

IN THE MATTER of the Resource Management Act 1991

A N D

IN THE MATTER of resource consent applications by TrustPower Limited to the Bay of Plenty Regional Council regarding the ongoing existence, operation and maintenance of the Matahina Hydroelectric Power Scheme

LEGAL SUBMISSIONS ON BEHALF OF THE APPLICANT

Introduction

1. This hearing concerns an application by TrustPower Ltd (**TrustPower**) to re-consent the existing Matahina Hydroelectric Power Scheme (**Scheme**). The key aspect of the application is the modified operating regime which is sought by TrustPower (also referred to as the revised operating regime).
2. The modified operating regime has arisen as a result of changing factors in both the natural environment and the electricity market. TrustPower has experienced declining inflows into Lake Matahina, which presents physical challenges for the Scheme's turbines. TrustPower is also experiencing more variable demand for electricity throughout the day, rather than concentrated demand at traditional morning and evening peak times. The modified operating regime seeks to respond to those changing circumstances by enabling the more efficient use of an existing physical resource.
3. Much has been made of the changes sought by the modified operating regime, but it is my submission that the changes are not as dramatic or radical as might be suggested by some submitters or officers. The same water resource is used by the Scheme under the modified operating regime, and all of the water will still end up below the Matahina Dam, but the timing will vary from what happens currently.
4. Furthermore, the revised parameters sought are well within the bounds of what might reasonably be expected for a hydroelectricity power scheme. TrustPower's evidence describes the constraints placed on the Scheme, and

records that of TrustPower's 19 hydroelectricity power schemes in New Zealand, this Scheme is the only one confined to a prescribed peaking regime.¹

5. The application is a controlled activity under rule 47C of the operative Bay of Plenty Regional Water and Land Plan (**RWLP**). The key issue for determination therefore is not whether consent should be granted, but what the terms (conditions) of consent should be.

Preliminary matters

6. I note at the outset the following matters:

- (a) TrustPower's application was lodged on 18 May 2009, before the Resource Management (Simplifying and Streamlining) Amendment Act 2009 (the **Amendment Act**) came into force on 1 October 2009. The application must therefore be determined as if the amendments made by the Amendment Act had not been made (section 160 Amendment Act).
- (b) There are complexities in relation to both the current operating regime and the modified operating regime and in my submission it is crucial that the Commissioners have a firm grasp of those complexities before moving to consider the evidence in respect of effects. For that reason, I propose to spend some time stepping through the existing consent, TrustPower's operating regime (including the rough running regime), and the modified operating regime. I also propose to preface the evidence with a PowerPoint presentation from Mr Graham Levy in relation to the operation of the scheme and both Mr Levy and Mr Peter Lilley from TrustPower will also cover this in detail in their evidence.
- (c) The application as lodged suggested that the peaking threshold (currently limited once inflows drop below 40m³/s) would be reduced to 20m³/s - so that when inflows drop below 20m³/s, no peaking would be permitted, and outflows would need to match inflows. TrustPower now proposes a condition which requires a minimum flow of 20m³/s at

¹ Evidence of Peter Lilley.

all times, which appears achievable even with the record of declining inflows. In my submission, this represents not simply a "concession", which is the word used by the Environment Court in the recent declaratory proceedings relating to this matter, but also an important step towards providing downstream users with certainty as to the level of flow to be provided.

- (d) Conditions of consent are proposed by TrustPower and I refer to these as I present my submissions. The conditions are proposed in a manner which would enable TrustPower to continue operating the Scheme in accordance with recent practice, but provide the opportunity for it to implement the modified operating regime provided certain conditions are met. In other words, TrustPower's proposed consent conditions do not anticipate an **immediate** change to the modified operating regime.
- (e) A submission has been lodged by Fonterra in respect of the effects on its operations at its Edgecumbe processing facility. The submission provided conditional support provided that effects were appropriately addressed in respect of Fonterra's intake and river discharges. TrustPower is in continuing discussions with Fonterra with a view to resolving Fonterra's concerns, and the case for TrustPower is largely prepared on that basis (although key hydrological and ecological evidence for TrustPower addresses the inter-relationship between any flow regime from the Scheme and Fonterra's activities). I address you in more detail in respect of downstream issues arising as a result of the modified operating regime, but make you aware at the outset that issues as between TrustPower and Fonterra, and the interrelationship of their activities, may yet be fully resolved.

The issues and the case for the applicant

- 7. The primary issue in this case concerns the impact of the modified operating regime on the Rangitaiki River downstream of the Matahina Dam.
- 8. Within that, the primary issues are effects on:

- (a) Downstream aquatic ecology.
- (b) Fonterra's lawful discharges.
- (c) Downstream abstractors.
- (d) River bank erosion.

9. The case for TrustPower is that:

- (a) The Scheme is a significant physical resource. It has existed and operated in its present form since 1967. It represents substantial investment in the development of physical resources for the use of water in order to provide significant social and economic benefits, and is very clearly an integral part of the environment in the Bay of Plenty.
- (b) Presently, the Scheme does not operate as efficiently as it might. The current resource consent constrains peaking of the Scheme and does not expressly accommodate avoidance of the "rough running range".
- (c) In order to ensure the sustainable management of the Scheme as a significant physical resource therefore, it is necessary to respond to those issues and enable the Scheme to operate more efficiently and effectively.
- (d) In terms of the effects of the proposal:
 - (i) The proposal will have no, or negligible, adverse effects on the environment in terms of dam safety and geotechnical, river morphology, lakeshore environment, Lake Matahina ecology, wetland, terrestrial ecology, avifauna, natural character and landscape, and archaeological matters.
 - (ii) The adverse effects of the proposal on the environment, particularly downstream hydrology, riverbank erosion, aquatic ecology, and recreation effects, and effects on downstream existing users of water, are minor. Measures are proposed to ensure that effects on downstream riverbank erosion and recreation effects, and effects on downstream existing users of water, are appropriately mitigated to the point that no unacceptable adverse effects persist.

- (iii) The proposal will have positive effects on the environment in terms of fish passage, cultural, Lake Matahina water quality, appearance and recreation matters, and overall contribution to community wellbeing.
- (e) The proposal is a controlled activity and therefore consent to the proposal must be granted, but the consent authority has reserved control over and may therefore impose conditions with respect to the range of matters set out in rule 47C of the RWLP.
- (f) The proposal is consistent with the relevant regional planning documents, and also with relevant national policy developments, including particularly the National Policy Statement on Renewable Energy Generation, which are discussed in more detail later.
- (g) Given the effects assessments, the consistency of the proposal with relevant regional planning documents and national policy statements, and the value of TrustPower's investment in the scheme, sustainable management would be best promoted by granting consent to the proposal without restricting or constraining the proposed modified operating regime.

Witnesses for the applicant

10. I will be calling the following witnesses in support of the applications:
 - (a) Mr Peter Lilley, Hydro Development Manager with TrustPower, to present evidence regarding the background to the current operating regime, the development of the modified operating regime and the operational and efficiency benefits of the proposed operating regime. Mr Lilley also addresses operational flood protocol;
 - (b) Ms Kirsty Joynt, Environmental Advisor with TrustPower, to present evidence about the application and a summary of consultation undertaken as part of the application process;

- (c) Mr Graham Levy, an expert in hydrology with Beca Infrastructure Ltd, to present evidence regarding the hydrological change proposed by the application;
- (d) Dr Do Van Toan, an expert land stability, earthworks, erosion and groundwater with Beca Infrastructure Ltd, to present geotechnical evidence about the effects of the proposal on river bank processes;
- (e) Mr Don Tate, a director of Riley Consultants Ltd with 26 years' experience in civil and geotechnical engineering, to present evidence with respect to the potential for the Scheme to affect downstream stopbanks. Mr Tate also reviews and considers the evidence of Dr Toan;
- (f) Mr Robin Dawson, an expert in dam safety and geotechnical engineering with Tonkin & Taylor Ltd, to present evidence regarding the geotechnical and civil engineering aspects of the Scheme;
- (g) Dr Mark Sanders, an expert ecologist with Boffa Miskell Limited, to present an assessment of the effects of the proposal on terrestrial eco-systems and water birds;
- (h) Dr Greg Ryder, an expert in water quality science and aquatic ecology with Ryder Consulting Limited, to present an assessment of the effects of the proposal on aquatic ecosystems;
- (i) Dr Rod Clough, an expert archaeologist with Clough & Associates, to present archaeological evidence in relation to the proposal;
- (j) Mr Buddy Mikaere, a cultural adviser with Buddy Mikaere and Associates, to present evidence regarding the cultural issues arising in connection with the proposal;
- (k) Dr Martin Single, an expert in lake shore erosion with Shore Processes and Management Limited, to present an assessment of the effects of the proposal on lake shore erosion and river mouth processes;

- (l) Mr John Goodwin, a landscape architect with Boffa Miskell Limited, to present landscape evidence in relation to the proposal;
- (m) Mr Rob Greenaway, a recreation expert from Greenaway & Associates Limited, who will present an assessment of the effects of the proposal on recreation;
- (n) Dr Brent Layton, an expert economist with the New Zealand Institute of Economic Research, to present an economic assessment of the proposal;
- (o) Mr Ian Lees, Asset Manager Generation for TrustPower, to present background evidence regarding TrustPower's generation assets, and its approach to the environment and this particular application; and
- (p) Mr Gavin Kemble, an expert planning consultant from Ryder Consulting Limited, who will present planning evidence in relation to the proposal.

The issues for determination

11. Both the reporting officer and Mr Kemble agree that the proposal is a controlled activity, and so consent must be granted. The primary issue for the Commissioners is the extent to which conditions are imposed on that consent for matters over which control has been reserved in rule 47C of the RWLP.
12. Part 2 of the Resource Management Act 1991 (**RMA**) remains relevant, but in my submission in effect informs how the Regional Council approaches the matters over which control has been reserved in Rule 47C, and any conditions which it may impose in accordance with those matters of control.²
13. Sections 105 and 107 RMA are also relevant to consideration of the proposal.

² *Mygind v Thames-Coromandel District Council* [2010] NZEnvC 34. The Court said "It has been clear from our consideration that the Court's powers to impose conditions is limited only to those areas specifically reserved in the District Plan. Although reference to Part 2 or the broader terms of Regional and District Plans might help inform the wording of those reserved areas of control, it has not been necessary in this case."

14. Against that background, and in view of the matters raised as a result of the modified operating regime and also through submissions on the application, I propose to address you in relation to the following issues:
- (a) The existing environment (which to a large degree is informed by the recent decision of the Environment Court in the TrustPower/Fonterra declaratory proceedings³ (the **Declaration Decision**));
 - (b) Impacts on downstream abstractors and how those are proposed to be accommodated within the modified operating regime;
 - (c) Concerns raised by the Environmental Hazards Group of the Regional Council (formerly Rivers & Drainage), and how its concerns may be accommodated within the terms of resource consent;
 - (d) Instream minimum flow requirements;
 - (e) The importance and application of the National Policy Statement for Renewable Electricity Generation (**NPS REG**); and
 - (f) Relevant Part 2 matters, including proper regard to the sustainable management of **physical resources**.
15. Before addressing you on those legal issues, it is first necessary to address you on the complexities of the current and proposed modified operating regimes. In other words, I will endeavour to step you through:
- (a) What the existing consent says.
 - (b) What TrustPower has done, until recently.
 - (c) What TrustPower would do, now that the "rough running regime" has been cancelled by the Regional Council.
 - (d) What TrustPower proposes to do under the modified operating regime.

³ *Bay of Plenty Regional Council v Fonterra Co-operative Group Limited & TrustPower Limited* [2011] NZEnvC 73.

Scheme operations – current and proposed

16. The key consent conditions applying to operation of the Scheme are conditions 5.1 and 5.2 of consent 02 2195/1, which state:

"Under normal operation the following operating conditions apply:

5.1 The minimum load shall not be less than 22MW (40 cubic metres per second) except when the river inflow is less than this. When river inflow is less than 40 cubic metres per second no peaking is permitted.

5.2 There shall be no more than two operating peaks per day. An operating peak is defined as an increase in river flow to a maximum and/or constant operating level followed by a subsequent decline in river flow from the power station or dam spillway. Two operating peaks are referred to as twin peaks in this consent."

17. In my submission the key points to note from those conditions are that:

- (a) There is no "minimum flow", "residual flow" or "minimum discharge" specified. Condition 5.1 is expressed in terms of minimum load except where river inflow is less than 40 cubic metres per second.
- (b) The constraint in condition 5.1 which applies when river inflow is less than 40 cubic metres per second, is that no peaking is permitted.
- (c) Condition 5.2 does not specify the period over which operating peaks are measured, but an operating peak is defined as an **increase** in river flow to a maximum and/or constant operating level followed by a **subsequent decline** in river flow from the power station or dam spillway.

