act 1991.

These considerations are set out in the following sections of this report:

Section and Sub-Section	Consideration Required	Section covered in this report
Part 2 (5, 6, 7 & 8)	Purpose and Principles of the Resource Management Act 1991	Section 6.4
104 (1) (a)	any actual and potential effects on the environment of allowing the activity	Section 6.1
104 (1) (b) (iii)	any relevant provision of a regional policy statement or proposed regional policy statement	Section 6.2
104 (1) (b) (iv)	any relevant provision of a plan or proposed plan	Section 6.2
104 (1) (c)	any other matter the consent authority considers relevant and reasonably necessary to determine the application	Section 6.3
104(2)	When forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect.	Section 6.1
104(3)	A consent authority must not- (b) when considering an application, have regard to any effect on a person who has given written approval to the application	Section 4.2
104B	After considering an application for a discretionary or non-complying activity a consent authority: (a) May grant or refuse the application; and (b) If it grants the application, may impose conditions under section 108	Section 8 Sections 4.1, and 6.1

6.1 Assessment of Environmental Effects

Permitted Baseline

No adverse effects have been discounted on the basis that those effects are allowed by permitted activities in the plan.

Section 104(1)(a) of the Resource Management Act, 1991 states that when determining a resource consent application, regard shall be had to the actual and potential effects on the environment of allowing the activity. I consider that the main actual and potential effects, from the applications as a whole, that should be considered are as follows;

- Effects on flow regimes;
- Effects on flora and fauna; and
- Effects on water quality.

Effects on Flow Regimes

The five year low flow of the Tawarau River was estimated at 1,875 litres per second as part of the original consent application process. I understand that this estimate has not changed.

The applicant advises that the scheme can not commence until there is a minimum flow of 3,100 litres per second within the river. Therefore, the scheme will not commence until 3,100 litres per second is flowing within the river and will cease when the flow in the river reaches below 3,100 litres per second.

On the basis that the scheme is to only operate when the flow within the Tawarau River is at or above 3,100 litres per second I consider that it is the effects on fauna during these flow regimes that needs further consideration.

Effects on Flora and Fauna

The applicant has commissioned a report from Bioreserches into the fisheries within the Tawarau River and has also relied on a previous investigation into fisheries that was undertaken in 1995 and 1996 as part of an application to dam the Tawarau River.

The most recent report dated February 2009 identifies that with the residual flow of 1,000 litres per second the movement of native migrant fish is not anticipated to be significantly affected. It is acknowledged that some dewatering of areas will occur but that free access will still be available for fish to move both upstream and downstream.

Potential effects on the trout fishery within the river have not been considered any further as the Fish and Game Council has provided affected party approval for this proposal.

The potential adverse effects on native fish are therefore confined to when the flow in the river is at or above 3,100 litres per second. The applicant proposes to ensure that a residual flow of 1,000 litres per second remains within the river. Any potential effects on in-stream fauna are therefore confined to the 800 metre reach of the river between the intake and the discharge point. With a reduced flow in the river there may be some potential for effects on in-stream fauna particularly migratory fish species (only eels have been identified upstream of the waterfall) and loss of habitat for invertebrates during operation of the hydro scheme.

The AEE provided by the applicant concludes that flow variability will not be affected. However, further quantification of this is required to ascertain the impact the loss of small freshes will have on the waterway when the flow is between 3,100 and 6,700 litres per second. I have recommended consent conditions that addresses this issue to be included in the water take consent as follows:

The consent holder shall monitor the environmental effects of the operations of the water take and intake structure on ecology and river hydrology on an ongoing basis. For that purpose, the consent holder shall, by 1 May 2010, submit to the Waikato Regional Council for approval (in a certifying capacity) a Monitoring Plan for the purpose of defining details of monitoring to be undertaken to identify and

document any potential adverse effects of the water take and the intake structure, including but not limited to:

- (a) The range of approach velocities resulting from variable water takes for generation; and
- (b) Any effects on aquatic fauna (particularly on upstream and downstream migrating native fish).

The consent holder shall provide to the Marokopa Marae the draft monitoring plan and shall take into consideration any comments made by the Marokopa Marae prior to the supply to the Waikato Regional Council.

A copy of the approved Monitoring Plan shall be provided to the Marokopa Marae by the consent holder.

15. The consent holder shall undertake the monitoring in accordance with the Monitoring Plan developed pursuant to condition 14 of this consent and shall provide an opportunity for a representative of the Marokopa Marae to participate in the monitoring undertaken. The outcome of monitoring shall, as a minimum, be summarised and supplied to the Waikato Regional Council and the Marokopa Marae within six months of its completion.

16. Within six months of the receipt of the monitoring results referred to in condition 15 the Waikato Regional Council may, following service of notice on the consent holder, commence a review of the conditions of this resource consent under section 128(1) of the Resource Management Act 1991 for the following purposes:

- (a) To review the effectiveness of the conditions of this resource consent in avoiding, remedying or mitigating any adverse effects on aquatic fauna in the Tawarau River from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions.

Overall, while I consider that the effects on the waterway when low flows occur will be avoided given the applicant is unable to operate when the flow within the river is below 3,100 litres per second, the flow variability will be greater between 3,100 and 6,700 litres per second given the larger volume of water proposed to be taken and it is this loss of habitat and associated effects during these flow regimes that require further clarification.

However, in my opinion provided a residual flow of 1,000 litres per second remains within the waterway then I consider that any actual effects in this reach of the river are likely to be no more than minor.

Erosion Effects

There is the potential for erosion from the discharge over the term of the consent (and beyond) as a result of the increase in volume of water being discharged. However, these effects are unlikely to be over and above the effects considered as part of the original consent provided sufficient erosion protection at the discharge point is provided and monitored. Therefore, I consider that these effects can be adequately avoided and/or remedied if they occur and further that any erosion effects from the proposed changes are unlikely to be over and above those already consented and considered as part of the 2007 consenting process.

The existing consent conditions within the earthworks consent are sufficient to address any changes associated with the erosion and sediment controls.

Effects on Water Quality

Short Term Effects

Based on the change proposed I do not consider there to be any additional effects on water quality from the earthworks over and above those already considered as part of the original 2007 consent process.

Long Term Effects

The water to be discharged into the Tawarau River is essentially clean water. Heat generated as the water turns the turbine and oils used to lubricate and maintain machinery are potentially the only contaminants that may enter the Tawarau River. However, given the rate at which the water is going through the turbines and extremely low volume of oil used for maintenance I consider that any increase in potential effects are still likely to be no more than minor.

6.2 Policy Statements and Plans

Outlined below is a discussion of the policy matters within Section 104 that are relevant to the consideration of the application.

104(1)(b)(iii) Any relevant provisions of a regional policy statement or proposed regional policy statement;

The Waikato Regional Policy Statement (RPS) outlines a number of issues and objectives which are relevant these applications. In brief, they are:

- Net reduction in the effects of accelerated erosion and those effects avoided where practicable (Land and soil – section 3.3)

Assessment

Erosion effects have already been considered as part of the original effects assessment. The applicant has stated that the route will take a more direct route and reduce the amount of excess fill. On this basis I consider that the effects from the proposed changes will be less than that originally assessed provided the conditions of consent are adhered to and appropriate sediment control measures are installed.

The tailrace of the scheme will exit from the underneath the powerhouse into a 20 metre wide stilling basin constructed of 230 millimetre thick rock filled reno mattresses. A low broad crested weir is to separate the stilling basin from the river. The weir is to be lined with 230 millimetre thick rock filled reno mattresses. The purpose of the tailrace and weir is to reduce the energy of the water being discharged into the river.

- Net improvement of water quality across the Region (Water quality – section 3.4.5);
- The range of uses of water reliant on the characteristics of flow regimes maintained or enhanced (Flow regimes - section 3.4.6);

Assessment

Provided that at least 1,000 litres per second of the low flow remains within the river (where practicable) I consider that the proposal is not inconsistent with these objectives.

- The efficient use of water that is available to be taken from water bodies (Efficient use of water - section 3.4.7);

Assessment

The take is a run of river take with the full volume taken to be returned approximately 800 metres downstream of the take. On this basis I consider that the proposal is consistent with this objective.

- Enhancement of public access to and along rivers and their margins except in certain defined circumstances (Public access to water bodies – section 3.4.9);

Assessment

This proposal does not affect existing access, which is limited in any event.

- Tangata whenua concerns relating to the mauri of the water recognised and provided for (Mauri – section 3.4.10);

Assessment

I consider that this is provided for via an earthworks management to avoid any sediment being discharged into the waterway during the construction of the canal, penstock and discharge structure; a residual flow requirement of 1,000 litres per second and with the proposed consent conditions relating to a monitoring plan to assess the impact on flora and fauna during freshes.

- Biodiversity within the Region maintained or enhanced (Maintenance of Biodiversity – section 3.11.4);

Assessment

Given the proposal is to discharge all of the water back into the river and a residual flow requirement over the approximately 800 metre stretch of river is maintained then I consider that this proposal is consistent with this objective. An investigation into the impact on flora and fauna during the different operating flow regimes is proposed as part of the consent conditions.

I have reviewed the issues, objectives and policies associated with each of these sections, and have concluded that the proposal is consistent with them.

104(1)(b)(iv) Any relevant objectives, policies, rules, or other provisions of a plan or proposed plan;

The Transitional Waikato Regional Plan does not provide any policy guidance on proposals of this nature.

