



**APPENDIX K**

Proposed Consent Conditions -  
Trustpower

## ELEMENTS OF THE MANGOREI HEPS REQUIRING RESOURCE CONSENT

Activities requiring resource consent are noted in **bold** text.

Activity	Rule	Status
<b>The damming of water in the Waiwhakaiho River via an existing diversion weir and intake structure</b>	<b>Rule 20</b>	<b>Discretionary</b>
<b>The diversion, take and use of water for hydro-electricity generation purposes from the Waiwhakaiho River</b>	<b>Rule 16 and 20</b>	<b>Discretionary</b>
<b>The use and maintenance of an existing diversion weir and fish pass (including the removal of gravel, boulders and debris) in the Waiwhakaiho River</b>	Rule 52 (use) Rule 53 (maintenance) <b>Rule 72 (bed disturbance)</b>	Permitted Permitted <b>Discretionary</b>
Discharge of water over the existing diversion weir in the Waiwhakaiho River	Rule 21	Permitted
Discharge of water from the Waiwhakaiho River via a diversion tunnel and discharge / outlet structure into Lake Mangamahoe	Rule 21	Permitted
The use and maintenance of an existing discharge / outlet structure in Lake Mangamahoe	Rule 52 (use) Rule 53 (maintenance)	Permitted Permitted
<b>The damming of water in the Mangamahoe Stream via an existing dam structure to form Lake Mangamahoe</b>	<b>Rule 20</b>	<b>Discretionary</b>
<b>The use and maintenance of an existing dam structure in the Mangamahoe Stream</b>	<b>Rule 64 (use)</b> Rule 53 (maintenance)	<b>Discretionary</b> Permitted
<b>The diversion, take and use of water per day from Lake Mangamahoe via a tunnel and penstocks for hydro-electricity generation purposes at the Mangorei Power Station</b>	<b>Rule 16 and 20</b>	<b>Discretionary</b>
The use and maintenance of an existing structure in Lake Mangamahoe	Rule 52 (use) Rule 53 (maintenance)	Permitted Permitted
<b>The discharge of water from Lake Mangamahoe via a spillway to the Mangamahoe Stream, including the emergency discharge of water</b>	<b>Rule 43</b>	<b>Discretionary</b>
The discharge of water per day to the Waiwhakaiho River, via a tailrace from the Mangorei Power Station	Rule 21	Permitted

## PROPOSED CONDITIONS

All resource consents for the Mangorei HEPS will be subject to the following general conditions:

### General Conditions

1. On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
2. Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
3. The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 of the Resource Management Act 1991 in relation to the administration, monitoring and supervision of this consent.
4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review to the conditions of this resource consent by giving notice of review two years from commencement of this consent; during the sixth year and every six years thereafter, 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 it was not appropriate to deal with at the time the consent was granted.

### Specific Conditions

Each resource consent for the Mangorei HEPS which will be subject to the specific conditions as detailed below:

#### **A water permit for the damming of water in the Waiwhakaiho River, and the diversion, take and use of water from the Waiwhakaiho River for hydro-electricity generation purposes**

1. The consent holder may divert and take up to 10 m<sup>3</sup>/s from the Waiwhakaiho River via its intake structure, subject to compliance with the conditions regarding the provision of flows in the Waiwhakaiho River set out in conditions 2, 3, 6 and 10 of this resource consent.
2. The consent holder shall maintain the following minimum residual flows in the Waiwhakaiho River immediately downstream of the diversion weir:
  - a. At least 700 litres / second between 1 January and 31 March;
  - b. At least 600 litres / second between 1 November and 31 December, and during April; and
  - c. At least 400 litres / second between 1 May and 31 October.

3. The consent holder shall cease the diversion and taking of water from the Waiwhakaiho River within 30 minutes of the monitoring recorder at 'Waiwhakaiho at Egmont Village' (operated and maintained by the Taranaki Regional Council) recording a flow greater than or equal to 85 cubic metres per second (as measured at 15 minute intervals).
4. The consent holder shall record the residual flow provided in the Waiwhakaiho River downstream of the diversion weir, and shall provide records of such measurements to the Chief Executive, upon request.