18. TrustPower has always approached the consent on the basis that when river inflows are less than 40m³/s, it would attempt to match outflows with inflows.

19. However, when river inflows into Lake Matahina are less than 40m³/s, running the scheme on an instantaneous outflows matches inflows basis would cause the turbines to run within what is termed the "rough running range". The rough running range occurs between approximately:

- (a) Flows of 29-41m³/s; or
- (b) 12-18MW;

and causes damage (cavitation) to the turbines, which is addressed in detail in evidence by Mr Lees.

20. To avoid running the turbines in that rough running range, TrustPower has historically operated a "rough running regime" which meant that when river inflows into Lake Matahina were less than 40m³/s it would run the scheme on an outflows matches inflows basis but averaged over a 24 hour period. So, for example, it might run the turbines at 19MW during the day and then drop the turbines down to 10MW at night. Outflows would match inflows over a 24 hour period but not instantaneously.
21. TrustPower had historically interpreted its consent to mean that once inflows were less than 40m³/s, it was required to operate the Scheme on an instantaneous outflows matches inflows basis. For that reason, TrustPower sought to operate the rough running regime in arrangement with the Regional Council.
22. Mr Levy provides further description in his evidence as to how often and for what periods the rough running regime has operated in the past.
23. TrustPower also acknowledges, that given that running the Scheme in that way would involve an **increase** (operating at the higher level during the day) followed by a **decline** (operating at the lower level during the night) it is accepted that this could technically be regarded as "peaking".

24. On 5 May 2011 the Regional Council's solicitors sent a letter advising that the Regional Council wished to cancel the operating arrangement with TrustPower known as the rough running regime.⁴
25. Since the Regional Council's cancellation of the rough running regime, TrustPower has not encountered river inflows into Lake Matahina which are less than 40m³/s. In the event that these applications have not been determined by the time low flows are encountered again, which is likely to be nearer the summer season, TrustPower will need to operate in strict compliance with its consent. Mr Lilley outlines a range of options which include operating for extended periods at none or minimal output (less than inflow) until the lake is full, then operating at 18-19MW (greater than inflow) until the lake is empty.⁵ That would strictly comply with the consent given that it would be a decline followed by an increase (whereas peaking is defined as an increase followed by a decline).
26. That outlines the situation to the present day, and I will now turn to the modified operating regime.
27. The modified operating regime provides more flexibility to TrustPower and inherently includes the ability for TrustPower to avoid the rough running range. The principal changes between the current and modified operating regimes are as follows:
- (a) The minimum "threshold" would change from a minimum load of not less than 22MW (40 cumecs) except when river inflow is less than this, to a minimum flow of not less than 20 cumecs.
 - (b) The current constraint on a maximum of two peaks per day would be removed. Peaking would be unconstrained, but must occur within the maximum and minimum discharge limits set by the "constraints envelope" which defines maximum and minimum output using previous 72 hour rolling mean generation output. This in effect defines a "constraints envelope" within which peaking would be

⁴ Annexure 3 to the evidence of Kirsty Joynt.

⁵ Evidence of Peter Lilley, para 3.29.

unlimited. However the peaks would be smaller than the current twin peaks because of:

- (i) The flexibility afforded through the modified operating regime (enabling TrustPower to size the peaks to match demand, which in practice will mean more frequent but smaller peaks); and
 - (ii) Better utilisation of the water resource stored in Lake Matahina for more frequent peaking (rather than expending the resource on ramping up to, and then back down from, the twin peaks prescribed in the consent).
- (c) The ramping rates would change as follows:
- (i) The upward ramping rates (rate of increase) would move from 37MW (70 cumecs) per hour except in emergency conditions to 97 cumecs (52MW) per hour except in emergency conditions; and
 - (ii) The downward ramping rates (rate of decrease) are currently stepped for the first, second and following hours⁶ and this is proposed to change to not more than 30 cumecs (16MW) per hour (the size of the first "step" under the existing consent).

28. That sets out the factual situation, and I now turn to the legal issues including the existing environment.

The existing environment

29. It is impossible to talk about the existing environment in this case in isolation from the Declaration Decision which considered what the existing environment should be for the purposes of this hearing.

⁶ Not more than 16MW (30 cumecs) for the first hour, 12MW (22 cumecs) for the second hour, and 8MW (14 cumecs), for each hour thereafter.

30. In February this year the Environment Court heard declaratory proceedings brought by the consent authority. The Declaration Decision was issued on 28 March 2011.
31. The consent authority brought the proceedings after an issue arose between TrustPower and Fonterra as to the order of hearings for each application. Whilst TrustPower's application had been lodged first in May 2009, the consent authority was taking steps to set Fonterra's application down for hearing in April 2010 without having set a date for TrustPower's application. TrustPower took issue with this, and whilst the Council preferred TrustPower's position, in the end a declaration was sought from the Environment Court.
32. As the Court notes in paragraph 1 of its decision, the proceedings were originally framed as an application for priority between two existing uses of the Rangitaiki River, but evolved to one defining the existing environment in the context of the TrustPower application for a resource consent. In my submission those introductory words of the Environment Court are important because they clearly set the context in which the Environment Court thought it was making the declarations sought (being a case which evolved to one defining the existing environment in the context of the TrustPower application for a resource consent). I confirm, however, that TrustPower's approach to water allocation issues is firmly centred on first in first served principles.
33. I note for completeness that neither the Regional Council nor Fonterra made any comments on the draft declarations, nor lodged any appeals against the decision of the Environment Court.
34. The declarations which issued from the Environment Court were fairly straight forward including in particular:
 - (a) That when considering the TrustPower application, the consent authority must take into account the existing resource consent granted to Fonterra for its discharge to the Rangitaiki River, as it is currently preserved by s124 of the Act; and
 - (b) That the existing environment for the purposes of that application hearing includes existing resource consents and those continuing

under s124 of the Act, together with permitted activities under the Regional Plans, and any granted but unimplemented consents (which may be considered at the discretion of the consent authority).

35. That, in my submission is the simple part of the decision and I record for completeness at the outset that TrustPower fully accepts that the Commissioners must take into account as part of the existing environment the existing resource consent granted to Fonterra for its discharge to the Rangitaiki River (as it is currently preserved by s124 of the Act).

36. The more interesting aspect of the Declaration Decision is that the Court looked closely at conditions 5.1 and 5.2 of TrustPower's resource consent 02 2195/1, and a 2003 Regional Council interpretation of the rough running regime (set out in a letter from Mr Bruere of the Regional Council to Fonterra and annexed to the Declaration Decision as Annexure C), and made findings which it is submitted are particularly relevant to this hearing. In particular:

(a) At paragraph 29 the Court clearly concluded:

"...as a fact that the condition does not require any residual flow or minimum discharge, particularly where the inflows to the lake are less than 40 cumecs."

(b) It went further, and said:

"We suspect, on the face of the wording, that it is arguable that it does not require the applicant to release any water at all provided that it meets the other parameters as to maximum operating levels. For example, it is clear that at times of reconstruction or maintenance, the dewatering tunnel could be utilised, or water might be dammed to allow work, for example, on the tail race." (Paragraph 29).

(c) It considered an historical complaint from Fonterra in relation to the rough running range and a concern that there was an obligation on TrustPower to discharge water, and in respect of the Regional Council's then interpretation *"reached a conclusion on condition 5.1 which is very similar to Mr Bruere's"*. (Paragraph 32).

37. The Court then went on to consider whether TrustPower sought to reduce its obligations through this application and found that to the contrary it was arguable that the TrustPower application for consent in fact contains a concession (a residual flow of at least 20 cumecs) which is not required at all times under the existing consent (paragraph 35). It then said:

"For current purposes we are content to hold that the existing consent continuing under s124 for TrustPower does not require a residual flow where inflows to the lake are less than 40 cumecs. We acknowledge that the applicant to date has not operated the consent to that extent regularly. Furthermore, we acknowledge that Fonterra have relied upon the actual operation of the consent rather than the limits of that consent as set out in the grant." (Paragraph 35).

38. Finally, the Court acknowledged that the issue of the minimum flow would be very much before this hearing.
39. The Environment Court provided an opportunity for comment on the draft declarations in the Declaration Decision. Although it was not commented on adversely by the Regional Council, or taken on appeal, TrustPower has surmised that the Court's findings in the Declaration Decision led to the revocation of the rough running regime arrangement by the Regional Council in May 2011.
40. In looking then at what the existing environment comprises (in terms of TrustPower's existing operations), it is my submission that it comprises the operations legally permitted by the consent. In that regard, the Commissioners cannot in my submission ignore the Court's clear findings that in times of low flow TrustPower is not required to maintain a residual flow or minimum discharge.
41. The Court acknowledged that Fonterra had relied on the operation of the TrustPower consent *"rather than the limits of that consent as set out in the grant"* and so that may raise the question of whether the Commissioners should regard TrustPower's actual practice as representing the existing environment, rather than the terms of its consent – for example, on the basis

that it would be fanciful that TrustPower would not release any minimum discharge in times of low flow.

42. However, the law is clear that the practice of a consent holder does not override the terms of a resource consent. The Court of Appeal decision in *Queenstown Lakes District Council v Hawthorn Estate Limited*⁷, held that there was no justification for applying the "fanciful" concept to existing environment considerations.⁸
43. The rough running regime falls into more of a "grey area". The Court has said that it has reached a conclusion on condition 5.1 which is very similar to Mr Bruere's, and he took a broad or lateral approach to the rough running regime and in particular whether it amounted to "peaking". TrustPower acknowledges that on a strict interpretation, where the rough running regime would include an **increase** followed by a **decline**, it probably would amount to peaking and therefore would be outside the express terms of the resource consent. If the Commissioners agree with that, then the rough running regime sits outside the existing environment.
44. The expert witnesses for TrustPower have been instructed to prepare their evidence on the basis that the rough running regime sits outside the existing environment. However, because the rough running regime has operated for so long (at least as early as 1993/1994⁹, and then again in 2003, and regularly since 2007) it must in my submission be taken into account by the Commissioners. In particular, at the very least it provides a factual record of what has occurred in times of low flow and of effects encountered during the rough running regime. To ignore it would be artificial. In my submission, the Commissioners could have regard to it under either or both of the following provisions:
 - (a) Section 104(1)(a) - as an aspect of the assessment of any actual and potential effects of allowing the activity (as a factual record of such effects, as distinct from application of those effects to the

⁷ (2006) 12 ELRNZ 299.

⁸ Paragraph 74.

⁹ Evidence of Graham Levy, paragraph 123.

"environment" which for those purposes would exclude the rough running regime);

- (b) Section 104(1)(c) - as another matter considered relevant and reasonably necessary to determine the application.

45. In practical terms therefore, my submission is that:

- (a) The Commissioners must have regard to the fact that the existing consent does not require TrustPower to maintain a residual flow or minimum discharge in times of low inflows;
- (b) The Commissioners may take the (less conservative) approach that the rough running regime is part of the existing environment, in which case the assessment of the effects of the modified operating regime would be against an environmental baseline which includes the rough running regime;
- (c) The Commissioners may take the (more conservative) approach that the rough running regime is not part of the existing environment. If so, then:
 - (i) In practical terms, the rough running regime has been a preferable scenario to the strictly legally possible scenario of releasing no residual flow or minimum discharge in times of low inflows;
 - (ii) There is a factual record of the rough running regime and the evidence for TrustPower is that the proposed modified operating regime approximates the rough running regime in nature;
 - (iii) For those reasons, the Commissioners must take account of it under either or both of ss104(1)(a) and (c) (even if not strictly part of the existing environment).

46. I do not propose to summarise the evidence of the respective expert witnesses in terms of the remaining aspects of the existing environment, but note that each expert provides a detailed description of the existing environment in terms of their relevant expertise – for example natural character, terrestrial ecology, aquatic ecology and so forth.