Proposed Variation No. 6 – Water Allocation of the Waikato Regional Plan is the current policy directive for water allocation within the Waikato Region. The Variation also includes implementation methods to achieve the policies.

There are a number of objectives and policies within the Variation that are relevant to this application specifically;

Objective 3.1.2 – Net Improvement in water quality (Operative)

Objective 3.3.2 (a), (b), (c) and (d)

Section 3.3.3 Policy 1 (c), (d), (e), (g), (i) – Establish allocable and environmental flows for surface water

Section 3.3.3 Policy 6 (e) – Order of priority for the consideration of applications to take water

Section 3.3.3 Policy 8 – Consent application assessment criteria – Surface water

I note that within section 3.3.3 policy 1 (i) requires particular regard to be had to the benefits derived from the use of water for the generation of renewable energy and in-stream ecological values (d).

WRP - Waterway Classification

The reach of the Tawarau River between the intake and discharge structures is classified as Trout Fishery/Spawning. The water class is as follows;

"3.2.4.5 Fishery Class

For resource consent applications method 3.2.4.1 sets out how the classes will be had regard to.

The standards listed must be met where referred to in relevant permitted activity rules. The standards shall apply:

- a. *after reasonable mixing of any contaminant or water with the receiving water and disregard the effect of natural perturbations that may affect the water*
- b. *to all surface water mapped as Significant Trout Fisheries and Trout Habitat Class or Significant Indigenous Fisheries and Fish Habitat Class on the Water Management Class Maps.*

a. *Significant Trout Fisheries and Trout Habitat:*

- i. *All water intake structures shall be screened with a mesh aperture size not exceeding three millimetres in diameter.*
- ii. *The maximum intake velocity for any water intake structures shall not exceed 0.3 metres per second.*
- iii. *The discharge of suspended solids shall comply with the standards in Section 3.2.4.5.*
- iv. *As a result of added heat, the temperature of the water shall not be changed by more than 3 degrees Celsius, and shall not exceed 20 degrees Celsius at any time. Where spawning occurs the temperature shall not be caused to exceed 12 degrees Celsius between May and September.*
- v. *Where water is to be taken or diverted from or into any water body, sufficient flow and/or water depth shall be maintained to allow for the unimpeded passage of fish at all times and for the maintenance of fish habitat and spawning.*
- vi. *The discharge shall not cause dissolved oxygen to fall below 80 percent of saturation concentration. If the concentration of dissolved oxygen in the receiving environment is below 80 percent saturation concentration, any discharge into the water shall not lower it further.*
- vii. *Fish shall not be rendered unsuitable for human consumption by the presence of contaminants.*
- viii. *Ammoniacal-nitrogen shall not exceed 0.88 grams of nitrogen per cubic metre.*
- ix. *No structure or activity that will prevent the natural passage of fish or has the potential to do so, shall be constructed or undertaken unless provision is made for the maintenance of fish passage both upstream and downstream."*

3.2.4 Implementation Methods – Water Management Classes and Standards

3.2.4.1 Water Management Classes

Environment Waikato will implement water management classes:

- a. *by using water quality standards for each class as a basis for compliance with relevant permitted activity rules*
- b. *by having regard to the policy of each class when assessing activities requiring resource consents that affect water bodies*

- c. *by using the Standards to provide guidance for consent applicants as one possible means of achieving the purpose of the class as described in the policies in Section 3.2.3*
- d. *by applying the strictest standard for permitted activities where more than one water management class applies to a water body*
- e. *by having regard to all of the relevant water management class policies that apply to a water body when making decisions on resource consent applications and where two policies address the same issue particular regard will be had to the more stringent policy in regard to this issue*
- f. *as a desired environmental outcome for non-regulatory methods in the Plan that relate to water bodies*
- g. *to provide Territorial Authorities with guidance for managing the effects of land use activities on water bodies*
- h. *by allowing new information on the standards and considerations, or the area covered by any class, to be included in assessments of resource consents."*

The applicant has requested changing the screening requirement from 3x3 millimetres to a slotted arrangement having slots 22 millimetres apart between the bars. Given the waterway classification does not specify any screening requirement and to date native eels are the only native fish identified within the waterway I consider that the effects from this change will be no more than minor. The applicant also proposes a new condition addressing the velocity of the intake as follows:

- 8a. *The consent holder shall ensure that the velocity of the water entering the intake does not exceed 0.32 metres per second. If requested by the Waikato Regional Council to do so, the consent holder shall provide information to the Waikato Regional Council confirming that the intake velocity is 0.32 metres per second or less.*

I have taken into account the relevant policy direction and consider that the proposal overall is not inconsistent with the relevant issue, objectives and policies within Variation No. 6 and the WRP.

District Plan

I have not considered any matters within the District Plan (Proposed or Operative).

6.3 Other Matters

There are no other matters relevant to this application.

6.4 Relevant RMA Considerations

The sections of Part 2 of the Resource Management Act 1991 that are considered to be relevant to this application are outlined below. Comment on this applications' consistency with these provisions is also given.

Section 5 – Purpose

- (1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, "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.*

The positive aspects from this proposal are that it will provide for the wider communities social, economic and cultural wellbeing in that it will supply the Community with electricity from a sustainable resource and it also discharges water back into the river at a point approximately 800 metres down from the intake.

Overall, I consider that with the proposed consent conditions any potential adverse effects from the increase in water proposed to be taken will be avoided, remedied and/or mitigated, therefore Part 2 matters are met.

Section 6: Matters of National Importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

- (a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;*
- (b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;*
- (c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
- (d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;*
- (e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*
- [(f) *the protection of historic heritage from inappropriate subdivision, use, and development.*]
- [(g) *the protection of recognised customary activities.*]

The proposed condition allowing an opportunity for a representative of the Marakopa Marae to monitor the earthworks to ensure no artefacts are disturbed addresses point (e) above.

Overall, I consider that nothing within this proposal is inconsistent with section 6 matters.

Section 7: Other Matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

- (a) *Kaitiakitanga:*
- [(aa) *The ethic of stewardship;*]
- (b) *The efficient use and development of natural and physical resources:*
- [(ba) *the efficiency of the end use of energy;*]
- (c) *The maintenance and enhancement of amenity values:*
- (d) *Intrinsic values of ecosystems;*
- (e) *Repealed.*
- (f) *Maintenance and enhancement of the quality of the environment;*
- (g) *Any finite characteristics of natural and physical resources;*
- (h) *The protection of the habitat of trout and salmon;*
- [(i) *the effects of climate change;*]
- [(j) *the benefits to be derived from the use and development of renewable energy.*]

I consider the proposal to be consistent with all of the points identified above but particularly with point j) in that the scheme is based on a source of renewable energy.

The applicant has consulted with the Marokopa Marae regarding the proposed changes. A number of conditions are proposed to address issues raised by the Marae as follows:

1. A condition requiring the consent holder to provide for opportunities for a representative of the Marokopa Marae to monitor the earthworks to ensure that no artefacts are disturbed.
2. Conditions of consent requiring the consent holder to undertake and implement a Monitoring Plan that assesses the environmental effects of the water take on an on-going basis.
3. A requirement that the draft monitoring plan be provided to the Marae and to take into consideration any comments made by the Marae prior to submitting the draft monitoring plan to the Waikato Regional Council.
4. A condition of consent that requires the consent holder to provide an opportunity for a representative of the Marokopa Marae to participate in the monitoring undertaken.

The applicant has proposed and/or agreed to all of these conditions.

Section 8: Treaty of Waitangi

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

In my opinion the principle of consultation has occurred during the processing of this application.

I have assessed this application against the relevant Part 2 matters and do not consider this application to be inconsistent with any of those matters.

Sections 105 and 107

I do not consider that the discharge is inconsistent with section 107 matters as the proposal is a discharge of water to water within a high energy environment and is unlikely to give rise to any of the effects identified within section 107.

Further, I have had regard to section 105 matters and based on the effects assessment addressed elsewhere within this report consider that any adverse effects from the proposed change to the discharge consent are likely to be no more than minor.

6.5 Regulations

Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins and Other Toxics) Regulations 2004 (including amendments 2005)

This regulation is not relevant to this proposal.

National Environmental Standard for Sources of Human Drinking Water

There are no municipal drinking water supplies downstream of this take and discharge.

7 Discussion/Conclusions

The proposal to change the consents associated with the construction and operation of a hydro scheme on the Tawarau River has been considered in this report in terms of its actual and potential effects, how it relates to Environment Waikato's plans, objectives and policies and its consistency with the provisions of the Resource Management Act.

The application has been assessed as discretionary in accordance with section 127 of the RMA and section 104B has been assessed.

The assessment has identified that the potential effects from this proposal are likely to be no more than minor and further the activities do not contravene any relevant statutory document therefore I recommend that the consent changes be granted subject to the attached schedule.

As this is a change to consent application there is no issue with respect to duration of the consents.

8 Recommended Decision

I recommend that in accordance with s104B the changes to resource consents 113342, 113343, 113344 and 116518 be granted in accordance with the changes to the conditions prescribed in the attached schedules for the following reasons:

- The proposed changes will have no more than minor actual or potential adverse effects on the environment
- The proposed changes are not contrary to any relevant plans or policies
- The proposed changes are consistent with the purpose and principles of the Resource Management Act 1991
- The granting is unlikely to allow any of the effects described in s107(1)(c) to (g)

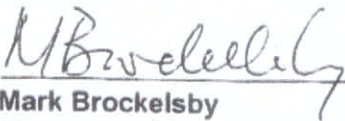


Sheryl Roa
Senior Resource Officer, Resource Use Group

Date 4/12/09

9 Decision

That the resource consent applications are granted in accordance with the above recommendations.



