

Renewable Power Ltd
Normanby HEP Scheme
Monitoring Programme
Annual Report
2016-2017

Technical Report 2017-103

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Executive summary

Renewable Power Ltd (the Company) operates a hydroelectric power station located on Normanby Road at Okaiawa, in the Waingongoro catchment. Utilising an existing weir across the Waingongoro River and tunnel under Normanby Road, water is diverted for electricity generation. The station is located approximately 3.2 km downstream of the weir, but due to the tight meander, these structures are located only 90 m apart. This report for the period July 2016 to June 2017 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

The Company holds three resource consents, which include a total of 36 conditions setting out the requirements that the Company must satisfy. The Company holds two consents to allow it to take and use water and to dam the Waingongoro River and one consent to use and maintain a weir and ancillary structures in the Waingongoro River.

During the monitoring period, Renewable Power Ltd demonstrated an overall poor level of environmental performance.

The Council's monitoring programme for the year under review included five compliance monitoring inspections of the site and five hydrological monitoring inspections. In addition, data collected by the company was received and audited, while data collected by the Council upstream and downstream of the station was also assessed. There was also a considerable amount of time spent liaising with the Company.

The monitoring showed that the scheme is still of a relatively small scale diverting between 1.5 and 3 cumecs of water. Although improved from the previous year, the management of the scheme has been poor, including one instance where insufficient residual flow was released below the weir and the collection of inaccurate residual flow data. Furthermore, there has been minimal progress in implementing a number of the requirements stipulated by the consents, including upgrading the fish pass, and monitoring of the effects of the scheme on the residual flow reach. This includes no or inadequate baseline information being collected on the trout communities and recreational activities of the residual flow reach, despite the scheme now being operated whenever flows allow. An erosion report was received during the reported period, as was a full year's record of abstraction data.

During the year, the Company demonstrated a poor level of environmental and administrative performance with the resource consents. Due to the Company's performance during the 2016-2017 period, coupled with the fact that it followed on from a similar performance in the 2015-2016 period, a significant investigation was undertaken. This culminated in the Environment Court issuing an enforcement order against the Company in November 2017. No other enforcement action was taken in the 2016-2017 period.

For reference, in the 2016-2017 year, consent holders were found to achieve a high level of environmental performance and compliance for 74% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 21% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last few years, this report shows that the consent holder's performance remains at a level that requires improvement.

This report includes recommendations for the 2017-2018 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2016 to June 2017 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Renewable Power Ltd (the Company). The Company operates a hydro electric power scheme (HEPS) situated on Normanby Road at Okaiawa, in the Waingongoro catchment.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to the abstraction and use of water within the Waingongoro catchment, to dam the Waingongoro River, and to use and maintain a concrete weir and ancillary structures.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air, and is the 2nd combined annual report by the Council for the Company. A memorandum was compiled in 2012, which reviewed monitoring and performance of the scheme between 2009, when the consents were granted, and early 2016 (TRC, 2016). Some of the information presented in TRC (2016) is repeated in this report.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by the Company in the Waingongoro catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Company's site/catchment.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2017-2018 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;

- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2016-2017 year, consent holders were found to achieve a high level of environmental performance and compliance for 74% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 21% of the consents, a good level of environmental performance and compliance was achieved.

1.2 Process description

The Normanby HEPS is located on Normanby Road, Okaiawa (Figure 1). The original Normanby HEPS was commissioned on the Waingongoro River in 1902, and operated until 1967 when it was abandoned after several major flood events. The scheme is located approximately 3 km east of Okaiawa, and about 3.8 km northwest of Normanby. The site is accessed via Normanby Road approximately 1.3 km from the intersection of Normanby Road and Mawhitiwhiti Road. The Waingongoro River in this area typically runs from the north to the south, but is subject to significant meandering. Hence, the river runs west along the north side of Normanby Road before doubling back on itself and continuing eastward on the south side of Normanby Road. This 3.2 km reach is known locally as the Normanby Loop, but may also be referred to as the residual flow reach.