Downstream abstractors

47. A number of submissions have been lodged by downstream abstractors in relation to the effects of TrustPower's modified operating regime on their ability to abstract water from the Rangitaiki River. The issue arises because the modified operating regime would result in the Rangitaiki River being held at lower levels for a longer period, and as a result of an increase in the distance at which saline intrusion up the river may interfere with the quality of the water being abstracted.
48. It is important to record that TrustPower accepts that it should mitigate the effects of its modified operating regime on those downstream intakes to the extent that they were lawfully existing at the date on which TrustPower's application was lodged (and notwithstanding any legal argument I might be tempted to make about whether they may already experience those impacts in times of low flows in any event, should inflows into Lake Matahina naturally further reduce, and/or should TrustPower not release a minimum flow).
49. In order to mitigate those impacts, TrustPower undertook a low flow trial on 7 and 8 December 2009 during which Beca assessed the extent of increased saline intrusion and at which time Beca again looked at existing intakes on the Rangitaiki River below the Matahina Dam. Significant time and energy has been invested in seeking to identify all intakes, and what effects on those intakes will be, and measures to mitigate impacts on those intakes. I make that point because the information is represented in spreadsheet form in A3 attachments to the evidence of Mr Levy, and I do not wish the Commissioners to draw the conclusion that the spreadsheet is not the result of detailed analysis undertaken by Beca engineers.
50. The Regional Council has provided an opinion, included in the officers' reports, that TrustPower is entitled to seek to remedy the effects on the

intakes but that should the relevant downstream abstractors not wish to take up the mitigation offer, they cannot in so doing prevent TrustPower from commencing the modified operating regime. TrustPower accepts that opinion and so I do not propose to restate the legal grounds, but instead note that the conditions which are being proposed by TrustPower seek to set up a system whereby:

- (a) TrustPower offers the mitigation to the relevant intake owner;
- (b) A reasonable time is provided for the intake owner to both accept the proposed mitigation, and arrange for it to be undertaken, but in the absence of arrangements being able to be made, TrustPower is permitted to proceed with its modified operating regime. Any such offer of mitigation however would remain valid for 12 months following implementation of the modified operating regime so as to enable the intake mitigation to be taken up by the intake owner;
- (c) In addition, TrustPower must prepare a Downstream Abstractors' Management Plan (DAMP) which sets up a complaints system to ensure the intake mitigation is having the desired effect;
- (d) In addition, review conditions are also imposed, so the Regional Council retains the ability to review the conditions of TrustPower's resource consent should it be necessary to do so.

- 51. For completeness, I record that the proposed conditions would require TrustPower to have secured any resource consents which are necessary to carry out the modifications proposed. TrustPower accepts that approach.
- 52. Given that TrustPower proposes to mitigate the impacts on the downstream abstractors' intakes it is submitted that questions of derogation do not arise.
- 53. For completeness I note that Fonterra's concerns, which are two-fold, include a concern in relation to its existing intake. In respect of the Fonterra intake, a separate side agreement may be reached, and so although Fonterra appears in the table to existing intakes attached to the proposed conditions of consent, condition 53 would apply which states that the conditions are not applicable

where separate contractual obligations have been entered into between TrustPower and an intake owner.

Downstream erosion – submission by Environmental Hazards Group

54. Unfortunately, TrustPower and the Environmental Hazards Group have not been able to resolve between them the issues arising in the Group's submission in relation to the downstream effects of the operation of the Scheme.
55. The Group's submission in relation to downstream river scheme management sought:
 - (a) That the full effects of the dam's high frequency low amplitude operating regime be recognised and that ongoing financial mitigation from TrustPower be required by the resource consent;
 - (b) That a five yearly recurring review clause be included in the consent conditions to monitor costs of ongoing river scheme management in the affected reach and the response of the river system to the proposed less restrictive operating regime. This should include an option for an adaptive management of the operating regime if its effects are having an unexpected adverse impact on the river system.
56. In my submission there is no ability for the Commissioners to require a financial contribution from TrustPower in respect of the Group's concerns, and I return to that shortly.
57. In respect of any monitoring and review conditions, my submission is that the proposed conditions of consent (which are extensive) already include monitoring and review conditions which are more than adequate to address the Group's concerns. Specifically:
 - (a) Condition 54 requires the following monitoring:
 - a. Monitoring shall be conducted to determine changes to the riverbed below the Matahina Dam. This monitoring program shall see the consent holder monitoring 15 cross-sections at the sites identified on the Plan attached as **Appendix Four**.

The first cross-section survey shall be completed within 12 months of the modified operating regime commencing. Subsequent surveys shall occur every five years thereafter, and within two months of any of any flood event exceeding 320 cubic metres per second at Te Teko.

- b. The results out the cross-section surveys conducted in accordance with condition 54(a) shall be compared with the results of the previous surveys, as reported in the report entitled '*Matahina HEPS – Biennial Rangitaiki River Monitoring*' (Beca Infrastructure Limited - 2010).
 - c. Monitoring shall be conducted to determine if there has been a change to the pattern or rate of erosion in the Rangitaiki River below the Matahina Dam. This monitoring program shall involve:
 - i. An annual inspection of the Rangitaiki River between the Matahina Dam and Edgecumbe by jet boat, for the first three years after the commencement of the modified operating regime, and
 - ii. An inspection of the Rangitaiki River between the Matahina Dam and Edgecumbe by jet boat within two months of any of any flood event exceeding 320 cubic metres per second at Te Teko.
 - d. The monitoring program in Condition 54(c) is to continue after the completion of the first three years of monitoring, but may occur at a reduced frequency. As a minimum, the monitoring is to be conducted every two years from the third anniversary of the commencement of the modified operating regime, and within two months of any flood event exceeding 320 cubic metres per second at Te Teko.
 - e. The results of the inspections conducted in accordance with condition 54(c) shall be compared to the outcomes reported in the document entitled '*The Matahina HEPS Rangitaiki River Monitoring Report*' (2010, Beca Infrastructure Limited).
- (b) Condition 57 requires further reporting and recommendations if monitoring shows that the modified operating regime is adversely affecting the pattern or rate of river erosion; and
- (c) Review opportunities are provided for in relation to the modified operating regime (condition 61) or on receipt of monitoring reports (condition 86).

58. Returning to the issue of "ongoing financial mitigation", I note by way of background that the previous owner of the scheme (ECNZ) entered into an agreement with the Regional Council in 1999 for the payment of an annual contribution¹⁰, which expired in November 2009 (when the resource consent expired). That agreement was entered into on a "without prejudice" basis and so doubt has always existed as to whether the Scheme has an effect on downstream river scheme management which justifies the imposition of any financial mitigation at all.

¹⁰ Annexure 4 to the evidence of Kirsty Joynt.

59. That aside, my submission is that the hearings panel does not have power to require any financial mitigation for the following reasons:

- (a) A financial contribution is defined in s108(9) of the RMA as, broadly, money, land, or a combination of money and land;
- (b) Section 108(2)(a) RMA provides that a resource consent can include a condition that a financial contribution be made, subject to s108(10). Section 108(10) provides the consent authority must not impose a contribution unless:

"(a) The condition is imposed in accordance with the purposes specified in the plan [[or proposed plan]] (including the purpose of ensuring positive effects on the environment to offset any adverse effect); and

(b) The level of contribution is determined in the manner described in the plan [[or proposed plan]].]"

- (c) Chapter 10 of the RWLP sets out when the Regional Council will require financial contributions;
- (d) As required by the RMA, the chapter sets out the circumstances in which financial contributions may be imposed, the purposes for which they may be imposed and the manner in which they will be calculated. It also sets out matters that the BoPRC will have regard to when deciding to impose a contribution (paragraph 4).
- (e) This is done in the table in Section 10.1 of the RWLP. The table is formatted by setting out the circumstance, purpose and determination of amount, but most importantly sets out the regional rules where financial contributions may be applicable. In no circumstance is a financial contribution required for Rule 47C, which TrustPower's application is under. On the basis that BoPRC has taken an explicit approach of identifying which rules financial contributions may be levied under, you can clearly conclude that it cannot require financial contributions for Rule 47C.

- (f) Furthermore, in accordance with s87A RMA, the Regional Council's power to impose conditions is restricted to the matters over which control is reserved in the RWLP. The Regional Council has not made financial contributions a matter of control for Rule 47C and this can be compared (for example) with Rule 11F where that is made explicit;
 - (g) It is important to finally record, that the Courts have considered arguments before as to whether a consent condition with a monetary element is actually a financial contribution condition, and in summary, case law authority suggests that a condition will be a financial contribution condition if it explicitly requires the applicant to pay money to a council for work the council will do. The condition will not be a financial contribution condition if the applicant is to do the works, either to a dollar value or the whole works at their expense¹¹.
60. It is understood that the Environmental Hazards Group accepts that the Commissioners lack jurisdiction to impose a financial contribution condition.
61. That said, it is acknowledged that under Rule 47C, control has been reserved over the following matters¹²:
- (a) *"(e) Measures to manage erosion effects (including destabilisation of beds and banks or river)."*
 - (b) *"(p) Measures to avoid, remedy or mitigate adverse effects on downstream sediment transport processes."*

¹¹ For example:

In *The New Zealand Anglican Church Pension Board v Kapiti Coast District Council* (W39/2000) the Court held that the condition which required the consent holder to pay 56% of the cost of road maintenance repairs, with the works to be carried out by the council, was a financial contribution condition. However, the condition was invalid because it did not comply with section 108(10) in that the financial contribution did not have a basis in the district plan.

De Castro Limited v Marlborough District Council (W29/2002) and *Cooper v Gisborne District Council* (A200/2003) discussed the *Anglican Church Pension Board* decision, but both distinguished it because the conditions were different. The condition in *De Castro* required that the applicant carry out landscaping to a dollar value. The Court found that this condition was not a financial contribution condition (noting that the applicant's obligations under the condition would not be discharged by the straight payment of the specified sum to the Council). The conditions in *Cooper* required that roading works be done, at the applicant's cost. The Court found that these were not financial contributions conditions because they did not explicitly require the council to carry out the work and did not expressly require payment to be made to the council.

62. The Commissioners will hear evidence in relation to these issues from both TrustPower's witnesses, and the witnesses of the Environmental Hazards Group. In broad terms, there appears to be agreement that:
- (a) Any effect on the Rangitaiki Rivers Scheme as a result of the operation of the Matahina Hydro Electric Power Scheme is unable to be definitively quantified;
 - (b) There is likely to be some effect of the power Scheme's operations on downstream river banks, and to that extent some mitigation would be appropriate.
63. The respective parties then diverge on:
- (a) What the significance of that effect is, and how far down the river it extends; and
 - (b) Whether there is any effect from the operation of the power scheme on the stop bank system forming part of the river scheme; and
 - (c) Whether (and if so to what extent) there is any effect which should be addressed by TrustPower contributing to future capital works.
64. The issue in this respect appears to be able to isolated to the following:
- (a) Whether peaking causes impervious layers to weaken at the river bank, thus somehow accelerating or exacerbating piping and heave occurrences and risks to stop banks during a flood event.
65. TrustPower's evidence, in summary, is that these effects would be experienced even without the power Scheme in place, which in fact provides some benefit in that it attenuates small to moderate floods.

¹² Control is also reserved over "Measures to avoid, remedy or mitigate adverse effects on lawfully established downstream infrastructure." "Infrastructure" is a defined term in the RWLP.

66. Given that control has been reserved over matters which are relevant to the issues raised by the Environmental Hazards Group, TrustPower proposes on an *Augier* basis to offer a financial contribution to address any effects caused by the operation of the power Scheme on the river scheme. It bases the quantum of that financial contribution on the assessment and analysis undertaken by Mr Graham Levy (which is supported by more erosion specific analysis carried out by Dr Do Van Toan, and reviewed by Mr Don Tate).
67. The financial contribution proposed on an *Augier* (voluntary) basis is \$51,250 + GST (and PPI adjusted annually). It is based on earlier analysis undertaken by Mr Levy and exceeds Mr Levy's current analysis set out in his evidence.¹³ It is 3-4 times the contribution which TrustPower has continued to pay in 2010 and for which it has recently received an invoice following expiration of the 1999 ECNZ agreement in 2009.
68. As the offer of a financial contribution is made on an *Augier* basis¹⁴, it is my submission that if the Commissioners determine it to be inadequate, there is no power to increase or ratchet up the contribution. The question then arises as to how the Commissioners would deal with any residual concerns and the answer of course would be through the conditions to be imposed on the resource consent. In that regard, it is my submission that the Commissioners' options are fairly limited and at best could involve some or all of the following:
- (a) Conditions to restrict aspects of the operation of the power Scheme in respect of those aspects of the operation which the Group says cause downstream erosion effects and adverse effects on stop banks;
 - (b) A more complex suite of monitoring and review conditions;
 - (c) Consent condition obligations on TrustPower to carry out erosion mitigation works in the Rangitaiki River downstream of the Matahina Dam.

¹³ Evidence of Graham Levy, paragraph 194 and Attachment 13, which suggests an annual figure of \$45,639 per year.

¹⁴ The *Augier* principle was first enunciated in *Augier v Secretary of State for the Environment* (1978) 38 P&CR (QBD). See *Frasers Papamoa Limited v Tauranga City Council* (CIV-2008-470-465) for a statement of its application in a New Zealand RMA context.