Mark Brockelsby
Programme Manager, Energy Programme

Date 4/12/09.

Acting under authority delegated subject to the provisions of the Resource Management Act 1991 which at the time of decision had not been revoked.

NOTIFICATION / NON-NOTIFICATION DECISION

(Only to be used for consent applications received after, the commencement date of the RM (Simplifying and Streamlining) Act 2009)

Decision Guideline

Important: This document is a guideline only- reference should be made to the legislation where the RO is uncertain of the correct steps or criteria.

IRIS Application Number: APP135083

Consent Numbers: 113342
113343
123084

Application number: 135083

File Number: 61 33 53A

RC/Fin Project Code: RC22468

Project/Site/Applicant Name: Speedys Road Hydro Limited; Various Changes to consents and new application

Instructions: Complete the panels above then proceed through all of Steps 1 to 10 in order.

NB

1. The following guideline will result in one of 3 outcomes being reached – public notification, limited notification or non-notification. The meaning of each of these terms is explained in the following:

Public notification – full notification including public notice in newspaper(s), signage on the property, direct notification of affected persons – any person may make a submission

Limited notification – notice served only on affected persons or customary rights order holders - only those persons/holders may make a submission

Non-notification – no notification of any kind – no person may make a submission.

2. Where multiple authorisations for the same activity are being considered, the most restrictive activity status should be applied. However, where the authorisations are independent in terms of the specific activities or their effects, separate notification decisions can be made.

3. Every single step in the form needs a stated answer - yes or no or N/A etc – do not leave blank, if you leave it blank a 3rd party reader does not know whether you have considered the step or not. The preferred format of the answers to each step is yes or no or N/A etc with any explanation in bold and italicised (so as to distinguish the answer within each step).

4. Provide expanded detail on why effects are considered to be minor – it is not normally sufficient to just say 'effects will be minor provided typical consent conditions apply', the level of detail is relative to the matters at hand – if you have written your s.42A report effects assessment there is no reason why you can't paste that whole section into the notification decision. However, more typically, notification decisions are now made well in advance of report writing so a list of potential effects in the notification decision is probably a good start to inform a 3rd party reader that you at least have considered, discharges to water, dust, etc.

5. *Electronic notification decisions are now the preferred method of recording the notification decision.*

Brief Description of Proposal:

Speedys Road Hydro is an existing run-of-river scheme located on the Tawarau River in the vicinity of Speedies Road, Te Anua. Consents are currently held for its operation and changes to a number of the consents have been applied for. The changes sought are to:

- Increase the daily volume of water abstracted from 578,000 m³/day to 734,400 m³/day;
- Increase the maximum rate of abstraction and discharge from 6,700 l/s to 8,500 l/s;
- Increase the maximum intake velocity from 0.32 m/s to 0.355 m/s;
- Reduce the residual flow from 1000 l/s to 100 l/s;
- Reduce the minimum upstream flow at which operation is to cease from 3,100 l/s to 2,325 l/s;
- A number of administrative changes as a result of these changes.

(Note WRC staff consider that the changes proposed to 116518, which authorises the abstraction of water, go beyond that envisioned in a s127 change process as the changes seek to "expand or extend the original activity", and therefore a new consent is required for those changes.)

The consents proposed to be changed and the new application provide for the following activities.

Reference Id	Activity Description
AUTH113342.01.03	Divert water from the Tawarau River in association with a hydro electricity generation scheme
AUTH113343.01.03	Discharge water taken and passed through the turbine(s), to the Tawarau River all in association with a proposed hydro electricity generation proposal
AUTH123084.01.03	To take and use up to 86.4 cubic metres per day of water from an unnamed tributary of the Tawarau River for use in a hydro power generation scheme
APP135083	Take and use up to 734,400 cubic metres per day of water (at a rate of 8,500 l/s) from the Tawarau River for hydro electrical generation by way of a water turbine

The application document is referenced as 3294083 and includes a report by Charles Mitchell and Associates, written approval from the Department of Conservation; correspondence from Fish & Game which appears to be conditional approval based on the statement "We would not oppose the changes if the current screen velocity could be achieved and if that could not be physically tested under the proposed increase We would like a review condition in the consent 1 year max that would allow for physical testing"; correspondence from Kahu Hohaia although it is unclear if this is approval or not.

The major change proposed is the reduction in residual flow from 1000 l/s to 100 l/s over the approximate 800 m between the intake and discharge. (I understand that 100 l/s is the absolute minimum proposed, and that the "average" residual flow may be nearer the vicinity of 200-250 l/s). This residual flow (100 l/s) represents approximately 4.9% of the Q5 (five year low flow) of the River. (Assessment when the consents were first granted indicated a Q5 of around 1875 m³/s. 100 l/s is 5.3% of this. The Q5 has since been revised to 2050 l/s and 100 l/s is 4.9%).

A key (but not sole) effect of the proposal is the reduction in the wetted area of the residual channel arising from the reduction of residual flow. The applicant provided further information and an informal WRC assessment (doc 3410302) noted "the applicant has not addressed or attempted to quantify the adverse effects on c.800m of stream habitat which will be reduced to a residual flow of 100l/s." It is understood that the applicant is intending to provide further information to try and quantify this effect, however given the reduction in flows proposed (to ~5% of the Q_5), any further information may not demonstrate that the adverse effects would be likely to be less than minor. This point has been discussed with the applicant, in particular whether they wished to delay the process while further information relating to this matter, is obtained. The applicant has advised that since public notification may be required anyway, their preference is to proceed to public notification as soon as possible.

Notification Assessment

Step 1: Has a s92(1) request (further information) or a s92(2) notification (commissioning a report) been made and there has been no decision yet to publicly or limited notify the application? (s95C)

Yes – Go to Step 2

No – Go to Step 3

Step 2: Has the applicant failed to respond by the deadline specified or refused to provide the information or refused to agree to the commissioning of a report? (s95C)

Yes – PUBLICLY NOTIFY

No – go to Step 3

Information was provided on 21 April 2015 (doc 3363840).

Step 3: Will the activity have adverse effects on the environment that will be, or are likely to be, more than minor? (s95A(2)(a))

In forming this opinion (a) to (e) apply:

(a) we must disregard any effects on persons who own or occupy the land on which the activity will occur or any land adjacent to that land (s95D(a))

Noted: Unclear who owns the riverbed, and surrounding bank, effects on these parties have been ignored.

(b) we may disregard an adverse effect of the activity if a rule or NES permits an activity with that effect (s95D(b))

Identify any effects so disregarded (Note – the discretion to disregard any effects should consider whether it is consistent with the purpose of the RMA to do so).

N/A

(c) for controlled or restricted discretionary we must disregard any effects that fall outside the matters over which we reserve control or restrict discretion (s95D(c)).

Identify whether this is a controlled activity or RDA and specify relevant rule:

N/A. The various changes are discretionary due to s127(3)(a). APP135083 is Discretionary under rule 3.3.4.23. This is based on the take being a "zero net take".

(d) we must disregard trade competition and the effects of trade competition (s95D(d))

Noted

(e) we must disregard any effect on a person who has given written approval (s95D(e))

Noted. Approval received from the Department of Conservation and conditional approval from Fish & Game

In addition, for applications within the Waikato-Tainui and Raukawa areas, refer to docs 2188267 which specifies further matters Council will take account of when making this decision.

N/A

Taking account of all of the above, identify the reasons why we are satisfied that the adverse effects on the environment will be, or are likely to be,

- more than minor or;
- ~~minor or less than minor~~;

Some of the key reasons why we are satisfied that the adverse effects on the environment will be or are likely to be more than minor include

- Residual flow equivalent to around 5% of the Q_5
- Reduction in wetted area as a result of the flow proposed
- Consequential effects on aquatic fauna

I note at this point that the lack of information pertaining to the above effects cautions me toward a more conservative assessment of the likely effects than might be the case had better information existed. As noted above, the information supplied with the application is limited and the applicant has indicated its preference that we proceed to a decision with the application as it stands.

The effects on the environment will be, or are likely to be:

More than minor - PUBLICLY NOTIFY

~~Minor or less than minor – go to Step 4~~

Step 4: Has the applicant requested public notification? (s95A(2)(b))

Yes – PUBLICLY NOTIFY (identify docs ref indicating request #.....)

No – Go to step 5

Step 5: Does a rule or an NES require public notification? (s95A(2)(c))

Yes – PUBLICLY NOTIFY (identify rule/NES)

No – Go to step 6

Step 6: Does a rule or an NES preclude public notification? (s95A(3)(a))

Yes – Go to Step 7 (identify rule/NES.....)

No – Go to Step 7

Step 7: Irrespective of anything else, are there special circumstances that justify public notification (s95A(4)) or are there any other matters which, in terms of Council's discretion under s95A(1), justify public notification? (NB: the mere existence of special circumstances/matters does not compel public notification – a decision must still be made as to whether those circumstances/matters are such as to warrant public notification).

In addition, for applications within the Waikato-Tainui and Raukawa areas, refer to docs 2188267 which specifies further matters Council will take account of when making this decision.

Yes – PUBLICLY NOTIFY
Identify special circumstances/matters

No - Go to Step 8

Step 8: Is there a rule or NES that precludes limited notification? (s95B(2))

Yes (rule/NES.....) Go to Step 10
No Go the Step 9

(NB: s95B(3) requires limited notification to be given to an affected customary marine title group even if a rule or an NES precludes public or limited notification).