The scheme, centred on this large meandering loop of the river, operates using most of the features of the original scheme, including a 33 m wide, 6 m high weir located in the river on the northern side of Normanby Road. Above this weir, water is diverted via a 1.8 m diameter tunnel that runs under the road to the powerhouse on the south side of the road, essentially crossing the ridge contained by the meander. The water is then discharged from the powerhouse back into the Waingongoro River, 3.1 km downstream of the weir. This utilises the 18 m head difference to generate electricity.

When operational, the former scheme generated between 3 and 3.5 GWh per annum from an installed capacity of approximately 0.6 MW. According to the original consent application, when fully recommissioned, the new station will be capable of generating approximately 4.3 GWh per year from an installed capacity of 2 MW. It was also envisaged that the scheme would require an optimum flow of 6.3 cumecs through the penstocks and turbines, with an operating range from a minimum flow of 0.5 cumecs to a maximum flow of 10 cumecs. There have since been some changes made to this original proposal, and as such these numbers may no longer be accurate.

To date the consent holder has upgraded the intake structure, relined the tunnel and built a structure which supports one turbine and associated generation equipment, with room to install additional turbines (Photo 1). Further development is planned for the near future.

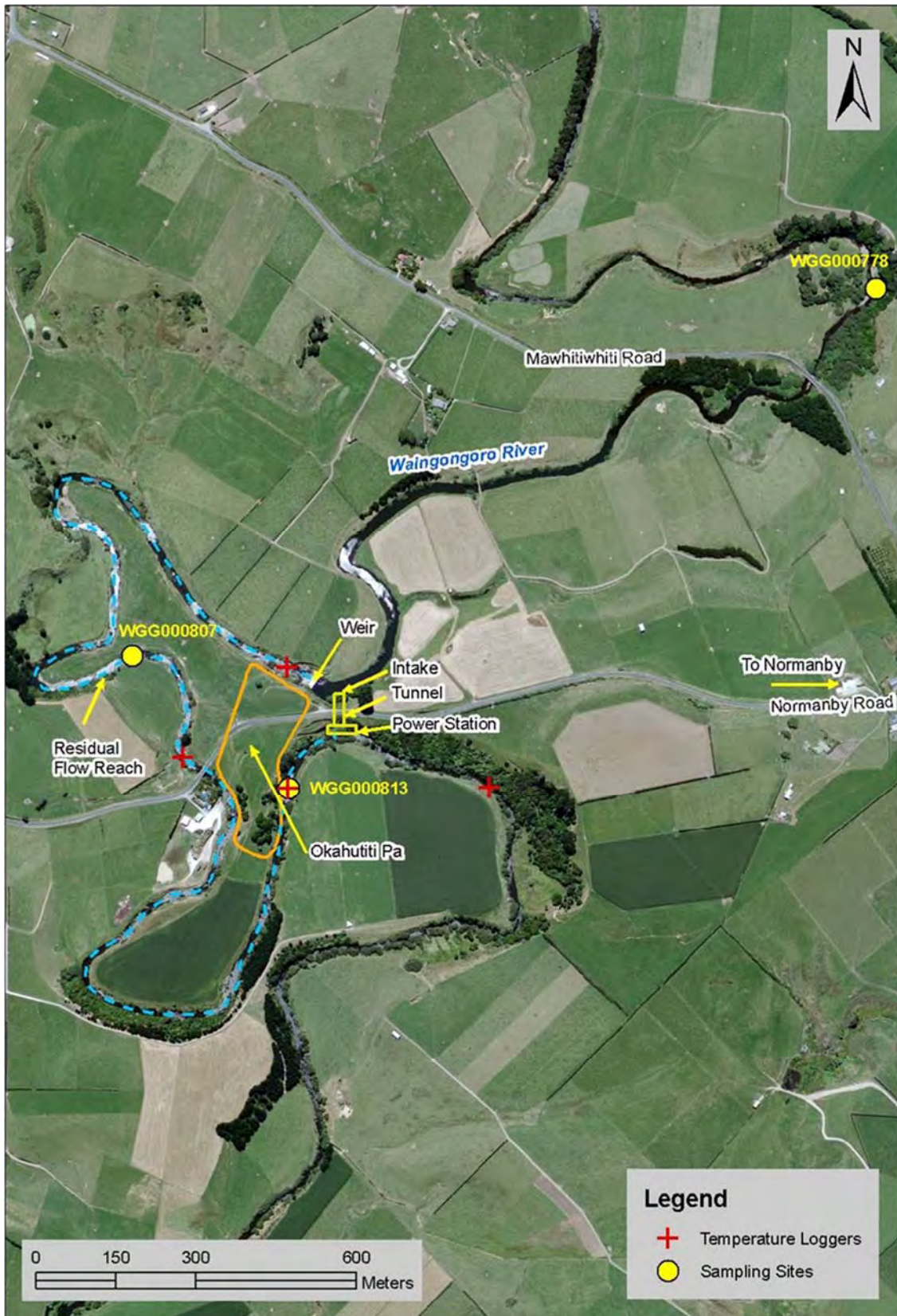


Figure 1 Location and key features of the Normanby Power Ltd hydro-electric scheme



Photo 1 The Normanby HEPS

1.3 Resource consents

1.3.1 Water abstraction permit

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14.

Renewable Power Ltd holds water permit **2299-3** to cover the damming of the Waingongoro River with a six metre high concrete weir for hydroelectric power generation purposes. This permit was issued by the Council on 1 September 2009 under Section 87(d) of the RMA. It is due to expire on 1 June 2029.

Condition 1 of this consent requires the Company to, in consultation with submitters, develop and undertake a monitoring programme that adequately determines the effects of this activity on the impact of any increased periphyton growth on ecological, recreation or amenity values. The programme is also to assess:

- the formation of any sediment accumulation immediately below the weir, and its effect on 'dam dropping'
- the impact of this consent on recreational activity
- the impact of this consent on trout habitat and number, and benthic macroinvertebrate communities