69. Each of those options is, in my submission, problematic. In particular:
- (a) The Commissioners in considering the constraints that should be imposed upon the operating regime will need to consider a range of other considerations such as the NPS REG.
 - (b) In terms of monitoring and review conditions, given the broad level of agreement between the experts for both TrustPower and the Environmental Hazards Group that the effects in question are unable to be definitively determined and/or quantified, monitoring and review conditions beyond those proposed by TrustPower would be problematic.
 - (c) Finally, just as TrustPower is not in the business of carrying out river bank erosion works and/or building stop banks, it is presumed that the Environmental Hazards Group does not wish to see TrustPower undertaking those tasks which usually fall under the management of the Rangitaiki Rivers Scheme.
70. For those reasons the Commissioners will need to closely consider the evidence put forward by both parties but including in particular the rationale in Mr Levy's evidence for the level of the financial contribution proposed by TrustPower on an *Augier* basis. It is submitted that on the evidence the contribution proposed is appropriate.

Instream minimum flow requirement (IMFR)

71. The RWLP anticipates that IMFRs will be developed in accordance with the methodology set out in Method 177 and introduced to the RWLP by plan change or variation (Method 180). No IMFR has been developed for the Rangitaiki River or introduced to the RWLP by plan change or variation.
72. Where no IMFR has been established in accordance with Method 177, the default IMFR is 90% of Q₅ 7 day low flow (Method 179).

73. Mr Levy's evidence is that the Q5 7 day low flow at Te Teko is 38m³/s. Therefore the IMFR is 90% of that, or 34m³/s.¹⁵
74. The modified operating regime will take river flow below that IMFR. TrustPower therefore seeks consent for an activity, in accordance with Policy 68, which promotes an IMFR that is an alternative to that specified in Schedule 7 (which is not applicable) or Method 179 (90% of Q5 7 day low flow). I return to that in more detail shortly. At the outset I note however that when in operation, the rough running regime has taken river flow down to 26-32m³/s at Te Teko¹⁶, which in early 2008 operated from 4-22 January.¹⁷ The IMFR promoted by TrustPower is not, therefore, dissimilar to what has historically occurred on the River downstream of the Matahina Dam. The low flow trial undertaken by Beca in December 2009 took river flow down to about 25-26m³/s at Te Teko.¹⁸
75. More specifically, in terms of Policy 68, the circumstances in which EBOP may consider granting an application for a resource consent to take water from a river or stream "*subject to an instream minimum flow requirement that is an alternative to that specified in Schedule 7 or Method 179*" on a case by case basis are as follows:
- (a) *The applicant has proposed an appropriate Instream Minimum Flow Requirement based on new or improved scientific knowledge*

In my submission this aspect of Policy 68 is clearly met. TrustPower has, in engaging a number of expert witnesses to assess the effects of its modified operating regime, gathered both new *and* improved scientific knowledge on the Rangitaiki River downstream of the Matahina Dam. This includes the technical reports prepared for the AEE, as well as the subsequent Beca and Ryder Consulting Ltd assessments undertaken as a result of the low flow trial in December 2009.¹⁹

¹⁵ Evidence of Graham Levy, paragraph 35.

¹⁶ Evidence of Graham Levy, paragraph 128(b).

¹⁷ Evidence of Kirsty Joynt, paragraph 5.11.

¹⁸ Beca, May 2010.

¹⁹ Saline Wedge Aquatic Ecology Assessment, Ryder Consulting Ltd, May 2011.

- (b) *The adverse effect on aquatic ecosystems is no more than minor*

Adverse effects on aquatic ecosystems have been assessed in detail by Dr Greg Ryder. Whilst the officers are critical of some of the work undertaken, Dr Ryder has significant nationwide experience and his expert opinion should not be lightly disregarded.

- (c) *The adverse effect on significant landscape, recreational, and Maori customary and traditional heritage values is no more than minor (where the values have been identified as significant through the use of the Criteria for Assessing Specified Matters in the Bay of Plenty Region in the Bay of Plenty Regional Policy Statement)*

TrustPower's expert witnesses in the areas of landscape (Mr John Goodwin), recreational (Mr Rob Greenaway), and Maori customary and traditional heritage values (Mr Buddy Mikaere) all address these issues in their evidence and conclude that the IMFR sought is appropriate. Mr Greenaway in fact wrote the recreation sections for the Ministry for the Environment report, *Flow Guidelines for Instream Values* (May 1998), to which the RWLP refers in the implementation of Method 177.

- (d) *The matters listed in Method 177(c) have been considered*

Method 177(c) of the RWLP, relating to the importance of factors relevant to the environmental quality of the stream or river reach has also been addressed by the relevant witnesses and that is confirmed by Dr Ryder, and Dr Sanders (terrestrial ecology and avifauna).

- (e) *The adverse effects of the take on existing downstream users, including non-consumptive users, are no more than minor*

The principal existing downstream users at stake in this case are Fonterra (as an abstractor and discharger), and the downstream abstractors. TrustPower's approach to those downstream users is to implement measures which acceptably mitigate the effects of the modified operating regime on those users so that any adverse effects

are no more than minor, and Mr Levy's evidence addresses the effects of the modified operating regime on downstream abstractors and the proposed mitigation measures.

76. Based on the expert evidence, it is my submission that you may grant a consent on the basis sought by TrustPower, which will provide a lower minimum flow (**at times**) than the default IMFR.
77. I note briefly in this context, that Stevenson Group Limited, who is not appearing in support of its submission, raised water allocation issues. It is understood that its interests are located in the upper Rangitaiki catchment. Its recent letter to the Council dated 23 June 2011 suggested that TrustPower accepted Stevenson's statutory ability to take stockwater from the Rangitaiki River. I record that TrustPower has previously written to Stevenson noting that a right under s14(3)(b) RMA must still show that its take is not likely to adversely affect the environment, including downstream users such as TrustPower. In any event, the point appears moot, as to TrustPower's knowledge no increased take has yet been asserted by Stevenson under s14(3)(b) RMA or sought through a resource consent application.

National Policy Statement for Renewable Electricity Generation

78. The NPS REG was gazetted on 14 April 2011 and took effect on 13 May 2011.
79. Section 45(1) of the RMA clearly states that the purpose of national policy statements is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act. Notably, the words "*national significance*" are remarkably close to "national importance" as those words appear in s6 of the RMA, with some dictionaries defining "*significance*" as meaning "*meaning*" or "*importance*".²⁰
80. I also note that Policy A of the NPS REG utilises the same language as that which appears in s6 of the RMA, being to "*recognise and provide for*" the national significance of renewable electricity generation activities, including the national, regional and local benefits relevant to renewable electricity

²⁰ The New Shorter Oxford English Dictionary, 1973.

generation activities. In my submission it is at least arguable that recognition of the benefits of renewable electricity generation activities are elevated to a similar status afforded by s6 of the RMA. Policies B and C(1), in contrast, require decision makers to have "*particular regard*" to the matters set out in those policies.

81. In the context of this hearing, the key aspects of Policy A, and how those might inform a decision on the application, are:

- (a) Maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions – that signals a strong policy drive towards **at least** maintaining if not increasing electricity generation capacity (certainly not reducing electricity generation capacity).
- (b) The reversibility of the adverse effects on the environment of some renewable electricity generation technologies – that will come into focus in this case because of the adverse effects which are suggested by a number of submissions in terms of matters such as aquatic ecology and effects on downstream users.

82. Policy B also has application in this case because it requires particular regard to the following:

- (a) Maintenance of the generation of existing renewable electricity generation activities can require protection of the assets, operation or capacity and a 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.

83. In my submission those two aspects of Policy B strongly point towards - as an absolute **minimum** - the re-consenting of the current operating regime (including the rough running regime).

84. Mr Kemble deals further with the NPS REG in his evidence. I further note, only briefly, that the National Policy Statement Freshwater Management 2011 (which will take effect on 1 July 2011 and will therefore be relevant to the decision on the application) contains some provisions which are relevant to a resource consent such as objective B3 to improve and maximise the efficient allocation and efficient use of water. It is acknowledged however that the primary focus of that national policy statement is the provisions of policy statements and plans.

Part 2 Matters

85. The purpose of the RMA is to promote the sustainable management of natural **and physical** resources, and all the provisions in Part 2 relate to giving effect to that purpose. As a controlled activity in an operative regional plan (itself prepared under the RMA including Part 2), Part 2 matters should only come into focus in terms of the extent to which any decision constrains the modified operating regime, or imposes further conditions of consent, and there will be a balance to be achieved between providing for both the natural and the physical resources.
86. Physical resources include hydro electric power schemes, and the decision of the Environment Court (for example) regarding the re-consenting of TrustPower's Waipori Hydroelectric Power Scheme²¹ clearly recognised the value of that Scheme as a physical resource. In rejecting constraints on the operating range of Lake Mahinerangi, the Court said:

*"In the end section 5 of the Act requires the Court to manage 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 meeting certain requirements. **In this case, Lake Mahinerangi is itself a significant physical resource as is the Waipori Power Scheme which must in itself be sustainably managed and protected.** We are satisfied that the natural resources in this area created by the Scheme have been and will be sustainably managed and protected in the future.*

²¹ *Save Mahinerangi Society Incorporated v Otago Regional Council* (C1/2004).

We have concluded that constraining the operating range of the lake may not properly protect the physical resource. In our view the physical resource goes beyond the water to the Scheme itself and its whole purpose of being able to generate up to 83 megawatts of power. To suggest that the Scheme as a resource would be protected if it were not allowed to pass water through the turbines, is in our view a practical nonsense."

87. In this case the Scheme is clearly a very significant physical resource, with the value of the total investment exceeding \$240,000,000 based on periodic valuation requirements,²² (and the national significance of such activities being recognised in the NPS REG).
88. The evidence from Peter Lilley, Ian Lees and Brent Layton is that the modified operating regime is necessary to enable the ongoing operation and maintenance of the scheme, and enhance the efficient use of the Scheme²³ and the production of renewable energy. Granting consent to the modified operating regime therefore gives expression to providing for the sustainable management of the Scheme as a **physical resource** so as to enable that to occur.

Section 6-8 matters

89. Some s6 RMA feature in consideration of the proposal so it is appropriate to address those. However, whilst aspects of s6 are relevant, it is my submission that they are not critical matters at issue. A greater number of s7 matters have relevance, as does s8.
90. Furthermore, when dealing with a controlled activity, as in this case, such matters can only be relevant to (and "inform") the extent to which the activity is conditioned through the matters over which control has been reserved.
91. The element of s6 that most clearly features in consideration of this proposal is s6(e) – the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga. It is my submission that the conditions proposed by TrustPower – which are extensive, both in terms of the matters they provide for, and the range of tangata whenua groups which they recognise – very squarely recognise and provide for the relationship of Maori and their culture and traditions with their

²² Evidence of Ian Lees, paragraph 4.4.

²³ See also evidence of Graham Levy, Ian Lees.

ancestral lands, water, sites, waahi tapu and other taonga.²⁴ (For the same reasons (the engagement undertaken to date, and the ongoing engagement and involvement proposed), it is my submission that the Commissioners can also be satisfied that the conditions have particular regard to kaitiakitanga under s7(a), and that the principles of the Treaty of Waitangi are appropriately taken into account as required by s8 of the RMA).²⁵

92. Section 6(c) is also at issue. Dr Sanders identifies one broad area that qualifies for consideration of Section 6(c) of the Act, being the river mouth and the adjacent coastline. Dr Ryder states that the Lake and River provides and supports ecologically significant habitats.²⁶ Based on their assessments, Mr Kemble considers that diversity of the habitats and/or the species they support, and their representative and unique elements, will not be compromised as a consequence of the proposal.²⁷ Dr Ryder also suggests monitoring, which is reflected in proposed conditions 54 and 56, and those squarely fall within "matter of control (k)" – *"measures to avoid, remedy or mitigate any adverse effect on aquatic ecosystems, areas of significant indigenous vegetation, significant habitats of indigenous fauna"*.
93. In terms of s7 matters, those aspects which focus on the natural environment are also reflected in the matters over which control has been reserved. There are further matters that weigh in favour of less restrictive constraints on the modified operating regime, and those are in ss7(b) and (g) in respect of the physical resource, and s7(j) in terms of the benefits to be derived from the use and development of renewable energy.

Section 5 RMA

94. Section 5 RMA is key to any proposal, but it is particularly key to this proposal because a crucial element of sustainable management is enabling people and communities to provide for their social, economic and cultural well-being and for their health and safety.

²⁴ Conditions 11-14, 55, 59, and 65-74.