Step 9: Identify any affected persons or affected protected customary rights group or affected customary marine title group (s95B(1)). (A person is an affected person if the activity's adverse effects on the person are minor or more than minor (but not less than minor) (s95E(1)).

In forming an opinion as to who may be an affected person:

(a) we may disregard an adverse effect on the person if a rule or NES permits an activity with that effect. (s95E(2)(a))

Identify any effects so disregarded (Note – the discretion to disregard any effects should consider whether it is consistent with the purpose of the RMA to do so).

(b) for controlled or restricted discretionary we must disregard any effects on the person that fall outside the matters over which we reserve control or restrict discretion (s95E(2)(b))

Identify whether this is a controlled activity or RDA and specify relevant rule:

(c) we must have regard to every Statutory Acknowledgement (s95E(2)(c))

Identify any relevant Statutory Acknowledgement and whether or not any persons to whom it relates have been identified as adversely affected, and the reasons why or why not.

(d) We must decide that a person is not affected if the person has given written approval and has not withdrawn the approval in writing before the authority has decided whether there are any affected persons. (s95E(3)(a)) (NB: beware of conditional approvals).

Identify any parties who have given their written approval.

(e) We must decide that a person is not affected if it is unreasonable in the circumstances to seek the person's written approval. (s95E(3)(b))

Identify any persons whose approval is unreasonable to seek:

In addition, for applications within the Waikato-Tainui and Raukawa areas, refer to docs 2188267 which specifies further matters Council will take account of when making this decision.

Taking account of all of the above, identify any persons who we consider to be "affected persons": (NB – this excludes anyone who has given written approval).

Are there any affected persons? (s95B(1))

Yes – SERVE NOTICE ON THOSE PERSONS (LIMITED NOTIFICATION)

No – Go to Step 10

Step 10: Are there any affected holders of customary rights orders (s95B(3))?

Yes (details.....) SERVE NOTICE ON AFFECTED HOLDERS

No PROCESS NON NOTIFIED

Where the notification decision is contrary to the decision sought by Waikato-Tainui or Raukawa (for applications within the relevant areas), please summarise below the reason(s) for the decision:

Recommendation

In accordance with the above assessment I recommend that the applications be

NOTIFIED

(Note: Application information is to be placed on the Waikato Regional Council's website and is to include the notice, application documentation, and any requests made and responses received under s92. Send the relevant documentation to Communications who will arrange for the website to be updated.)



Signed:

Date: 26 May 2015

Diane Palmer

Senior Resource Officer

Resource Use Directorate

Decision

In considering this matter, I have taken account of the officer's advice and recommendations. In particular, I note the potential effects arising from the significant reduction in residual flow in the dewatered stretch below the intake and the limited information supplied with the application as it relates to this aspect of the proposal. (I note incidentally that this level of reduction is significantly inconsistent with the residual flow requirements for waterways as set out in Table 3.5 of the Regional Plan). I also note the lack of any clear written approvals from tangata whenua who may be affected by this proposal and the corresponding lack of assessment as to how the proposal may affect tangata whenua or the instream values that tangata whenua may value. For these reasons, and the reasons set out in the recommendation, I determine that pursuant to s95A(1) and s95A(2)(a), public notification is appropriate.



Signed:

Mark Brockelsby

Senior Advisor

Resource Use Directorate

Date: 26/5/15

Acting under authority delegated subject to the provisions of the RMA 1991 which at the time of decision had not been revoked.

Surface Water Allocation Application/Authorisation search

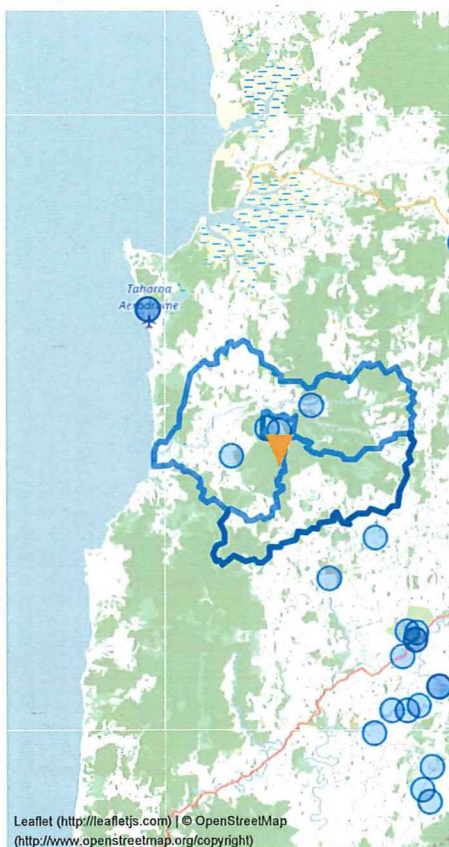
AUTH116518.01.03

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Details

IRIS Id	AUTH116518.01.03
Applicant/Holder	Speedys Road Hydro Limited
Activity Description	Take and use up to 578000 cubic metres per day of water (at a rate of 6,700 l/s) from the Tawarau River for hydro electrical generation by way of a water turbine
Net take instantaneous total	0 m ³ /sec
Net take daily total	0 m ³ /day
Net take annual total	0 m ³ /year
Water use Primary	Industry (Electricity generation)
Water use Secondary	Power generation - Hydro
Commencement Date	13th Dec 2007
Expiry Date	1st Nov 2043

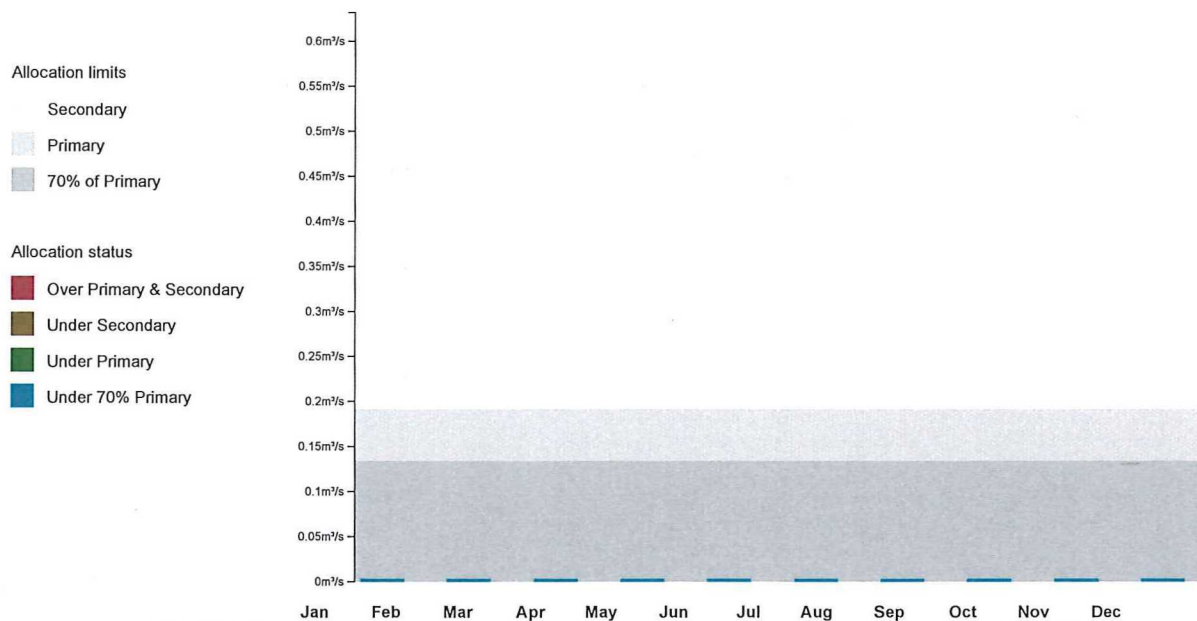
Map

☒ Toggle consents

Catchments

Description	Worst Month	Status by Month
Tawarau at Te Anga	Under 70% of Primary allocation	
Marokopa River at mouth	No flow data available	

Tawarau at Te Anga Summary monthly statistics in m³/s



Limits													
Q5	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600	1.91600
Primary Allocation	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160	0.19160
Secondary Allocation	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320	0.38320
AUTH116518.01.03													
Rate	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
All Authorisations <i>including</i> AUTH116518.01.03 (Impacted)													
Impacted Rate	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390
Impacted Rate Spare in 70%	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022
Impacted Rate Spare in Primary	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770
Impacted Rate Spare in Secondary	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090
Percentage Impacted	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
All Authorisations <i>not including</i> AUTH116518.01.03													
Rate	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390	0.00390
Rate Spare in 70%	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022	0.13022
Rate Spare in Primary	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770	0.18770
Rate Spare in Secondary	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090	0.57090
Percentage Authorised	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%

APPENDIX 6 – PLAN AND RPS ASSESSMENT

Waikato Regional Plan Objectives and Policies

This assessment of the Waikato Regional Plan Objectives and Policies identifies those objectives and policies that are relevant to the proposed change to residual flow and water take at Speedys Road Hydro. It provides an analysis of whether the changes are consistent or inconsistent with the objectives and policies. The relevant objectives and policies are listed followed by a commentary.