- the effect of this consent on fish passage.

Condition 2 requires the Company to meet with the Council and submitters at least every two years, while condition 3 is a review provision.

The Company also holds water permit **6558-1** to cover the taking and use of water from the Waingongoro River for hydroelectric power generation purposes. This permit was issued by the Council on 1 September 2009 under Section 87(d) of the RMA. It is due to expire on 1 June 2029.

Condition 1 of this consent requires the Company to notify the Council prior to exercising the consent.

Condition 2 limits the rate of take to 10 cumecs, and condition 3 specifies the residual flow that is to be provided between 1 October and 30 April (3.5 cumecs) and 1 May and 30 September (3 cumecs).

Condition 4 requires all water taken to be discharged back into the river at the power house, and conditions 5 and 6 specify the circumstances in which flushing flows are to be provided.

Recreational flows are required to be provided, as per condition 7, and condition 8 requires that a log of each recreational flow release be kept, and also specifies the information that is to be recorded in this log.

Condition 9 requires the Company to measure and record the abstraction rate, and the flow provided to the residual flow reach, with these records to be provided to the Council at three monthly intervals or upon reasonable request.

Conditions 10, 11 and 12 limit the maximum aperture dimension and through screen velocity of the intake screen, specify the acceptable change in water level as a result of startup or shutdown of the station, and require that an emergency backup system is installed prior to commissioning.

Condition 13 is the same as condition 1 of consent 2299-3, requiring the monitoring of effects.

Condition 14 requires the Company to undertake riparian fencing and planting on land owned by the Company and on any adjacent land, and to maintain this riparian area.

Condition 15 is a lapse provision, condition 16 requires the Company to meet with the Council and submitters at least every two years and condition 17 is a review provision.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consents which are appended to this report.

1.3.2 Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations.

The Company holds land use permit **7078-1** to cover the erection, placement use and maintenance of a concrete weir and ancillary structures, and to undertake related excavation and disturbance of the river bed, for hydroelectric power generation purposes. This permit was issued by the Council on 1 June 2009 under Section 87(a) of the RMA. It is due to expire on 1 June 2029.