²⁵ I note for completeness that any issues around Treaty grievances and claims are issues which sit outside this process and which must be resolved directly with the Crown, who has the ability to legislate regarding resolution of those grievances.

²⁶ Evidence of Greg Ryder, paragraph 9.3.

²⁷ Evidence of Gavin Kemble, paragraph 3.66.

95. The role that the Scheme has to play in facilitating wellbeing in at least the Bay of Plenty region is outlined by Mr Layton. In light of that evidence, this proposal is particularly **enabling**, but in my submission it remains subject to appropriate restrictions. In other words, the operating regime proposed is not wholly unconstrained.
96. Under section 5(2) RMA, when enabling people and communities to provide for their wellbeing:
- (a) The potential of natural and physical resources must be sustained to *"meet the reasonably foreseeable needs of future generations"*;
 - (b) *"The life-supporting capacity of air, water, soil and ecosystems"* is to be safeguarded; and
 - (c) Section 5(2)(c) refers to avoiding, remedying or mitigating the adverse effects of activities on the environment
97. In this case, the evidence from the expert witnesses is that adverse effects on natural resources are in many respects negligible, or otherwise minor. Section 5(2) matters in respect of **natural resources** are therefore appropriately provided for.
98. Viewed in that context, my submission is that the purpose and principles of the RMA would be better served by granting consent to the modified operating regime without constraint. In essence, the proposal will promote the sustainable management of the Scheme as a physical resource by providing for its use, development and protection so as to enable social, economic and cultural wellbeing, whilst ensuring that s5(2) matters in respect of **natural resources** are appropriately provided for.

Other matters relevant to determination

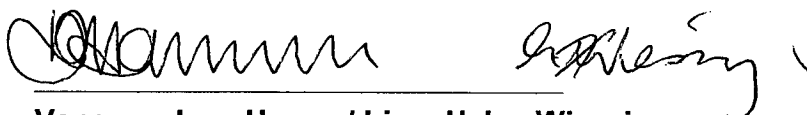
99. As set out above, other matters are relevant to your determination, and I will leave those to be addressed by the evidence, noting only briefly that:
- (a) Objectives and policies are addressed in evidence by Mr Kemble. The proposal is considered to be broadly consistent with the objectives and policies of the relevant planning documents. Again, it is my submission that those matters will inform the constraints imposed on the Scheme through conditions of consent.

- (b) Section 104(2A) is relevant, and as this is a re-consent (an application affected by s124) you must have regard to the value of the investment of TrustPower. It is considerable, as discussed above, and must again inform the extent to which the Scheme is constrained.
- (c) The matters falling within ss105 and 107 RMA are addressed in the evidence of Dr Ryder. In my submission they do not pose difficulties in this case.

Conclusion

- 100. The Scheme is a significant physical resource which must be sustainably managed.
- 101. The grant of consent to this proposal – including particularly the modified operating regime - will enable the sustainable management of the Scheme to be provided for, whilst at the same time providing for the sustainable management of the natural resource (the Rangitaiki River) by ensuring that effects on the River are minor.
- 102. On behalf of TrustPower I ask the Commissioners to grant a consent which allows the modified operating regime without constraint, and subject to the conditions proposed by TrustPower.

DATED at WHAKATANE this 28th day of June 2011



Vanessa Jane Hamm / Lizzy Helen Wiessing
(Counsel for the Applicant)

Matahina HEPS Reconsenting Project Proposed Conditions of Consent

General

1. The dam, penstock intake, tailrace, spillway and dewatering tunnel and points of discharge associated with the Matahina Hydroelectric Power Scheme are to be sited as shown in the plans attached to this resource consent as **Appendix One**.
2. The maximum height of the Matahina Dam shall not exceed 80 metres as measured from the bed of the Rangitaiki River to the dam crest.
3. The individual Matahina Spillway Gate widths shall not exceed 8.53 metres.
4. [This condition is intentionally left blank].

Civil Safety

5. The consent holder shall, within seven days of receiving a request from the Bay of Plenty Regional Council, provide a copy of all information it holds regarding the dam safety management systems employed at the Matahina Hydroelectric Power Scheme to the Chief Executive of the Bay of Plenty Regional Council.
6. The consent holder shall maintain the Matahina Dam and all its appurtenant components and ancillary/appurtenant structures to the standards recommended in the operative version of the NZSOLD Dam Safety Guidelines.

Lake Levels

7. The consent holder shall operate the Matahina Hydroelectric Power Scheme so as to comply with the following maximum or minimum operating levels for Lake Matahina (all levels are stated in 'metres above Moturiki Datum').

Extreme Minimum Reservoir Level (flood pending)	71.60 metres
Minimum Operational Reservoir Level	73.15 metres
Maximum Operational Reservoir Level	76.20 metres
Maximum Reservoir Level during floods of less than 200 cubic metres per second	76.40 metres
Design Flood Level	76.80 metres
Spillway Gate Crest Level	76.40 metres

8. The rate of change in the level of Lake Matahina shall not exceed 0.25 metres per hour except under 'emergency Conditions'.
9. For the purpose of Condition 8 'emergency Conditions' occur when:
 - a. Plant within the Matahina Hydroelectric Power Scheme has failed;
 - b. The electrical network or transmission system has become constrained or unavailable;

- c. A natural event, such as a flood, restricts the ability to operate all or any aspect of the Matahina Hydroelectric Power Scheme safely; or
- d. Storage needs to be provided in anticipation of a flood event.

Intake Screens

- 10. The intake to the Matahina Hydroelectric Power Scheme penstocks shall be fitted with a screen. The gap between bars of the screen shall be no greater than 90 millimetres.
- 11. Within 12 months of this consent commencing the consent holder shall have prepared and submitted a comprehensive report to the Chief Executive of the Bay of Plenty Regional Council that:
 - a. Describes the feasibility of installing further deterrent measures at the intake structure of the Matahina Dam to avoid or minimise the entrapment of adult eels;
 - b. Describes the alternative deterrent measures considered and assesses the strengths and weaknesses of each measure; and
 - c. Recommends a deterrent measure for deflecting adult eels from the intake structure of the Matahina Dam towards the spillway gates or an alternative downstream migration pathway.
- 12. When preparing the report required by Condition 11, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council. This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council.
- 13. Within 12 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council that the report addresses the matters set out in Condition 11, the consent holder shall implement the deterrent measure recommended in the report.
- 14. The consent holder shall provide final copies of the report required by Condition 11 to the Kokopu Trust, Department of Conservation, Fish and Game New Zealand, the Royal Forest and Bird Protection Society, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council.

Boat ramps

- 15. The consent holder shall install and maintain a water level indicator at the main launching boat ramp located at map reference NZTM 1934917, 5774496. This water level indicator shall be installed within six months of the commencement of this consent.

16. The consent holder may temporarily restrict public access to the boat ramps (and associated pontoon structures) located at map references NZTM 1934917, 5774496 and NZTM 1934987, 5774200 due to reasonable health, safety and security requirements. Access may only be restricted to one boat ramp and any associated pontoon structure at a time. Where access is restricted by the consent holder, it shall notify the Chief Executives of both the Bay of Plenty Regional Council and the Whakatane District Council in writing. The written notification shall (i) explain the need for the restriction, and (ii) estimate the duration that the restriction will apply for.

Lakeshore Processes and Sedimentation

17. The consent holder shall, within one year of this consent commencing, and then every five years thereafter, undertake inspections of the Lake Matahina shoreline. The inspection shall (i) use the methodology and visit the sites identified by Dr Martin Single in his report entitled "*Matahina Hydroelectric Power Scheme Re-consenting: Assessment of Environmental Effects – Lakeshore Erosion (October 2008)*" and (ii) consider the entire lake, but shall note the changes at the sites of erosion scarps highlighted on the map attached within **Appendix Two**.
18. The inspection required by Condition 17 shall identify potential erosion and sedimentation hazards for lake users.
19. In addition to the inspections undertaken in accordance with Condition 17, inspections shall be undertaken by the consent holder following every 'flood event'. These inspections shall also identify potential erosion and sedimentation hazards for lake users.
20. For the purpose of Condition 19, the term 'flood event' shall mean a flood of greater than 500 cubic metres per second into Lake Matahina.
21. The consent holder shall report the findings of the Lake Matahina shoreline inspections required under Conditions 17 and 19 to the Chief Executive of the Bay of Plenty Regional Council within two months of the completion of each inspection. The report must:
 - a. Identify any works that are needed to avoid, remedy or mitigate significant erosion and sedimentation hazards attributable to Lake level fluctuations and the reasons for any conclusions reached; and
 - b. If works are recommended, describe the nature of the works, the timeframe for carrying out the works, and the reasons for undertaking those works; and
 - c. Include an assessment of whether any additional monitoring is required and the reasons for any conclusions reached.
22. Within three months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council that the report required in Condition 21 addresses the shoreline erosion and sedimentation hazards caused by the lake level fluctuations associated with the operation of the Matahina Hydroelectric Power Scheme, the consent holder shall implement any mitigation measures recommended in the report.

General Monitoring

23. The consent holder shall monitor and keep records of the Matahina Hydroelectric Power Scheme reservoir level, the megawatt set point data, the flow of water discharged from the Matahina Power Station and/or via the Matahina Spillway, the flow taken for cooling water purposes and the flow of water in the Rangitaiki River (as measured at the Te Teko river flow recording site). The time interval between data readings shall be recorded at no greater than 30-minutes.
24. Reservoir levels shall be measured to an accuracy of ± 0.1 metres. Flow of the water in the Rangitaiki River, over the Matahina spillway, abstracted into the Matahina penstocks and abstracted into the cooling system associated with the Matahina Power Station shall be measured to an accuracy of ± 10 percent.
25. All records and monitoring results required by Conditions 23 and 24 shall be kept for a minimum period of 18 months from the date of each entry and shall be provided to the Chief Executive of the Bay of Plenty Regional Council:
 - a. Annually (on the anniversary of this consent commencing); and
 - b. Within seven days of the consent holder receiving a request from the Chief Executive for the record and monitoring results.

Contribution to River Bank Protection Programme

26. The consent holder shall within 3 months of this consent commencing, and annually thereafter, contribute \$51,520.00 + GST to the Rangitaiki Tarawera River Scheme implemented by the Bay of Plenty Regional Council. This contribution will be 'PPI' adjusted annually.

Periods of Normal Operation – Prior to the Implementation of the Modified Operating Regime

27. Except as provided for by Condition 63, the consent holder shall operate the Matahina Hydroelectric Power Scheme in accordance with Conditions 28 to 34, which shall apply until Conditions 47 and 51 have been fully satisfied.
28. The minimum load generated by the Matahina Power Station shall not be less than 22 megawatts, except when the inflows into Lake Matahina are less than 40 cubic metres per second.
29. When inflows into Lake Matahina are less than 40 cubic metres per second, the consent holder shall operate the Matahina Hydroelectric Power Scheme to ensure that the flow in the Rangitaiki River, immediately downstream of the Matahina Hydroelectric Power Scheme, equals, when measured over a 24-hour period, the inflows into Lake Matahina.
30. There shall be no more than two operating peaks per 24-hour period.
31. For the purpose of Conditions 29 and 30, the term '24-hour period' shall be from 12-midnight to 11.59pm.

32. For the purpose of Condition 30, the term 'operating peak' is defined as an increase in the load generated by the Matahina Power Station to a maximum and/or constant generation load followed by a subsequent decline in the load generated.
33. The maximum increase in the load generated by the Matahina Power Station shall not exceed 37 megawatts per hour except during an under-frequency event and/or flood event.
34. The maximum decrease in the load generated from the Matahina Power Station shall not exceed:
- i. 16 megawatts per hour in the first hour;
 - ii. 12 megawatts per hour in the second hour;
 - iii. 8 megawatts per hour for every hour thereafter
- except during an under-frequency event and/or flood event.

Periods of Normal Operation – Following the Implementation of the Modified Operating Regime

35. The consent holder may operate the Matahina Hydroelectric Power Scheme in accordance with Conditions 36 to 40 when Conditions 47 and 51 have been fully satisfied.
36. The consent holder shall ensure that a flow of not less than 20 cubic metres per second is maintained in the Rangitaiki River, immediately downstream of the Matahina Hydroelectric Power Scheme, at all times.
37. Except as provided for by Condition 63, the maximum and minimum set-points for the load generated by the Matahina Power Station shall be determined from the rolling average of the load generated from the power station over the previous 72 hours of operation.
38. Except as provided for by Condition 63 and in addition to the duty established by Condition 37, the maximum and minimum set-points for the load generated by the Matahina Power Station shall be determined from the following table.