WATER RESOURCES

Objective 3.1.2

The management of water bodies in a way which ensures:

- a) that people are able to take and use water for their social, economic and cultural wellbeing
- c) the avoidance of significant adverse effects on aquatic ecosystems
- e) the range of uses of water reliant on the characteristics of flow regimes are maintained or enhanced
- i) that significant adverse effects on the relationship tangata whenua as Kaitiaki have with water and their identified taonga such as waahi tapu, and native flora and fauna that have customary and traditional uses in or on the margins of water bodies, are remedied or mitigated
- j) the cumulative adverse effects on the relationship tangata whenua as Kaitiaki have with water their identified taonga such as waahi tapu, and native flora and fauna that have customary and traditional uses that are in or on the margins of water bodies are remedied or mitigated
- p) that the positive effects of water resource use activities and associated existing lawfully established infrastructure are recognised, whilst avoiding, remedying or mitigating adverse effects on the environment.

Comment

The Regional Plan states that this objective sets out the desired end point for management of water bodies in the Region. The relevant parts of this objective to the proposed changes are considered to be a, c, e, i, j, and p and are listed above.

Part a) sets up the policy framework for enabling activities within the Plan and recognises that people and communities within the Region should be able to take water and carry out activities such as the generation of electricity, water abstraction or waste water discharge, The proposal meets this part of the objective being a use of water for the generation of electricity.

Part c) recognises the important of freshwater ecosystems and seeks the avoidance of significant adverse effects on aquatic ecosystems. The proposed reduction in residual flow and increase in water take, compared to the existing activity, will have a minor effect on a small part of the Tawarau River. In the context of the aquatic ecosystem the assessment of effects by Mr Montgomerie concludes these effects are minor and therefore could not be considered to be significant adverse effects. The proposed changes meet this part of the objective.

Part e) The Tawarau River has a flow regime that is highly suitable for the generation of electricity. The proposed changes are seeking to enhance the existing use for generation of electricity provided by the flow regime of the river. This part of the objective is met.

Parts i) and j) relate to significant adverse effects and cumulative adverse effects on the relationship tangata whenua have with water and their identified taonga and customary and traditional uses in or on the margins of water bodies. The cultural impact assessment prepared on behalf of the Mirumiru Marae does not identify any significant adverse effect on tangata whenua matters and does not identify any effects on customary uses within the reach of the Tawarau River affected by the hydro scheme. The assessment recommends conditions that should be included in the consent to mitigate potential effects and to ensure the ongoing involvement of tangata whenua in the monitoring and assessment of effects of the proposed changes on the waterway. These two parts of the objective are considered to be met.

Part p) clearly recognises the positive value that the use of water plays to society. The proposed change will see an increase of electricity generation from existing lawfully established infrastructure while having minor adverse effects on the environment. This part of objective 3.1.2 is also met.

MANAGEMENT OF WATER RESOURCES

This part of the plan establishes a water classification system which is used to balance the use, development and protection of the regions water resource. The Regional Plan states that the water management classification system acts in conjunction with the more specific objectives and policies in other relevant chapters of this Plan to achieve Objective 3.1.2 a), b), c) and p).

Objective 3.2.2 is the same as Objective 3.1.2 and therefore the assessment and conclusions of the relevant parts of objective 3.1.2 above, in particular parts a), c), and p) are relevant.

Policy 1: Management of Water Bodies

Manage all water bodies to enable a range of water use activities, whilst ensuring that a net improvement in water quality across the Region is achieved over time through:

- b) Maintaining overall water quality in areas where it is high, and in other water bodies, avoiding, remedying or mitigating cumulative degradation of water quality from the effects of resource use activities.
- e) Recognising the positive benefits to people and communities arising from use or development of water resources and by taking account of existing uses of water and the associated lawfully established infrastructure.

Comment

The focus of this policy is on improving water quality and preventing any further degradation of water quality. The relevant parts of this policy to the proposed change are considered to be part b) and e).

The hydro scheme has no effect on the quality of water in the river. The main potential effect of the proposed changes would be an increase in temperature during summer months possibly leading to fish mortality or algal blooms. The assessment undertaken by Mr Montgomerie considers the potential for the temperature to rise to unacceptable levels is unlikely due to most of the river in the affected reach flowing under very large boulders and not being exposed to much sunlight. The scheme also does not operate when river levels

are low which is typically during the summer months which in turn mitigates the risk of increased temperatures. The proposal is therefore consistent with part b) of Policy 1.

Part e) This part of the policy supports the proposed changes to the existing hydro scheme.

Policy 4: Waikato Region Surface Water Class

Enable the use of all surface water bodies in the Region, provided that:

- a) Any significant adverse effects on existing aquatic ecosystems are avoided, remedied or mitigated.
- b) Intake structures are designed to minimise fish entrapment.
- c) Any conspicuous change in visual colour or clarity is avoided, remedied or mitigated.
- d) The water body is not tainted or contaminated to the extent that it is unpalatable or unsuitable for consumption by humans after treatment (equivalent to coagulation, filtration and disinfection).
- e) The water body is not tainted or contaminated to the extent that it is unsuitable for irrigation or stock watering.

Comment

Policy 4 describes the purpose of the Waikato Region Surface Water Class and implements Objective 3.1.2 a). This class clearly identifies that the water resources of the Region should be available to be used in accordance with Objective 3.1.2 a) and e) provided that significant adverse effects are adequately avoided, remedied or mitigated.

There are no significant adverse effects on aquatic ecosystems that would arise from the proposed changes. Mr Montgomerie has identified the range of potential adverse effects on the small reach of the Tawarau River and considers any adverse effects to be minor and acceptable. The existing intake structure does not entrap fish and the proposed small increase in velocity from that already consented is not considered likely to change this. The scheme will be operated to keep the velocity of flow through the screen low as the water take increases, by increasing the water level at the intake structure resulting in a greater surface area for the water to flow through the screen.

Part c), d) and e) relate to changes in water quality and visual colour and clarity. There are no changes to the quality of water from the existing hydro scheme or the proposed changes.

The proposed changes are therefore consistent with Policy 4.

Policy 7: Fishery Class

The purpose of the fishery class is to maintain or enhance existing water quality and aquatic habitat in water bodies that currently support a diverse range of fish species and fish habitats with significant conservation values, or which support significant recreational, traditional or commercial fisheries so that for these fisheries, trout or indigenous fish can complete their life cycles and/or maintain self-sustaining populations and managed trout and indigenous fisheries can be sustained. This will include consideration of the need to:

- a) Minimise fish entrapment at water intake structures.
- b) Minimise adverse effects on fish spawning patterns in areas where spawning occurs
- c) Minimise adverse effects of sediment loads and other contaminants on fish or their habitat.
- d) Maintain water temperatures and dissolved oxygen levels that are suitable for aquatic habitat and spawning.
- e) Ensure that fish living in these waters are not rendered unsuitable for human consumption by the presence of contaminants.

- f) Minimise structural or temperature barriers and changes in flow regimes that would otherwise prevent fish from completing their life cycle and/or maintaining self sustaining populations, including migration and spawning.
- g) Minimise the adverse effects of physical disturbance to aquatic habitat.

Comment

Tawarau River has been classified Trout Fishery class. The two particularly relevant parts of this policy are considered to be a) and f). There are few trout within the reach of river affected by the scheme and to date no trout have been found impinged on the intake structure. The minor changes to the intake velocity are not expected to change this situation.

Potentially the reduction in residual flow could affect temperature in the residual flow reach and could prevent fish from migrating upstream. Mr Montgomerie concluded neither of these situations are likely to occur with temperature and fish passage unlikely to be affected.

The proposed changes to the existing scheme are therefore considered to be consistent with Policy 7.

WATER TAKES

Objective 3.3.2

In addition to Objective 3.1.2, the management of water allocation and use in a way which ensures:

- d) The efficient allocation and the efficient use of water.
- f) The recognition that existing water takes contribute to social and economic wellbeing and in some cases significant investment relies on the continuation of those takes, including rural-based activities such as agriculture, perishable food processing and industry.
- h) Sufficient water is retained instream to safeguard the life supporting capacity of freshwater, including its ecosystem processes and indigenous species and their associated ecosystems.

Comment

This objective is primarily to do with the allocation of water to ensure there is no over allocation of water which could affect extractive users of water during periods of shortage and to safeguard the life supporting capacity of freshwater.

The directly relevant parts of this objective to the proposed changes are considered to be d), f), and h).

The existing hydro scheme make very efficient use of water generating on average 9GWh of electricity per year while leaving all water available for other uses downstream of its discharge point. The proposed changes will improve the efficient use of water further and therefore part d) of the Objective is met.

There has been considerable investment in the existing hydro scheme by the Waikato community through the shareholders of the company. The generation of electricity from the station contributes significantly to the social and economic wellbeing of the community as described by Mr Norriss and the proposed changes to increase generation will add to those existing benefits. Part f) of the objective is also met.

One of the most important components of the water allocation is to ensure there is sufficient water within a water body to keep it healthy. The monitoring by the Regional Council both upstream and downstream of the station and the company's own monitoring demonstrates that the existing hydro scheme is having no detectable adverse effect on the health of the river. The proposed reduction in residual flow will occur within an 800m reach of the river which will result in some reduction in the wetted surface area. Mr Montgomerie has investigated the potential adverse effects of this reduction on the life supporting capacity of the river and considers the potential effects to be minor. The river's ecosystem process will continue to occur. Part h) of Objective 3.3.2 is considered to be met.