**Advice Note:**

*It is acknowledged that there is potential for inaccurate flow records associated with measuring the residual flow using water level data, given that a change in the rating curve may result in there being less flow at the water level recorder than when the previous rating was in use was established.*

*As such, in the event that the Taranaki Regional Council identifies (via its river gauging) that there is potential for the residual flow in the Waiwhakaiho River to be inadequate, the consent holder shall adjust the head pond level at the diversion weir to ensure adequate residual flow is provided to meet the requirements of condition 2. This adjustment shall apply until an additional gauging is undertaken by the Taranaki Regional Council to confirm the flow within the Waiwhakaiho River.*

5. The records of water diverted or taken shall:
  - a. Be in a format that, in the opinion of the Chief Executive, is suitable for auditing;
  - b. Specifically record the water take as 'zero' when no water is diverted or taken; and
  - c. For each 12-month period ending on 30 June, be provided to the Chief Executive within one month after end of that period.
6. In the event that:
  - a. The water temperature in the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station exceeds a rolling one hour average of 25 °C and the rolling one hour average water temperature upstream of the diversion weir is lower than 25 °C (based on a rolling one hour average); or
  - b. The water temperature upstream of the diversion weir exceeds a rolling one hour average of 25 °C and there is a greater than 3 °C temperature increase within the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station relative to upstream of the diversion;

the consent holder shall maintain a flow in the Waiwhakaiho River immediately downstream of the diversion weir that is 100 litres / second greater than the flow being provided immediately downstream of the diversion weir at the time either clauses (a) and (b) of this condition were triggered. This additional flow in the Waiwhakaiho River shall be maintained for a period of 24 hours and then until such time as:

- a. The water temperature in the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station reduces below a rolling one hour average of 25 °C; or
  - b. The water temperature upstream of the diversion weir exceeds a rolling one hour average of 25 °C but there is less than a 3 °C temperature difference within the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station relative to upstream of the diversion.
7. The consent holder shall only be required to comply with condition 6 when it is diverting / taking water the Waiwhakaiho River in accordance with conditions 1 and 2 of this resource consent.

**Advice Note:**

*It is recognised that the consent holder can only provide additional water down the Waiwhakaiho River to mitigate the effects of high water temperatures when it is able to divert / take water in accordance with the limits set out in conditions 1 and 2. Additional water cannot be provided by the consent holder when the diversion / take has ceased due to flows in the Waiwhakaiho River receding below the residual flows in condition 2, or where the take / diversion has ceased for other operational / maintenance reasons.*

8. The consent holder shall install and operate, to the satisfaction of the Chief Executive, a telemetered water temperature logger within the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station to monitor the water temperature, and shall provide records of such measurements to the Chief Executive, upon request.

Water temperatures upstream of the diversion weir on the Waiwhakaiho River shall be measured based off the monitoring recorder at 'Waiwhakaiho at Egmont Village' (operated and maintained by the Taranaki Regional Council).

9. The records of water temperature shall:
- a. Be in a format that, in the opinion of the Chief Executive, is suitable for auditing; and
  - b. For each 12-month period ending on 30 June, be provided to the Chief Executive within one month after end of that period.
10. In the event that the flow in the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station has not exceeded 12 cubic metres per second for a consecutive 30 day period commencing on 1 November and concluding on 31 March, the consent holder shall reduce its diversion or take of water from the Waiwhakaiho River for six hours during the next fresh event that exceeds three times the median flow in order to allow a flushing flow of at least 12 cubic metres per second to pass down the Waiwhakaiho River.

11. The consent holder shall prepare and operate a monitoring plan for three years to assess the effectiveness of conditions 6 and 10 in reducing water temperature and periphyton growth in the reach of the Waiwhakaiho River between the diversion weir and the tailrace of the Mangorei Power Station. The monitoring plan shall set out:
  - a. The monitoring methodology to assess the effectiveness of the supplementary residual flow in condition 6 in reducing water temperatures in the Waiwhakaiho River;
  - b. The monitoring methodology to assess the effectiveness of the flushing flow in condition 8 in dealing with any exceedances of the guideline levels for *New Zealand Periphyton Guideline: Detecting, Monitoring and Managing Enrichment of Streams (Biggs, 2000)*; and
  - c. The reporting of monitoring results and recommendations to the Chief Executive regarding the continued effectiveness of the supplementary residual flow and flushing flow regime.

The monitoring plan shall be provided to the Chief Executive for certification within six months of the commencement of this consent.