Rolling 72 hour average generation ('P') (MW)¹	Minimum Generation Set-point (megawatts)	Maximum Generation Set-point (megawatts)
Less than 10	P	P
10 - 16.7	10	$(2.5 * P) - 4$
16.7 - 33.6	$(0.3 * P) + 5$	$(2.5 * P) - 4$
33.6 - 50	$(0.3 * P) + 5$	80
50 - 80	$P - 30$	80
Greater than 80	50	Spillway may operate

39. The maximum increase in load generated from the Matahina Power Station shall not exceed 52 megawatts per hour except during an under-frequency event and/or a flood event.

¹ Refer to Advice Note 1 for the indication of the flow (as seen and measured at the Te Teko flow gauge - NIWA reference number 15412) associated with the MW set points cited in Condition 37.

40. The maximum decrease in load generated from the Matahina Power Station shall not exceed 16 megawatts per hour except during an under-frequency event and / or flood event.

Notification

41. Should the maximum rates of increase and decrease set out within Conditions 33, 34, 39 and 40 be exceeded as a consequence of an under-frequency event and/or flood event, the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council within 72 hours of the under frequency event and/or flood event occurring.

Definitions

42. For the purpose of Conditions 33, 34, 39 and 40 the term 'under frequency event' shall mean either;

- a. An interruption or reduction of electricity injected into the national grid, or
- b. An interruption or reduction of electricity injected from the HVDC link into the South Island HVDC injection point or the North Island HVDC injection point

where there is, within any 60-second period, an aggregate loss of electricity in excess of 60 megawatts.

43. For the purpose of Conditions 33, 34, 39, 40 and 63, the terms 'flood event' and 'flood Conditions' shall mean when (i) flows into Lake Matahina exceed 160 m³/s cubic metres per second, and/or (ii) the water level in Lake Matahina is equal to, or exceeds 76.20 metres above Moturiki Datum.

Modified Operating Regime Notification

44. Prior to the commencement of the modified operating regime set out within Conditions 36 to 40 the consent holder shall notify the public of the new operating regime and the manner in which it will alter the flows in the Rangitaiki River. Notification shall be made via:

- a. Letters to the New Zealand Jet Boating Association, the local branch of the Fish and Game Council, Horticulture New Zealand and the Bay of Plenty Province of Federated Farmers; and
- b. A media release to boating and angling / fishing magazines including New Zealand Fishing News, New Zealand Fishing World, Fishing Magazine (on-line magazine), Boating New Zealand, Propeller Magazine and Trade-a-Boat New Zealand; and the regional newspapers including the Whakatane Beacon, Bay of Plenty Times, Rotorua Daily Post and Eastern Bay of Plenty News; the local radio stations including 1XX in Whakatane; and
- c. The website of TrustPower Limited; and
- d. Installing signage at public boat ramps on the Rangitaiki River below the Matahina Dam (Map reference NZTM 1934359, 57747759), at the

Thornton Motor Camp (Map reference NZTM 1940840, 5796847) and on the Bridge Supports at Edgecumbe and Te Teko.

Intake Modifications

45. The consent holder shall, prior to the commencement of the modified operating regime, offer to implement the intake modifications summarised in the table attached to this resource consent as **Appendix Three** with reference to the relevant intake owner. In this regard:
 - a. The consent holder shall write to the intake owner informing them of their entitlement to the intake modifications. That correspondence shall inform the intake owner of their right to have the modifications carried out either prior to, or after the implementation of the modified operating regime, and shall expressly state that the offer shall remain valid for 12 months following implementation of the modified operating regime.
 - b. The consent holder shall wait at least three months for the intake owner to respond to the written offer required by Condition 45(a) of this resource consent.
 - c. Where any intake owner(s) do not respond to, or accept the written offer required by Condition 45(a) of this resource consent, the consent holder shall not be obliged to carry out the modifications prior to implementation of the modified operating regime, but shall, within two months of implementing the modified operating regime, repeat the written offer required by Condition 45(a) of this resource consent and reconfirm that it remains valid for 12 months following implementation of the modified operating regime.
 - d. Where any intake owner(s) accept the written offer required by Condition 45(a) of this resource consent, the consent holder shall carry out the modifications at a practicable time agreed between the consent holder and the intake owner(s) provided that if a practicable time cannot be arranged within three months of any such acceptance the consent holder may proceed to implement the modified operating regime.
- 45A. In the event that:
 - a. Any of the modifications undertaken in accordance with Condition 45 require a variation to an existing resource consent, or a new resource consent; and/or
 - b. An existing take of water that is permitted under Rule 41 of the Bay of Plenty Regional Water and Land Plan requires a resource consent, as a consequence of the modified operating regime

the variation or new consent shall be obtained by the consent holder prior to the implementation of the modified operating regime.
46. The consent holder shall prepare a report that documents:
 - a. The offers and/or the modifications made to the intakes under Condition 45 of this resource consent; and

- b. The resource consents/variations to existing resource consents that are required under Condition 45A and which have been secured.

The report shall be submitted to the Chief Executive of the Bay of Plenty Regional Council for certification. The Chief Executive of the Bay of Plenty Regional Council shall only issue the certificate if he/she is satisfied that the offers have been made and/or the intakes have been modified in accordance with Condition 45 and the necessary resource consents/variations to existing resource consents required under Condition 45A have been secured.

- 47. The modified operating regime shall not commence until the Chief Executive of the Bay of Plenty Regional Council has issued his/her certificate under Condition 46 of this resource consent.

Downstream Abstractors Management Plan

- 48. The consent holder shall, prior to the commencement of the modified operating regime, prepare a Downstream Abstractors Management Plan ('DAMP') in respect of the modifications that have been carried out pursuant to Condition 45 of this resource consent. The DAMP shall be developed by a suitably qualified and experienced expert (or experts).
- 49. The DAMP shall:
 - a. Describe the measures that have been installed, and/or modifications that have been made by the consent holder, in accordance with Condition 45 of this resource consent, to maintain the ongoing performance of the existing intakes following the implementation of the modified operating regime.
 - b. Establish a complaints and investigation process that is available for the owners of the existing intakes should they become concerned that the modified operating regime is adversely affecting the effective and efficient operation of their intake.
 - c. Identifying a person (or persons) that can be contacted, at any time, by the owners of the existing intakes to discuss a concern associated with the operation of their intakes.
 - d. Identify a toolbox of measures that can be implemented to rectify a problem with each intake that has been modified in accordance with Condition 45.
 - e. Identify a toolbox of measures that can be implemented to address the impact of a water supply being interrupted while Condition 49(d) is being implemented (such as the temporary supply of water from an alternative source).
 - f. Set out mediation and arbitration procedures for dealing with issues or disputes that arise in relation to the implementation adequacy and effectiveness of the additional measures specified in the Condition 45 and/or the DAMP.
- 50. When preparing the DAMP required by Condition 48 of this resource consent, the consent holder shall consult with the owners of every intake that has been

modified in accordance with Condition 45 of this resource consent. This shall include submitting a draft of the plan to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council.

51. The modified operating regime shall not commence until the Chief Executive of the Bay of Plenty Regional Council has certified that the DAMP addresses the matters set out in Conditions 49 and 50.
52. The consent holder shall, twelve months after the commencement of the modified operating regime, prepare an updated DAMP in respect of the modifications that have been carried out after commencement of the modified operating regime pursuant to Condition 45 of this resource consent. The requirements of Conditions 49 and 50 of this resource consent shall apply in respect of the updated DAMP in respect of all intake owners who were not encompassed in the DAMP first prepared in accordance with Condition 48.

Intakes Exemption

53. Conditions 45 to 52 of this resource consent shall not apply in respect of any existing intake(s) if alternative arrangements are agreed by contractual obligation between the consent holder and the intake owner.

Monitoring Post Implementation of the Modified Flow Regime

54. The consent holder shall appoint an appropriately qualified independent expert (or experts) to monitor the Rangitaiki River from the Matahina Dam to its mouth. The monitoring programs and the methodology to be employed in the monitoring are set out in (a) to (h):
 - a. Monitoring shall be conducted to determine changes to the riverbed below the Matahina Dam. This monitoring program shall see the consent holder monitoring 15 cross-sections at the sites identified on the Plan attached as **Appendix Four**. The first cross-section survey shall be completed within 12 months of the modified operating regime commencing. Subsequent surveys shall occur every five years thereafter, and within two months of any of any flood event exceeding 320 cubic metres per second at Te Teko.
 - b. The results of the cross-section surveys conducted in accordance with Condition 54(a) shall be compared with the results of the previous surveys, as reported in the report entitled '*Matahina HEPS – Biennial Rangitaiki River Monitoring*' (Beca Infrastructure Limited - 2010).
 - c. Monitoring shall be conducted to determine if there has been a change to the pattern or rate of erosion in the Rangitaiki River below the Matahina Dam. This monitoring programme shall involve:
 - i. An annual inspection of the Rangitaiki River between the Matahina Dam and Edgecumbe by jet boat, for the first three years after the commencement of the modified operating regime, and

- ii. An inspection of the Rangitaiki River between the Matahina Dam and Edgecumbe by jet boat within two months of any of any flood event exceeding 320 cubic metres per second at Te Teko.
- d. The monitoring program in Condition 54(c) is to continue after the completion of the first three years of monitoring, but may occur at a reduced frequency. As a minimum, the monitoring is to be conducted every two years from the third anniversary of the commencement of the modified operating regime, and within two months of any flood event exceeding 320 cubic metres per second at Te Teko.
- e. The results of the inspections conducted in accordance with Condition 54(c) shall be compared to the outcomes reported in the document entitled '*The Matahina HEPS Rangitaiki River Monitoring Report*' (2010, Beca Infrastructure Limited).
- f. The effect of the modified operating regime on aquatic flora and fauna is to be monitored. This monitoring programme shall include weed bed and riparian vegetation health and coverage assessments, an assessment of macro-invertebrate abundance and diversity of the Rangitaiki River between the Matahina Dam and Edgecumbe, and the measurement of temperature and dissolved oxygen levels (concentration and percent saturation concentration).
- g. The weed bed and riparian vegetation health/coverage and macro-invertebrate abundance/diversity monitoring required under Condition 54(f) shall be undertaken at six monthly intervals over a period of 36 months from the commencement of the modified operating regime.
- h. The temperature and dissolved oxygen level monitoring required under Condition 54(f) shall be undertaken:
 - i. Immediately downstream of the Matahina Hydroelectric Power Scheme's tailrace; and
 - ii. At the Te Teko river flow recording site; and
 - iii. Every 15 minutes over a period of 24 months from the commencement of the modified operating regime.
- 55. The consent holder shall provide reports detailing the results of the monitoring required under Condition 54 to the Chief Executive of the Bay of Plenty Regional Council no later than 39 months of the modified operating regime commencing. Copies of the reports shall also be forwarded to the relevant branches of the Department of Conservation, the Royal Forest and Bird Protection Society, Horticulture New Zealand, the Bay of Plenty Province of Federated Farmers, Fish and Game New Zealand, the Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council.
- 56. In addition to the reporting requirements set out in Condition 54, the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council if the dissolved oxygen concentration at the Te Teko river flow recording site is less than 80 percent. The notification shall be in writing and shall record the

dissolved oxygen levels measured, and the duration that the dissolved oxygen concentration was less than 80 percent. The notification shall be made within 48 hours of the consent holder becoming aware of the dissolved oxygen concentrations being less than 80 percent.

57. In the event that the monitoring completed under Condition 54 of this resource consent identifies that the modified operating regime is:
- a. Adversely affecting the pattern or rate of river erosion; or
 - b. Adversely affecting the aquatic flora and fauna; or
 - c. Adversely affecting water quality

the consent holder shall appoint a suitably qualified independent expert (or experts) to prepare and submit a further report (or reports) to the Chief Executive of the Bay of Plenty Regional Council that recommend mitigation measures to address the adverse effects that are apparent and any associated on-going programme of monitoring. The report shall be prepared and submitted to the Chief Executive of the Bay of Plenty Regional Council for certification no later than 3 months after the report (or reports) required in accordance with Condition 54 of this resource consent has been submitted. The Chief Executive of the Bay of Plenty Regional Council shall only issue the certificate if:

- d. The proposed mitigation measure(s) will appropriately address the adverse effect(s); and
 - e. The proposed monitoring programme will enable the effectiveness of the mitigation measure(s) to be adequately assessed.
58. The consent holder shall, within 3 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council in accordance with Condition 57 of this resource consent, implement the mitigation measures recommended in the report.
59. In the event that monitoring conducted in accordance with Conditions 17 to 21, 54(a) and/or 54(b) of this resource consent identifies that a cultural and/or archaeological site (or sites) is damaged, modified or destroyed by events that are attributable to the modified operating regime the consent holder shall advise the Chief Executive of the Bay of Plenty Regional Council within 48 hours of the consent holder being aware of the damage, modification or destruction. In such an event the following actions and subsequent mitigation shall be undertaken:
- a. Within 48 hours of the consent holder being aware of the damage, modification or destruction, the consent holder shall advise Ngati Awa, Ngati Tuwharetoa and the New Zealand Historic Places Trust.
 - b. Within 7 days of the consent holder being aware of the damage, modification or destruction, the consent holder shall commission a suitably qualified archaeologist to provide a report on the site, including advice from the appropriate Pukenga of Ngati Awa and Ngati Tuwharetoa, and any recommended actions or mitigation measures.