Policies 3.3.3

Policy 1: Establish Allocable and Minimum Flows for Surface Water

(Implements Objective 3.1.2 a), b), c), d), e), g), i) j) k) l) o) and p) and Objective 3.3.2. Also refer to Section 3.2.3 Policy 2 a)iii))

Establish and review allocable and minimum flows for surface water bodies which are to be used when assessing authorised water takes and resource consent applications from surface water bodies while having particular regard to the following matters:

- a) Giving effect to the overarching purpose of the Vision and Strategy to restore and protect the health and wellbeing of the Waikato River for present and future generations.
- b) The recognition of the relationship between tangata whenua with water bodies and providing for tangata whenua input in determining their values and interests, and reviewing the allocable and minimum flows for those surface water bodies.
- c) The maintenance and enhancement of water quality in accordance with the policies in Chapter 3.2 of this Plan.
- d) The avoidance of further degradation of water quality having regard to the contaminant assimilative capacity of water bodies.
- e) The benefits of flow regime variability, including sediment transport and natural flushing and flood flows.
- f) The avoidance of significant adverse effects on in stream ecological values and biodiversity and the remediation or mitigation of adverse effects otherwise.
- g) The protection of wetlands and areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- h) The security of existing, efficient take and use of water and the associated lawfully established infrastructure.
- i) Maintenance and enhancement of tangata whenua uses and values of water, including the ability to exercise kaitiakitanga and measures to protect and enhance the mauri of water bodies.
- j) Maintenance of identified recreational and intrinsic values and the natural character of rivers.
- k) The benefits derived from the use of water for, or directly associated with, the generation of electricity from renewable energy sources and the cooling of the Huntly Power Station.
- l) The benefits derived from the existing take and consumptive use of water for people's social, economic and cultural wellbeing.
- m) The benefits to be derived from the efficient take and use of water for reasonably foreseeable future consumptive uses, and in particular existing and reasonably justified and foreseeable future needs for domestic or municipal supply and the reasonable needs for an individual's animal drinking water.
- n) The effects of climate change on surface water resources.

Comment

Policy 1 is about establishing the allocation framework the Regional Council will use to allocate water within a catchment. It recognises that in establishing this framework it will take into account all those matters listed from a) to n). The result of this policy is implementation method 3.3.4.6 resulting in Table 3.5 which defines minimum flows and primary and secondary allocable flows for all rivers within the Waikato Region. This policy is relevant to the application only in that it defines the Tawarau River as a lowland catchment with a minimum flow of 90% of the one in five year 7-day low flow (Q5).

The water take is defined as a zero net take and therefore meets the allocable flow requirements of this policy. This is further elaborated in the discussion on Policy 2 below.

Policy 2: Determining the level of minimum flows, primary, secondary and water harvesting allocable flows

(Implements Objective 3.1.2 a), b), c), d), e), g), i), j), k), l), o) and p) and Objective 3.3.2. Also refer to Section 3.2.3 Policy 2 a)iii))

When implementing Policy 1, the Waikato Regional Council shall:

- a) Except as provided for in clause (e) below, determine minimum flows having particular regard to Policy 1 above following detailed habitat and river studies. Where such studies have not been undertaken, the minimum flow shall be set at 90% of the one in five year 7-day low flow (Q5) for streams with a mean flow greater than 5 cumecs and 95% of the Q5 for streams with a mean flow less than 5 cumecs. One function of the minimum flow is to determine when water take restrictions commence.
- b) Except as provided for in clause (e) below, determine primary allocable flows having particular regard to Policy 1 above, the need to safeguard the minimum flow and the desirability of providing a high level of reliability for allocated water. To achieve that, primary allocable flows shall be set on the basis of the difference between the minimum flow and the Q5 flow. If the minimum flow is greater than the Q5 the allocable flow is zero.
- c) Except as provided for in clause (e) below, determine secondary allocable flows as that portion of the Q5 flow that can be taken from a river with a lower level of reliability and which does not compromise the reliability of the primary allocable flow. The level of the secondary allocable flow shall be deemed to be the portion of the flow between the primary allocable flow and 30% of Q5 except as otherwise specified in Table 3-5.
- d) In addition to the primary and secondary allocable flows, provide for surface water harvesting at an amount up to 10% of the river's flow at times when the flow is greater than the median flow immediately upstream of the point of the take. However, surface water harvesting shall not be allowed in catchments upstream of Karapiro Dam.
- e) Determine the primary allocable flow at Karapiro Dam to be set at 5% of the Q5 flow in order to provide for existing authorised water takes in the catchment above Karapiro while protecting electricity generation from the Waikato Hydro Scheme. While in other catchments of the region, the primary allocable flow is the fraction of the Q5 flow remaining after the minimum flow has been specified (as in clause b above), in the catchment above Karapiro the primary allocable flow of 5% of Q5 has been set first and the minimum flow is simply the remaining fraction of the Q5 flow (95%). In reality, the Waikato Hydro Scheme uses all water remaining in the river (i.e. after any water that is authorised to be taken from within the primary allocable flow has been abstracted) to generate electricity in a renewable manner. The water used for electricity generation includes both the minimum flow component and all variable flows above the primary allocation. The entire variable flow is used to generate electricity and so no secondary allocable flow is specified in Table 3-5 and no surface water harvesting is able to be undertaken in the catchments above the Karapiro dam.

Comment

The Regional Council has defined minimum flows, primary and secondary allocable flows for the Tawarau River based on the default value of 90% of the one in five year 7-day low flow (Q5). The primary purpose of the allocable flow regime is to establish an allocation regime that avoids the need to restrict consented water takes during dry periods. This ensures the efficient allocation of water and safeguards the life supporting capacity of freshwater, and provides for other benefits relating to maintaining the assimilative capacity of water for contaminants.

This allocation regime is aimed specifically at consumptive users of water as when these users take water it is permanently removed from the water body and is not available for other purposes. In my opinion Policy 2 is not directly relevant to the proposal, as it being a zero net take user of water, does not fall within the allocable flow regime specified by the policy. The amount of water taken by hydro generation is so great that it will significantly exceed any minimum, primary or secondary allocable flow making these defined allocable flows unachievable and therefore not relevant to the consideration of hydro generation.. This interpretation is supported by part e) of Policy 2 which outlines the allocation of water for the Waikato River at the Karapiro Dam. The policy specifically recognises that the water used for electricity generation includes the minimum flow component and all variable flows above the primary allocation. The small primary flow allocation is provided for existing extractive users upstream of Karapiro the Dam.

The allocable flow regime arising from this policy is about allocating water within a catchment to ensure the efficient management of the water resource within the catchment. It has little to do with managing zero net water takes as these have no effect on allocating water within a catchment. To use it to conclude that the proposed changes are contrary to the objectives and policies in my opinion is inconsistent with the wider resource management framework that the Regional Plan establishes for the allocation of water within a catchment.

Policy 3: Determining the combined level of surface water allocation within a catchment

(Implements Objective 3.1.2 b), c), d), e) i) j) k) l) and o) and Objective 3.3.2. Also refer to Section 3.2.3 Policy 2 a)iii))

In determining the combined level of surface water allocation in catchments and the activity classification of a particular surface water take, in accordance with Policies 8 and 9 and the associated rules the Waikato Regional Council shall:

- a) Assess all the takes on a net take basis at the point of take and at each affected downstream reach;
- b) Assess all the takes for the months of the year for which the particular take will be authorised to abstract water;
- c) Classify the particular surface water take on the basis of the relevant reach in the catchment (part a)) and the time of year (part b)) that gives the most onerous activity classification

Comment

This Policy provides the framework for determining the activity status of a particular surface water take based on how much water is already being taken both upstream and downstream within the catchment and supports the proposition that the water take for hydro purposes at Speedys Road is a net zero take. Part a) requires all takes to be assessed on a “net take basis” at the point of take (includes upstream takes) and at each “affected downstream

reach". Given this policy relates to allocation, I consider that "affected downstream reach" relates to each point of the river where downstream takes are occurring. This is consistent with the definition of net take provided in the definitions section of the regional plan which states.

"Net Take: The amount of surface water that is no longer available for others to take as a result of an activity for which the water is taken.

Where an associated discharge is intended to be included in the computation of a net take then:

- a) The consent to take water must be conditional upon the subsequent return of the minimum amount of water that is relied on to establish the net take; or
- b) For existing consents where there is no requirement for the subsequent return, the quantity of the net take will be assessed by the Waikato Regional Council;
- c) The associated discharge must:
 - Be of a quality sufficient to either meet the permitted activity provisions of this plan for discharges, or be authorised by way of resource consent; and
 - Be returned to the same water body in the same sub-catchment as near as practicable to the point of abstraction or upstream of the point where the take is being assessed; and
 - Occur at the same time as or within a timeframe as near as practicable to when the take is operating.
- d) Depending on the location of the discharge in relation to the location of the take, a surface water take may be assessed as having more than one net take value."

Under the definition of Net Take the water take for the hydro scheme is considered to be a zero net take as it meets the requirements of part a) and c) of the definition. Part b) of the definition is not applicable and part d) is considered to be only relevant where there are other takes downstream of the proposed take. This approach to interpreting part d) is supported by Policy 3 which sets out how the Regional Plan determines the combined level of surface water allocation to determine the activity status of a particular water take in accordance with Policy 8 and Policy 9 (not Policy 7). Policy 8(e)(ii) confirms how net take is interpreted by the Regional Plan as it recognises that the Huntly power station has a net take of only 0.7 cumecs despite its actual take can be up to 40 cumecs and its discharge up to 39.3 cumecs and the take and discharge points are over 100 metres apart. Accordingly, the take does not exceed the minimum flow or the allocable flows for the Tawarau River and this is confirmed by the level of allocation given by the Regional Council's water allocations calculator.