12. The consent holder shall erect and maintain notices and other warnings as may be required, and to the satisfaction of the Chief Executive, for adequate protection of public safety to warn the public using the upstream section of the Waiwhakaiho River of the proximity of the diversion weir and intake structure.
13. The consent holder shall maintain, as far as reasonably practicable, the river channel below the diversion weir and the 'Meeting of the Waters' for the purpose of enhancing available fish passage and habitat to the satisfaction of the Chief Executive; and, the Taranaki Regional Council will inspect the fish passage device and river channel for compliance after any significant river fresh.

**A land use consent for the use and maintenance of an existing diversion weir and fish pass, including the removal of gravels, boulders and debris, in the Waiwhakaiho River**

**Specific Conditions**

1. The consent holder shall install and maintain, to the satisfaction of the Chief Executive, a structure at the diversion weir to enable the passage of native fish, juvenile trout and adult trout.
2. The consent holder shall maintain a device capable of meeting the residual flow requirements set out in condition 1 of consent [insert number], to the satisfaction of the Chief Executive.

**A water permit for the damming of the Mangamahoe Stream via an existing dam structure to form Lake Mangamahoe to act as a reservoir for hydro-electricity generation purposes**

**Specific Conditions**

1. The consent holder shall maintain a minimum lake level of 750 mm below the crest of the Mangamahoe Dam spillway.

**A land use consent for the use and maintenance of an existing dam structure in the Mangamahoe Stream**

**Specific Conditions**

1. The consent holder shall maintain and operate the Mangamahoe Dam and all its ancillary / appurtenant structures in accordance with the New Zealand Society on Large Dams (NZSOLD) Dam Safety Guidelines 2015, or subsequent updates to the Dam Safety Guidelines.
2. The consent holder shall operate and maintain a trap and transfer programme to assist with the maintenance of populations of longfin eels and shortfin eels (the 'target species') in the major areas of suitable habitat in the Waiwhakaiho River catchment and Lake Mangamahoe catchment. The objective of the trap and transfer programme shall be to maintain populations of the target species that are comparable with those in similar barrier-free habitats. The trap and transfer programme shall include the steps to be taken by the consent holder to facilitate passage of the target species upstream and downstream.
3. The trap and transfer programme required under condition 2 shall be supported by a management plan that address the following matters:
  - a. The design and location of traps / netting;
  - b. The period over which the trap and transfer programme (upstream and downstream) will be operated for each of the target species;
  - c. The methodology to be used in the transfer of the fish, including the locations for the transfer of species to suitable areas;
  - d. The measures to be undertaken to enhance fish survival during the transfer and post release periods; and
  - e. The monitoring / recording of fish transferred as part of the programme and the reporting frequency to the Chief Executive.
4. The consent holder shall prepare the management plan in consultation [insert name of iwi groups] and provide the plan to the Chief Executive for certification within 12 months of the commencement of this consent. The consent holder shall provide any comments received from [insert name of iwi groups] to the Chief Executive as part of the certification process.

**A water permit for the diversion, take and use of water per day from Lake Mangamahoe via a tunnel and penstocks for hydro-electricity generation purposes at the Mangorei Power Station**

### **Specific Conditions**

1. The consent holder may divert and take up to 864,000 cubic metres of water per day from Lake Managamahoe, subject to compliance with conditions 2 and 3 of this resource consent.
2. The consent holder shall maintain a continuous generation flow release into the Waiwhakaiho River via the tailrace from the Mangorei Power Station of at least 950 litres / second between 8:00 am and 6:00 pm each day.
3. In the event that the consent holder is required to maintain an increased flow in the Waiwhakaiho River immediately downstream of the diversion weir in order to comply with condition 6 of consent [insert number], the continuous generation flow release from the Mangorei Power Station required by condition 2 above shall also be reduced by 100 litres / second for the same period.

### **A discharge permit for the discharge of water from Lake Mangamahoe via a spillway to the Mangamahoe Stream, including the emergency discharge of water.**

### **Specific Conditions**

1. The consent holder shall erect and maintain notices and other warnings as may be required, and to the satisfaction of the Chief Executive, for adequate protection of public safety to warn the public using the Mangamahoe Stream and Waiwhakaiho River of fluctuations in river flow and of the potential extent of those fluctuations.