Condition 1 requires the consent holder to adopt the best practicable option at all times, condition 2 to exercise the consent substantially in accordance with the application and condition 3 required the Company to notify the Council prior to and upon completion of any maintenance works.

Conditions 4 to 7 limit the timing of works, requires the taking of all reasonable steps to minimise the discharge of sediment, sets limits on the change in turbidity and suspended solids and limits the area of disturbance to the minimum necessary.

Conditions 8 and 9 require the existing fish pass to be upgraded and also that a baffle be installed to improve the passage of lamprey.

Condition 10 requires that the structure is not to impede the passage of specific fish species, and states that this is to be determined by a monitoring programme specifically developed to monitor the fish communities around the weir and throughout the upstream catchment.

Condition 11 is the same as condition 1 of consent 2299-3 and condition 13 of consent 6558-1, requiring the monitoring of effects.

Condition 12 requires works to cease immediately upon the discovery of any archaeological remains.

Condition 13 states that the weir and associated structures shall not cause significant erosion of the river bed or banks, and condition 14 requires the Company to provide a report to the Council detailing the existing erosion of the river and other related aspects.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consents which are appended to this report.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for the Normanby HEPS site consisted of four primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Normanby HEPS was visited ten times during the monitoring period, including five site inspections and five hydrological monitoring inspections. With regard to consents held for the scheme, the main points of interest were:

- the condition of the fish passage facilities including the lamprey pass;
- the condition of the intake screen and generation equipment;
- whether the station was operating;
- to assess residual flow compliance and abstraction rate;
- to check for erosion associated with the scheme; and
- to monitor maintenance and upgrade work where appropriate.

Sources of data being collected by the Company were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council.

1.4.4 Chemical sampling

The monitoring programme included sampling of the water quality upstream and downstream of the station when warranted, on any occasion where maintenance or upgrade works resulted in discolouration and/or the discharge of sediment. No such works were undertaken during the reported period, and as such this sampling was not undertaken.

1.4.5 Data review

The Company provided the Council with data on the amount of water abstracted from the Waingongoro River and the flow downstream of the weir (the residual flow). The Council assessed the abstraction data to determine whether or not the abstraction/discharge rates exceeded the consented rates, and to assess it for accuracy. Similarly, the residual flow was assessed to determine whether sufficient flow was provided while water was being abstracted for generation, and was compared with gauged flows to assess accuracy.

2 Results

2.1 Water

2.1.1 Inspections

The first compliance monitoring inspection was completed on 21 September 2016. A newly installed lamprey baffle was checked and found to meet the specifications of the consent, although it won't improve lamprey passage as much as intended. This is because of the sharp angle where the edge of the baffle meets the weir, and also the depth of water at the time lamprey typically migrate. At the base of the weir, alongside the sluice gate, it was noted a valve had been partially opened, and attached to this valve was a fyke net (Photo 2). This appeared to be the actions of a lamprey fisherman. It was suggested that public access to this valve may need to be restricted. There was little to no flow in the fish pass, which had not yet been upgraded. At the intake, water was being taken for generation, but there was a significant accumulation of debris under the water level recorder (Photo 3). This will impact on the accuracy of this data.

On 10 November 2016, the second site inspection was undertaken. There was a moderate flow in the river, and water was being taken for generation. The intake screen was still non-compliant, and there was still no flow down the fish pass. Debris had been removed from the river below the water level recorder, and this will improve accuracy of this data. However, there was no staff gauge sighted, which would be used to calibrate the water level recorder. It was relayed to the Company that if there is no way to manually read the water level, it isn't possible to calibrate the water level recorder. At the station, there was a significant rate of discharge, the control valve was unsecured (Photo 4), access gates secured and there was no one on site.

The third site inspection, completed on 13 December 2016. Noted that there had been little change since the previous inspection. The intake was clear of debris, although there was a large pile of debris on the bank around the intake. No water was being taken for generation, and the control valve appeared to be secured with a chain and padlock. The Company was asked to provide their abstraction and residual flow data as it was overdue.