- c. Within 7 days of the report required in accordance with Condition 59(b) being completed, the consent holder shall provide a copy of the report to Ngati Awa, Ngati Umutahi and Ngati Tuwharetoa for comment, allowing one month for a response. Upon receipt of any comments the consent holder shall submit the report, and any comments received from Ngati Awa or Ngati Tuwharetoa to the Chief Executive of the Bay of Plenty Regional Council for review and certification.
 - d. Within 7 days of the report required in accordance with Condition 59(b) being completed, the consent holder shall also provide a copy of the report to the New Zealand Historic Places Trust if it has been established that an archaeological site has been damaged.
60. Within 6 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council that the report required in Condition 59(b) adequately addresses environmental effects associated with the damage, destruction or modification, the consent holder shall implement any recommended actions or mitigation measures set out in the report.

Modified Operating Regime Consent Review Opportunity

61. The Chief Executive of the Bay of Plenty Regional Council may, in accordance with section 128 of the Resource Management Act 1991, not less than 43 months after the commencement of the modified operating regime, serve notice of its intention to review, amend, delete or add to the Conditions of this resource consent to deal with any unanticipated adverse effects on the environment which result from the modified operating regime.
62. All reasonable costs incurred by the Bay of Plenty Regional Council in undertaking a review of the consent under section 128 of the Resource Management Act 1991, as specified in Condition 61, shall be borne by the consent holder.

Flood Operating Conditions

63. The Matahina Hydroelectric Power Scheme shall be operated in accordance with the Flood Management Plan attached as **Appendix Five** to this resource consent when 'flood Conditions' into Lake Matahina are predicted (by either Bay of Plenty Regional Council or the consent holder) or experienced.

Flood Management Plan

64. The Flood Management Plan attached as **Appendix Five** to this resource consent may be amended by the consent holder. The amendments shall not have effect under Condition 63 until the Chief Executive of the Bay of Plenty Regional Council certifies that they accord with the relevant obligations of the Building Act 2004 and the Building (Dam Safety) Regulations 2008, or any subsequent revisions to the Act.

Fish Passage

65. The consent holder shall facilitate the upstream passage of native fish species that currently arrive at the Matahina Dam face (targeting longfin eel, shortfin eel, koaro, banded kokopu, shortjaw kokopu and giant kokopu species (the 'target species')) and downstream passage of adult eels past the

Matahina Dam, the objective of which is to ensure that the Matahina Dam does not prevent the establishment and maintenance of diadromous native fish populations in the Rangitaiki River catchment upstream of the Matahina Dam.

66. Within 6 months of this consent commencing the consent holder shall have submitted a report, prepared by a suitably qualified independent expert, to the Chief Executive of the Bay of Plenty Regional Council that describes:
 - a. The up and downstream fish passage systems that the consent holder will adopt to comply with Condition 65; and
 - b. The programme of monitoring that will be undertaken to record the live fish (by number and species):
 - i. Transferred upstream of the Matahina Dam, and
 - ii. Observed achieving passage downstream of the Matahina Dam

to demonstrate whether the fish passage systems are assisting in the achievement of the objective set out in Condition 65.
67. When preparing the report required by Condition 66, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, the Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, and Ngati Umutahi (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council.
68. The report required by Condition 66 shall be submitted to the Chief Executive of the Bay of Plenty Regional Council and must, as a minimum:
 - a. For upstream passage:
 - i. Set an objective for the effectiveness of the fish trap and transfer system and detail how the achievement of the objective will be monitored; and
 - ii. Specify the period over which the fish trap and transfer system will be operated (this period will align with the peak migration period(s)) for the species listed in Condition 65. The Consent Holder is to adopt a precautionary period of operation for the fish trap and transfer system until the Chief Executive of the Bay of Plenty Regional Council certifies that he/she is satisfied that the peak migration period is adequately defined; and
 - iii. Specify the programme of monitoring that is to be undertaken to refine the peak migration period(s); and
 - iv. Detail the design and location of the fish trap, the methodology to be used in the transfer of the live fish (including a requirement for the target species to be transferred to areas upstream of the

Aniwhenua Hydroelectric Power Scheme at least once per week) and specify the locations where the live fish will be transferred to and the reasons for the locations; and

- v. Specify the measures to be undertaken to enhance fish survival during the transfer and post release periods.
- b. For downstream passage:
- i. Set an objective for the effectiveness of the downstream adult eel passage system and detail how the achievement of the objective will be monitored; and
 - ii. Describe the proposed downstream adult eel passage system, and detail the alternative options considered/assessed, the costs and benefits of each alternative and set out the reasons for recommending the proposed adult eel passage system.
69. Within 12 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council that the report required in Condition 66 addresses the matters set out in Conditions 66, 67 and 68 the consent holder shall implement the fish and adult eel passage systems and monitoring programmes recommended in the report.
70. The consent holder shall annually report (on the anniversary of the commencement of this consent), to the Chief Executive of the Bay of Plenty Regional Council, on the work undertaken to comply with Condition 69 and the monitoring undertaken including:
- a. An estimate of the number of each species transferred upstream of the Matahina Dam and the location of their release; and
 - b. An estimate of the number of adult eels that have passed downstream of the Matahina Dam; and
 - c. Results of the monitoring conducted to assess the health and viability of the fish populations upstream of the Matahina Dam.
71. Within 3 years of this consent commencing the consent holder shall appoint a suitably qualified independent expert (or experts) to prepare and submit to the Chief Executive of the Bay of Plenty Regional Council a report that:
- a. Details the work that has been undertaken to comply with Conditions 65 to 70;
 - b. Reports the contribution made by the upstream and downstream fish passage systems to the achievement of the objective set out in Condition 65;
 - c. Assesses the effects of the Matahina Dam and Lake Matahina on fish populations and describes the benefits of the work that has been undertaken to maintain and enhance these populations; and
 - d. Makes recommendations about mitigating the effects of the Matahina Dam and Lake Matahina on upstream fish populations, including:

- i. The value of continuing the facilitation of fish passage;
 - ii. The species that should be targeted for any ongoing facilitation of passage;
 - iii. Any changes to the programme that would help achieve the objective set out in Condition 65; and
 - iv. Describing alternative measures and/or programmes for avoiding, remedying or mitigating the effects of impeding fish passage, in the event that the focus on facilitation of passage is shown to be unsuccessful in maintaining viable populations of the target species upstream of Lake Matahina.
72. When preparing the report required by Condition 71, the consent holder shall consult with the Department of Conservation, Fish and Game New Zealand, Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, and Ngati Umutahi (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council). This shall include submitting a draft of the report to those parties for comment and allowing one month for a response. The consent holder shall provide a copy of any comments received to the Chief Executive of the Bay of Plenty Regional Council.
73. Within 6 months of receiving certification from the Chief Executive of the Bay of Plenty Regional Council that the report addresses the matters set out in Condition 71, the consent holder shall implement the mitigation measures recommended in the report.
74. The consent holder shall provide final copies of all reports required by Conditions 66 to 71 to the Department of Conservation, Fish and Game New Zealand, the Royal Forest and Bird Protection Society, the Kokopu Trust, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa, Ngati Umutahi (and any additional parties deemed relevant by the Chief Executive of the Bay of Plenty Regional Council).

Cooling Water Discharge

75. The maximum rate of discharge of water used for cooling purposes at the Matahina Dam Powerhouse to the Rangitaiki River shall not exceed 140 litres per second.

Maintenance Activities

76. The consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council of its intention to carry out maintenance activities at the Matahina Hydroelectric Power Scheme that will disturb the bed of Lake Matahina and/or the Rangitaiki River at least 48 hours prior to the commencement of the activities. The notification shall be in writing and set out the nature of the proposed activities, their purpose and anticipated duration.
77. No contaminants (other than sediment) shall be released to the area of Rangitaiki River or Matahina Lakebed, beyond the area that is being worked,

from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the Rangitaiki River or Matahina Lakebed. All equipment used in the maintenance activities undertaken by, or at the request of the consent holder shall be cleaned to the MAF Biosecurity didymo cleaning standards prior to, and following the work undertaken within the bed of Lake Matahina or the Rangitaiki River to minimise the prospect of aquatic weeds being transferred into or from the Rangitaiki River catchment.

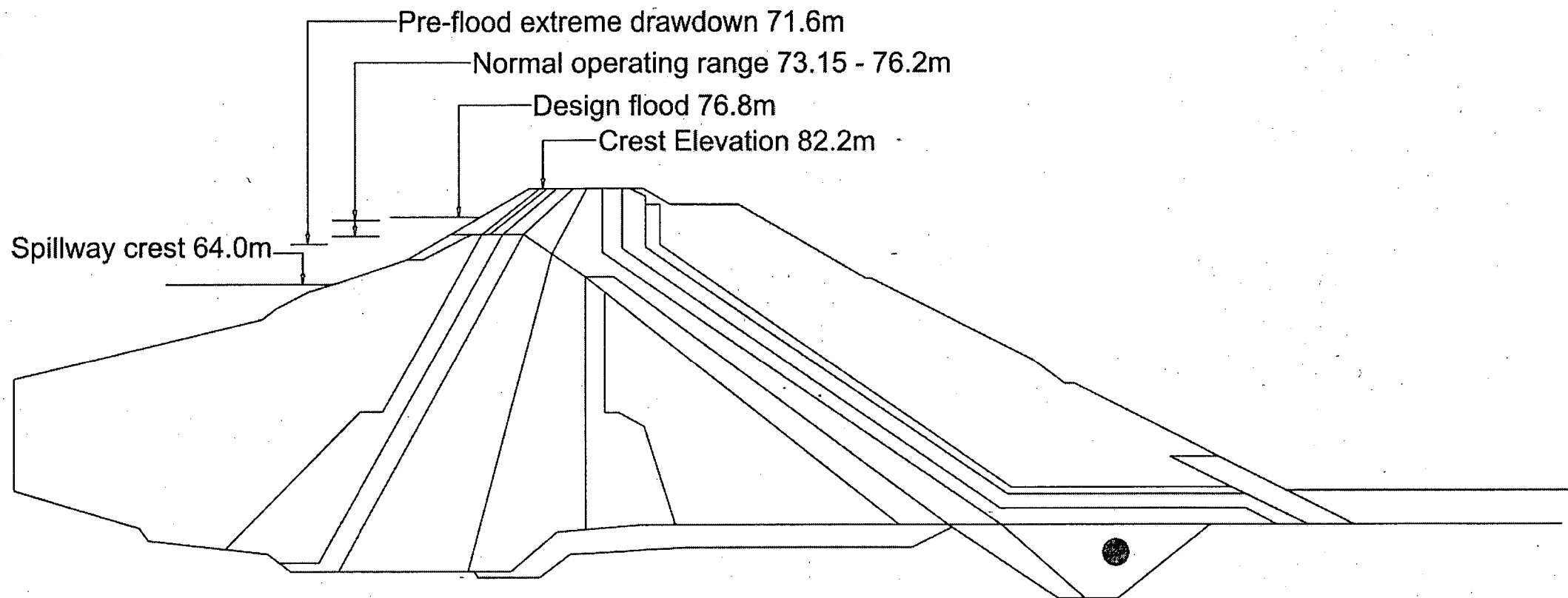
78. All material removed from a structure or from within the immediate vicinity of a structure, and all excess construction materials shall be removed from the river and/or lakebed within 7 days following the completion of the work. The consent holder shall ensure that any stockpiles of materials are located so that the materials cannot enter a water body and/or a watercourse.
79. Dewatering of any work site shall be for the minimum time necessary to undertake the work. If dewatering for more than 48 hours is expected to be necessary the consent holder shall notify the Chief Executive of the Bay of Plenty Regional Council before the work begins. The notification shall be in writing and shall describe the activity, its purpose and expected duration.
80. Maintenance activities undertaken in accordance with this consent shall not cause the flow of the Rangitaiki River to be less than 20 cubic metres per second immediately below the Matahina Hydroelectric Power Scheme.