Even if "affected downstream reach" in Policy 3a) is considered to relate to ecological values (despite no reference to this in the policy) as appears to be the interpretation taken by the reporting officer, Mr Montgomerie's evidence concluded that the effects on ecological values arising from implementation of the proposed changes will be minor. Therefore, for the reasons given earlier, the relevant activity status, if the application is not assessed as a discretionary variation, would be controlled.

Policy 8: How Surface Water Takes Will Be Classified in Catchments that do not Exceed the Table 3-5 Allocable Flows

(Implements Objective 3.1.2 a), f) and p) and Objective 3.3.2 b), e) and i))

Except as provided for in Policy 9 the Waikato Regional Council will manage the allocation of surface water in catchments that do not exceed the combined primary and secondary allocable flows in Table 3-5 on a net take basis by:

e) Classifying all other applications for takes in the following manner:

- i) As a controlled activity when the net take, assessed in combination with all other existing authorised water takes within the same catchment, is for a rate less than or equal to 70 percent of the primary allocable flow identified in Table 3-5
- ii) As a controlled activity for cooling water at the Huntly Power Station when the net take does not exceed 0.7 cumecs
- iii) As a restricted discretionary activity when the net take, assessed in combination with all other existing authorised water takes within the same catchment, is for a rate exceeding 70 percent and up to and including 100 percent of the primary allocable flow identified in Table 3-5
- iv) Except where part (e)(v) of this policy applies, as a discretionary activity when the net take, assessed in combination with all other existing authorised water takes within the same catchment, is for a rate greater than 100 percent of the primary allocable flow but is less than the combined primary and secondary allocable flow identified in Table 3-5.
- v) As a non-complying activity when the net take, assessed in combination with all other existing authorised water takes within the same catchment is for a rate that would be greater than the combined primary and secondary allocable flow identified in Table 3-5.

Comment

Policy 8 defines the activity status of water takes in catchments that do not exceed the allocable flows provided in the Regional Plan. The Tawarau River Catchment meets this requirement. Part e) of Policy 8 is the relevant part of the policy to determine the activity status of the proposed changes if they are not considered to be a variation under section 127 of the RMA. While Policy 3 provides the approach to assessing the level of take within a catchment as discussed above, this is then assessed against Policy 8 to determine the activity status of a proposed take. Having regard to the principal of determining net take it is considered the proposed net take is a zero net take and therefore meets the requirements of Policy 8e)i) and is a controlled activity.

Policy 11: Consent Application Assessment Criteria – Surface Water

(Implements Objectives 3.1.2 and 3.3.2)

When assessing resource consent applications for surface water takes and/or any associated water use, the effects of these activities shall be assessed individually and cumulatively with all other existing or authorised (or currently applied for) water take and use activities. In doing so the Council shall have particular regard to the following matters:

- b) The effect of the activity on the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga
- k) Subject to the matters listed in a), e) and h) of this Policy, the social and economic benefits that may arise from the take and use of water (including rural-based activities such as agriculture, perishable food processing and industry.)
- l) The net effect of the take on water quality in the water body from which the water will be taken i.e. whether the further degradation of water quality is avoided (having regard to the flow rates and contaminant concentrations in that water body)
- o) Whether existing lawful takes will be adversely affected, including those granted by neighbouring regional councils where water bodies cross regional boundaries

- p) Impacts on, and integration with, other existing authorised uses of the relevant water body (including customary uses)
- q) Whether Tangata Whenua uses and values, including the mauri of water, are maintained or enhanced
- r) The effects on ecological values and biodiversity and the benefits of the natural flow regime variability, including sediment transport and natural flushing and flood flows
- w) The effects of the take and associated intake structure on fish passage and fish migration, and the potential for the entrainment of aquatic organisms
- x) Whether appropriate mitigation measures are to be implemented, including the maintenance of adequate environmental flows or flow regimes, the location of the abstraction, the maintenance of fish passage, the application of riparian planting, or other measures;

Comment

This policy provides the specific matters the Regional Council will have regard to when assessing an application for water take. Many of the matters listed in this policy are not relevant to the proposed changes and have been excluded from the list above. Part o) and p) are concerned about whether existing takes or authorised uses are affected. There are no other takes within the affected reach of the Tawarau River and no known authorised uses that could be affected so parts o) and p) are met. Parts l), r), w) and x) all relate to potential effects on the instream values. These have been addressed in the evidence of Mr Montgomerie who concludes any effect will be minor. Part b) and q) matters relate to the effect on Tangata Whenua values, uses, culture and traditions. The Cultural Impact Report outlined the interests the local people have with the area and raises some concerns with the potential impact. Many of these relate to the ecological values of the river which have been addressed by Mr Montgomerie. There are no physical works arising from the changes that could be expected to affect wahi tapu or other taonga. Part k) acknowledges social and economic benefits that can accrue from the take and use of water and these have been outlined in the application and evidence.

Policy 14: Non-Complying Activities outside Waikato River Catchment and below Huntly within Waikato River Catchment

(Implements Objectives 3.1.2 and 3.3.2)

Generally, non-complying activity applications for takes located anywhere in the Region outside of the catchment area covered by Policy 13 shall not be granted unless the take:

- a) Is a zero net take, or
- b) Replaces a consented take for an activity listed in Policy 15 a)v); or
- c) Achieves a higher level of electricity generation that would otherwise be achieved were the consent declined, or
- d) Is for the ecological enhancement of wetlands, or
- e) Avoids the further degradation of water quality as provided for in Chapter 3.2 of this Plan.

Comment

The Tawarau River is not within the Waikato River Catchment. This policy is relevant if the consent activity status is considered to be non-complying. The proposed changes to the existing scheme meets part a, c and e of this policy and therefore it is anticipated by this policy that resource consent may be granted.

Consent 116518

Pursuant to the Resource Management Act 1991, the Waikato Regional Council hereby grants consent to:

*Speedy Road Hydro Ltd
C/- Clearwater Hydro Ltd
PO Box 9229
Greeton
Tauranga 3142*

(hereinafter referred to as the Consent Holder)

Activity authorised: Take and use up to [578,880,734,400](#) cubic metres per day of water (at a rate of [6,700,500](#) l/s) from the Tawarau River for hydro electrical generation by way of water turbine(s)

Location: Speedies Road Hydro Power Station – Te Anga

Map Reference: NZMS 260 R16:728-231

Consent Duration: *Granted for a period expiring on 1 November 2043*

General Conditions

1. The water take shall be undertaken in general accordance with the following documents:

“Clear Water Hydro Construction Project Management Detailed Scheme Overlay for Speedies Road Power Scheme” identified as Environment Waikato document number 1238858;
“Clear Water Hydro Environmental Assessment for Speedies Road Power Scheme” identified as Environment Waikato document number 1238855;
“Clear Water Hydro Construction Project Management Detailed Scheme Overlay for Speedies Road Power Scheme” identified as Environment Waikato document number 1028840;
Letter from Michael Davis identified as Environment Waikato document number 1181664;
Positioning to Tawarau River Detail “F” – Amendments dated 4 April 2007;
Bond Beam Detail – Amendments dated 6 April 2007;
Letter from Michael Davis (identified as Environment Waikato document number 1186459) dated 5 June 2007; and
Letter from Michael Davis (identified as Environment Waikato document number 1207196) dated 30 July 2007.

except where inconsistent with the change to consent application titled:

“Resource Consent Variation Application – Speedys Road Hydro Limited” identified as Environment Waikato document number 1526661;

And

[Resource Consent Variation Application - Speedys Road Hydro Limited dated February 2015](#)

or the resource consent conditions below which shall prevail should any inconsistency between the application documentation and conditions occur.

2. This resource consent is granted by the Waikato Regional Council subject to its officers or agents being permitted access to the property at all reasonable times for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.
3. The consent holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act 1991.

Use Restriction

4. The water may only be taken for electricity generation purposes and shall not be stored. This consent shall not be exercised except when consent 113343 is also being exercised.

Rate of Take Limit

5. The maximum rate of take shall not exceed 6.78.5 cubic metre (~~6,7008,500~~ litres) per second.
6. The consent holder shall develop and operate, over the duration that this water take is authorised, a measuring system for continuously monitoring the take rate. The measuring system shall have a reliable calibration to water flow and shall be maintained to an accuracy of +/- 5%. Within 3 months of the first exercise of this consent, the consent holder shall provide to the Waikato Regional Council documented evidence of the measuring system's calibration to an accuracy of +/- 5% and documentation setting out the measuring system.
- 6a Re-calibration of the measuring system required by condition 6 shall be undertaken by the consent holder at the written request of the Waikato Regional Council. The calibration shall be undertaken by an independent qualified person and evidence documenting the calibration shall be forwarded to the Waikato Regional Council within one month of the request to do so.

Maximum Daily Volume Limit

7. The consent holder shall operate the intake so as to minimise as far as practicable the risk to migrating fish from entering into or being drawn against the intake.

Screening

8. The consent holder shall ensure that the intake is screened with a screen measuring 22 millimetres aperture between bars at all times.
- 8a. The consent holder shall ensure that the velocity of the water entering the intake does not exceed 0.32-355 metres per second. If requested by the Waikato Regional Council to do so, the consent holder shall provide information to the Waikato Regional Council confirming that the intake velocity is 0.32-355 metres per second or less.

Residual Flow Requirement

9. The consent holder shall ensure that a residual flow of 1,000200 litres per second remains within the Tawarau River immediately downstream of the intake structure. Once the flow within the Tawarau River above the intake reaches 3,1002,300 litres per second or less then the taking of water shall cease.
10. Within six months of the commencement of this consent the consent holder shall provide a plan that demonstrates how the scheme will be operated such as to ensure that the residual flow of 1,000200 litres per second is maintained at all times.
11. Prior to the exercise of this consent the consent holder shall install a data logger immediately downstream of the intake to record the flow within the Tawarau River on a fifteen minute basis.
12. Over the duration that this water take is authorised, the consent holder shall send via an electronic and automated system, which is compatible with the Waikato Regional Council system, standards and protocols the water take and residual flow data recorded as requirements of conditions 6 and 11.

Review

13. The Waikato Regional Council may in October or November 2010 and every third year thereafter, serve notice on the consent holder under section 128 (1) of the Resource Management Act 1991, of its intention to review the conditions of this resource consent for any of the following purposes:
 - (i) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

- (ii) to review the adequacy of monitoring undertaken by the consent holder; or
- (iii) to review the effects from the flow ramping of the turbines on the Tawarau River.

Costs associated with any review of the conditions of this resource consent will be recovered from the consent holder in accordance with the provisions of section 36 of the Resource Management Act 1991.

14. The consent holder shall monitor the environmental effects of the operations of the water take and intake structure on ecology and river hydrology on an ongoing basis. For that purpose, the consent holder shall, prior to reducing the residual flow or increasing the water take from the existing consented scheme, by 1 May 2010, submit to the Waikato Regional Council for approval (in a certifying capacity) a Monitoring Plan for the purpose of defining details of monitoring to be undertaken to identify and document any potential adverse effects of the water take and the intake structure, including but not limited to:
- ~~(a) The range of approach velocities resulting from variable water takes for generation; and~~
 - ~~(b) Any effects~~ on aquatic fauna (particularly on upstream and downstream migrating native fish).

The consent holder shall provide to the Marokopa Marae the draft monitoring plan and shall take into consideration any comments made by the Marokopa Marae prior to submitting the draft monitoring plan to the Waikato Regional Council.

A copy of the approved Monitoring Plan shall be provided to the Marokopa Marae by the consent holder.

15. The consent holder shall undertake the monitoring in accordance with the Monitoring Plan developed pursuant to condition 14 of this consent and shall provide an opportunity for a representative of the Marokopa Marae to participate in the monitoring undertaken. The outcome of monitoring shall, as a minimum, be summarised and supplied to the Waikato Regional Council and Marokopa Marae within six months of its completion.
16. Within six months of the receipt of the monitoring results referred to in condition 15 the Waikato Regional Council may, following service of notice on the consent holder, commence a review of the conditions of this resource consent under section 128(1) of the Resource Management Act 1991 for the following purposes:
- (a) To review the effectiveness of the conditions of this resource consent in avoiding, remedying or mitigating any adverse effects on aquatic fauna in the Tawarau River from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions.

APPENDIX 8 – NATIONAL POLICY STATEMENT ASSESSMENT

National Policy Statement for Renewable Electricity Generation 2011

The NPS for renewable electricity generation sets out an objective and policies to enable the sustainable management of renewable electricity generation under the Resource Management Act 1991. The RMA requires that the consent authority must have regard to the relevant provisions of the NPS.

The NPS recognises that renewable electricity generation regardless of scale makes an important contribution to the well-being of New Zealand, its people and the environment and confirms that the development, operation, maintenance and upgrading of new and existing Renewable Electricity Generation activities, and the associated benefits, are matters of national significance. The provisions of the NPS that are of particular relevance to this proposal are the Objective and Policies A, B, and C.

OBJECTIVE

To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.

POLICY A

Decision-makers shall recognise and provide for the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity generation activities. These benefits include, but are not limited to:

- a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
- b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;
- c) using renewable natural resources rather than finite resources;
- d) the reversibility of the adverse effects on the environment of some renewable electricity generation technologies;
- e) avoiding reliance on imported fuels for the purposes of generating electricity.

POLICY B

Decision-makers shall have particular regard to the following matters:

- a) maintenance of the generation output of existing renewable electricity generation activities can require protection of the assets, operational capacity and continued availability of the renewable energy resource; and
- b) even minor reductions in the generation output of existing renewable electricity generation activities can cumulatively have significant adverse effects on national, regional and local renewable electricity generation output; and
- c) meeting or exceeding the New Zealand Government's national target for the generation of electricity from renewable resources will require the significant development of renewable electricity generation activities.

POLICY C1

Decision-makers shall have particular regard to the following matters:

- a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;
- b) logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity;
- c) the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the distribution network and the national grid in relation to the renewable electricity generation activity, and the need to connect renewable electricity generation activity to the national grid;
- d) designing measures which allow operational requirements to complement and provide for mitigation opportunities; and
- e) adaptive management measures.

POLICY C2

When considering any residual environmental effects of renewable electricity generation activities that cannot be avoided, remedied or mitigated, decision-makers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.

Comment

The proposed changes to increase generation at Speedys Road Hydro from increasing the water take and reducing the residual flow are supported by the policy framework of the NPS.

The NPSREG objective seeks to recognise the national significance of renewable electricity generation activities and provides for the upgrading of existing generation activities. The New Zealand Government's national target for renewable electricity generation is 90% by 2025. In order to achieve a 90% level of electricity generated from renewable energy sources additional renewable generation will be required.

Policy A requires that decision makers shall recognise and provide for the national significance of renewable electricity generation activities. This includes national, regional and local benefits. Particular benefits to be considered are listed in a) through e). This project fits comfortably with all of these matters.

Policy B addresses the practical implications of achieving the target for electricity generation from renewable resources. Policy B c) addresses new electricity generation activities and is relevant. The policy recognises that to meet the objective significant new development of renewable electricity generation activities will be required. This project accords with the Objective and Policy B c).

The policies in C address the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities. The policies as they relate to new generation activities are relevant to this project. Policy C1 is a requirement placed upon decision makers and seeks that they shall have particular regard to some of the key constraints that exist with the development of renewable generation activities. Overall, it is important to recognise that the natural and physical resource requirements for renewable electricity generation projects mean that there are only limited locations that they can be sited.

The NPS identifies that all renewable electricity generation is of national significance. While the extra generation from the proposed changes is reasonably small its remote location means that the generation capability provided by Speedys Road Hydro is important. The

proposed increase in generation is in accord with the objective and relevant policies in the NPS.

National Policy Statement for Freshwater Management 2014

The provisions of the NPS for Freshwater Management are also to be considered under Section 104(b) of the Resource Management Act. The preamble to the NPS states that:

“Fresh water is essential to New Zealand’s economic, environmental, cultural and social wellbeing. Fresh water gives our primary production, tourism, and energy generation sectors their competitive advantage in the global economy. Fresh water is highly valued for its recreational aspects and it underpins important parts of New Zealand’s biodiversity and natural heritage. Fresh water has deep cultural meaning to all New Zealanders. Many of New Zealand’s lakes, rivers and wetlands are iconic and well known globally for their natural beauty and intrinsic values.”

The national values of freshwater recognise that water is valued for the following uses:

- domestic drinking and washing water
- animal drinking water
- community water supply
- fire fighting
- electricity generation
- commercial and industrial processes
- irrigation
- recreational activities (including waka ama)
- food production and harvesting eg, fish farms and mahinga kai
- transport and access (including tauranga waka)
- cleaning, dilution and disposal of waste.

There are also values that relate to recognising and respecting fresh water’s intrinsic values for: safeguarding the life-supporting capacity of water and associated ecosystems; and sustaining its potential to meet the reasonably foreseeable needs of future generations. Examples of these values include:

- the interdependency of the elements of the freshwater cycle
- the natural form, character, functioning and natural processes of water bodies and margins, including natural flows, velocities, levels, variability and connections
- the natural conditions of fresh water, free from biological or chemical alterations resulting from human activity, so that it is fit for all aspects of its intrinsic values
- healthy ecosystem processes functioning naturally
- healthy ecosystems supporting the diversity of indigenous species in sustainable populations
- cultural and traditional relationships of Māori with fresh water
- historic heritage associations with fresh water
- providing a sense of place for people and communities.

The NPS for Freshwater Management notes that all of the values in both lists are important national values of fresh water. The key implementation method for the NPS for Freshwater Management is by the Regional Council making or changing regional plans. The operative Regional Plan has not yet been changed to give full effect to the NPS and therefore Policy B7 of the NPS has been incorporated into the Regional Plan as an interim measure.

Policy B7 and direction (under section 55) to Regional Councils

By every regional council amending regional plans (without using the process in Schedule 1) to the extent needed to ensure the plans include the following policy to apply until any changes under Schedule 1 to give effect to Policy B1 (allocation limits), Policy B2 (allocation), and Policy B6 (over-allocation) have become operative:

1. When considering any application the consent authority must have regard to the following matters:
 - a. the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and
 - b. the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.
2. This policy applies to:
 - a. Any new activity and
 - b. any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).
3. This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management takes effect on 1 July 2011.

Comment

The purpose that the water is to be put to by these consents being the generation of renewable electricity generation is consistent with the national values of freshwater. The proposed changes will not undermine the life-supporting capacity of the water and associated ecosystems. Nor does it negatively impact on sustaining its potential to meet the reasonably foreseeable needs of future generations.

Overall the proposal is not inconsistent with or contrary with the NPS for Freshwater Management 2014.