Relationship with Tangata Whenua

81. The consent holder shall, at least once per calendar year, convene a meeting with representatives of the Bay of Plenty Regional Council, Ngati Awa, Ngati Haka Patuheuheu, Ngati Manawa, Ngati Whare, Ngati Tuwharetoa and Ngati Umutahi, to discuss any matter relating to the exercise and monitoring of this consent.
82. The meeting required by Condition 81 need not occur if either (i) the tangata whenua parties listed in the Condition advise the Bay of Plenty Regional Council that the meeting is not required, or (ii) there is no response from all of the Tangata Whenua groups to an invitation from the consent holder to meet.
83. The consent holder shall keep minutes of the meetings held in accordance with Condition 81 and shall forward them to all attendees and to the Bay of Plenty Regional Council.

General Review

84. In accordance with sections 129 of the Resource Management Act 1991, the Chief Executive of the Bay of Plenty Regional Council may serve notice of its intention to review, amend, delete or add to the Conditions of this resource consent under section 128 of the Resource Management Act 1991 by giving a notice of review during the month of March 2013 and/or March 2018 and/or March 2023 and/or March 2028 and/or March 2033 and/or March 2038, for the purpose of ensuring that the Conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were not foreseen at the time the application was considered.
85. In accordance with section 128(1)(b) of the Resource Management Act 1991, the Chief Executive of the Bay of Plenty Regional Council may serve notice of



Note that the heights referred to in this figure are elevations above survey datum (approximately sea level).

APPENDIX FOUR – Erosion Monitoring Cross-section Locations

APPENDIX FIVE - Lake Matahina Flood Management Plan

Lake Matahina Flood Management Plan

**TrustPower Limited
June 2011**

1	Introduction	1
1.1	History	1
1.2	Lake Management	2
2	Objective and Application	3
3	Review	4
4	Operating Guidelines and Procedures	5
4.1	Calculating Inflows	5
4.2	Dam Operation - Minor Floods	5
4.3	Dam Operation – Major Floods	6
Figure 1		8
Figure 2		9
Table 1		10

1 Introduction

1.1 History

The Matahina Hydroelectric Power Scheme ('Matahina HEPS' or the 'Scheme') is located on the Rangitaiki River and was constructed in 1967. TrustPower purchased the Scheme from the Electricity Corporation of New Zealand in 1999.

The Matahina Dam is approximately 80 metres high and impounds Lake Matahina. The Lake is some 6km long, has a surface area of approximately 2.5km², and a volume of approximately 55,000,000m³. The Scheme's spillway operates during floods; when inflows exceed the capacity of the Scheme and Lake Matahina is full; or when the powerhouse is not, or cannot, operate, or when Bay of Plenty Regional Council (BOPRC) request lowering of the dam in advance of anticipated floods. The spillway has a capacity of 2300 cumecs, which is well in excess of the downstream Rangitaiki-Tarawera Rivers Flood Protection Scheme ("RTRFPS") capacity, which is intended to be upgraded to a design inflow of approximately 800m³/s.

The main purpose of the Matahina Dam is to store water for the Matahina HEPS. The dam is not primarily for flood control purposes, although its presence has substantially reduced the frequency and severity of small to medium floods in the Rangitaiki Plains. The intention of this flood management plan is therefore to provide ongoing guidance to the boundaries of co-operation within which BOPRC and TPL can work within while optimising the storage and reducing the impacts on downstream "RTRFPS" during floods.

The Matahina HEPS gained new resource consents as part of a reconsenting process during 2011. The new consents stipulate that *"the Matahina Hydroelectric Power Scheme shall be operated in accordance with the Flood Management Plan attached as **Appendix Five** to this resource consent when 'flood Conditions' into Lake Matahina are predicted (by either Bay of Plenty Regional Council or the consent holder) or experienced."* This flood management plan has therefore been prepared in accordance with resource consent xxxx.

1.2 Lake Management

Management of Lake Matahina levels requires a balance between ensuring adequate water storage to meet generating requirements and minimising the need to spill water during flood events. Such spillage is not in the interest of TrustPower as it represents wasted energy, in addition to the potential for downstream flooding. Management procedures over the years have ensured that few spillages have occurred.

BOPRC (as Group Controller for the Civil Defence Group Emergency Operations Centre), has overall responsibility for coordinating regional response to flood events, which includes warnings to the public in the affected areas. In the event of a major flood, TrustPower works alongside BOPRC to ensure that TrustPower's primary focus during major flood events is to maximise safety of its dam and associated structures and personnel thereby ensuring safety to the public. It also maximises the potential of storage available to reduce the maximum peaks outflows.

The resource consent conditions regulating the operation of the Scheme during floods, particularly those that exceed 500 cumecs, are aimed at employing the Matahina HEPS to provide some attenuation of the downstream environment (wherever practicable), and to preserve the integrity of the "RTRFPS".

Due to the relatively limited storage capacity of the Dam, containing large floods is not possible, and flood management becomes focussed on optimising the available storage and reducing the flood peak. Discussions with BOPRC will consider the possibilities of timing of spillage to account for issues within the "RTRFPS" and community at risk. For example, accounting for the water travel time from dam to Te Teko timing of peak spill discharges with low tides and during daylight hours would be optimal.

2 Objective and Application

The objective of this document is to set operating guidelines and procedures in order to provide a balance between TrustPower's needs for the controlled discharge of floodwaters from the Matahina Dam such that the effect of the discharge is kept to a practicable minimum and the integrity of the Matahina Dam structure is maintained, and BOPRC's main interests to provide flood protection to the community, and minimising damage to the "RTRFPS".

The procedures set in this document will normally be observed and applied by TrustPower. However, action to be taken or procedures to be followed will also be influenced by the conditions applicable at the time.

In the event of flood conditions, TrustPower will maintain close liaison with BOPRC and consult on action to be taken. Where the community downstream is at risk, TrustPower is committed to undertake reasonable requests by BOPRC, such as lowering dam levels. However, where dam safety is jeopardised, the final decision will remain TrustPower's and action other than in accordance with this document cannot be precluded.

While all efforts have been made to accommodate the relevant sections from the operating procedures within this "Flood Management Plan" the current "Operating Procedures" remain the primary operating procedures for the Scheme.

3 Review

The Lake Matahina Flood Management Plan may be varied occasionally, following approval in writing from BOPRC, in order to better provide for the following objectives :

- (a) Compliance with resource consent conditions.
- (b) Continual flood preparedness.
- (c) Monitoring and control during the rise, peak and fall of floods.
- (d) The provision, use and restoration of flood storage capacity in Lake Matahina.

4 Operating Guidelines and Procedures

4.1 Calculating Inflows

- 4.1.1 TrustPower operates a number of river flow and rainfall gauges in the Rangitaiki Catchment. These are listed below in Table 1. Real time inflows into Lake Matahina are calculated using data from sites within this table and all inflow data will be made available to BOPRC for flood management purposes.
- 4.1.2 TrustPower uses two methods to calculate inflows. TPL use a volumetric calculation using lake level and rate of change over a 24hr rolling period (updated every 15mins). It also uses the calculated flows from Aniwhenua and Waihua (x 2) as a guide for an inflow total. These flows are displayed in CITECT (the operational software) and monitored by the staff manning the 24hr operation centre based at Te Maunga and the site staff located at the dam.
- 4.1.3 **Figure 2** below demonstrates the weather predictions and actual ground measured values which trigger the various stages of flood management for the Matahina HEPS.

4.2 Dam Operation - Minor Floods

- 4.2.1 The terms 'minor floods' and 'minor flood events' mean flood flows into Lake Matahina that are up to, but do not exceed 500 cubic metres per second.
- 4.2.2 TrustPower shall make available a range of flow data. Inflows from upstream sites and lake level data. Spillway discharges can also be provided but machine outputs are commercially sensitive. In flood flows these can be assumed to be running on full for modelling purposes. Verbal confirmation will be given on request.
- 4.2.3 TrustPower shall advise the Chief Executive of BOPRC if it is proposed, as a consequence of a minor flood event, to increase the level of Lake Matahina above 76.2 metres (Moturiki Datum) maximum control level. In all but exceptional circumstances, the advice to the Chief Executive shall occur in advance of the lake level exceeding 76.2 metres.
- 4.2.4 More detailed instructions in relation to the main stages of flood management are provided in **Figure 1** below. **Figure 2** demonstrates the process for estimating minor or major flood flows.

4.3 Dam Operation – Major Floods

- 4.3.1 The terms 'major floods' and 'major flood events' mean flood flows into Lake Matahina that exceed 500 cubic metres per second.
- 4.3.2 When a major flood is expected by BOPRC, TrustPower shall, following a request from BOPRC, provide storage in Lake Matahina. TrustPower shall not however, lower the lake level such that it falls below 71.6 metres (Moturiki Datum) without the prior approval BOPRC.
- 4.3.3 The maximum rate of discharge shall not exceed 600 cubic metres per second provided that the rate may be increased to 755 cubic metres per second with the agreement of the Chief Executive of BOPRC when the lake is rising so rapidly that it will exceed its maximum level.
- 4.3.4 Lake Lowering – The maximum drawdown rate of discharge shall not exceed 0.3 m per hour except in emergency situations when BOPRC may agree to a drawdown rate of up to 0.4m per hour. At all times when the lake level is being drawn down, total discharge shall not exceed 550 cumecs. The maximum increase in outflow shall not exceed 70 cumecs per 15 minutes.
- 4.3.5 Lake Filling – The maximum rate of river level drawdown shall not exceed 1.2m per 8 hours at the tailrace of the dam. Drawdown to such a maximum may be made in a period of 30 minutes, provided the outflow is kept constant for the following 7.5 hours.
- 4.3.6 For the purposes of the above, the Chief Executive of BOPRC may delegate their authority to BOPRC's Environmental Hazards Group Manager, Operations Manager, Engineering Manager, or Duty Flood Manager.
- 4.3.7 More detailed instructions in relation to the main stages of flood management are provided in **Figure 1** below. **Figure 2** demonstrates the process for estimating between minor and major flood flows.

Table 1 - Monitoring Stations/Sites within the Rangitaiki catchment.

Stn Nos	Station Name	Station	Parameter	Primary Source	Primary Telemetry	Secondary Source,	Secondary Telemetry	Logger type	Collected By	Funded By
15401	Rangitaiki @ Thornton	Thornton	Level & Rain	Shaft Encoder	HydroTel - GPRS	none	Nil	Campbell CR500	EBOP	EBOP
15408	Rangitaiki @ Murupara	Murupara	Flow	Kainga Encoder	Aquibel Remote	Greenspan Transducer	Nil	1, Aquibel, 2, Kainga	NIWA-Rot	TP / FRST
15453	Waihua @ Gorge	Gorge	Flow	Kainga Encoder	Aquibel Remote	Foxboro Chart	Nil	1, Aquibel	NIWA-Rot	TP
15499	Lk Matahina@ Dam	Dam	Level	Kainga Encoder	Aquibel Remote	nil	nil	1, Aquibel, 2, nil	NIWA-Rot	TP
15466	Rangitaiki @ Aniwhenua	Aniwhenua	Flow	Unidata Encoder	Aquibel Remote	Greenspan Transducer	nil	1, Starlogger, 2, Micrologger	NIWA-Rot	TP
15410	Whirinaki @ Galatea	Galatea	Flow	Sutron Sensor	Aquibel Remote	Kainga Transducer	nil	1, Starlogger, 2, Unidata Starlogger	NIWA-Rot	TP / FRST
15412	Rangitaiki @ Te Teko	Te Teko	Flow	Kainga Encoder	Aquibel Remote	Water pilot Transducer	nil	1, Aquibel, 2, Kainga	NIWA-Rot	TP
15464	Rangitaiki @ Western Weir	Western Weir	Flow	Kainga Encoder	Aquibel Remote	nil	nil	1, Unidata Starlogger	NIWA-Rot	TP
15462	Wheao @ Powerhouse	Powerstation	Flow	Transducer	Citect	Generation		nil	TP	TP
3250	Rangitaiki @ Matahina	Powerstation	Flow & Rain	Total	Citect	Generation		nil	TP	TP
				RG type	Bucket size	Storage gauge		Primary Telemetry		
876002	Whakatane	Huiarau Summit	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
873002	Whakatane	Huitieke	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
868410	Rangitaiki	Kokomoka	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
860710	Rangitaiki	Te Teko	Rain	Ota/TB3	0.5mm	No		HydroTel	EBOP	EBOP
870201	Waimana	Ranger Station	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP
769701	Tarawera	Awakaponga	Rain	Ota/TB3	0.5mm	Yes		HydroTel	EBOP	EBOP