The penultimate inspection of the reported period, which occurred on 17 March 2017, again found little change. There was no generation occurring, and the control valve was secured. There had been some scaffolding erected in the tail race area, presumably to commence upgrade works (Photo 5). The Company was again asked to install a staff gauge to calibrate the residual flow recorder. Of some concern was that the sluice gate in the dam appeared to be leaking worse than previously.

On 10 May 2017, the final inspection of the reported period was completed. Concerns were again raised about the condition of the old sluice gate on the true left bank, which appeared to have some minor leaks, and may be beginning to break down. The Company was advised that this sluice gate must be maintained to avoid failure as, should it fail, there is real potential for a significant release of sediment. This would lead to adverse effects downstream and possible enforcement action. At the intake, the water surface was clear of logs below the radar. However, the radar, which records the water level, and the framing to which it was attached, were moving slightly, either due to wind and/or vibrations from the intake. This may reduce the accuracy of the water level recording. Water was being taken for generation, with a significant fall of water into the intake, due to the screen being quite blocked. The Company was reminded that there is a restriction on the maximum through screen velocity, which may be breached if the water is only passing through a small area of screen.



Photo 2 The sluice gate on the true left side of the weir, 21 September 2016



Photo 3 The intake and radar which records water level, showing a significant amount of debris accumulation, 21 September 2016



Photo 4 The control valve, unsecured during the inspection of 10 November 2016



Photo 5 The station during the inspection of 12 May 2017

2.1.2 Hydrological inspections

Five hydrological inspections were completed in the reported period. There was some variation in the number and location of gaugings that were completed during each inspection. The results of the gaugings are provided in Table 1.

During the inspections completed on 28 September and 23 November 2016 two gaugings were completed. The gauging conducted downstream of the weir was used to assess the residual flow. The upstream gauging determined how much flow was in the river prior to the abstraction, which was used to estimate the rate of abstraction by subtracting the downstream gauged flow. On each occasion the Company was complying with both the abstraction rate and residual flow limits.

For the remaining three hydrological inspections, completed on 10 May, 25 May and 21 June 2017, only one gauging was conducted, to assess the residual flow. There was sufficient residual flow on each occasion, although no abstraction was occurring during the June inspection.

Table 1 Results of gaugings undertaken in relation to the Normanby HEPS, 2016-2017

Date	Time (NZST)	Location	Gauged flow (l/sec)	Condition assessed (limit)	Compliant?	Comment
28/09/2016	12:49	Downstream of weir	6,362	Residual flow (min 3,000 l/sec)	Yes	Abstraction rate calculated as difference between downstream flow and upstream flow = 2,153 l/sec
	14:27	Upstream of weir	8,515	Abstraction rate (max 10,000 l/sec)	Yes	
23/11/2016	10:50	Upstream of station discharge	5,567	Residual flow (min 3,500 l/sec)	Yes	Abstraction rate calculated as difference between downstream flow and upstream flow = 1,899 l/sec
	12:11	Downstream of station discharge	7,466	Abstraction rate (max 10,000 l/sec)	Yes	
10/05/2017	13:28	Downstream of weir	4,296	Residual flow (min 3,000 l/sec)	Yes	
25/05/2017	15:10	Downstream of weir	11,146	Residual flow (min 3,000 l/sec)	Yes	
21/06/2017	11:16	Downstream of weir	3,345	Residual flow (min 3,000 l/sec)	N/A	Not abstracting at the time of inspection

2.1.3 Provision of consent holder data

The Company is required to record the rate water is abstracted from the river and the rate of flow in the Waingongoro River immediately downstream of the weir, and to provide these records to the Council at three monthly intervals. During the reported period, the Company did not adequately ensure that the residual flow data was being recorded at all times, and did not provide the abstraction and residual flow data in the timeframes required. The incomplete records for the 2016-2017 period were provided to the Council on 9 November 2017.

The abstraction and residual flow data provided is displayed in Figure 2. This shows that residual flow data was only recorded for a small proportion of the year, from the end of April to the start of June 2017. The abstraction rate was recorded throughout the year, with 'zero' recorded when no abstraction was occurring. The Company attributed the missing residual flow data to a rat cutting the cable on a number of occasions.

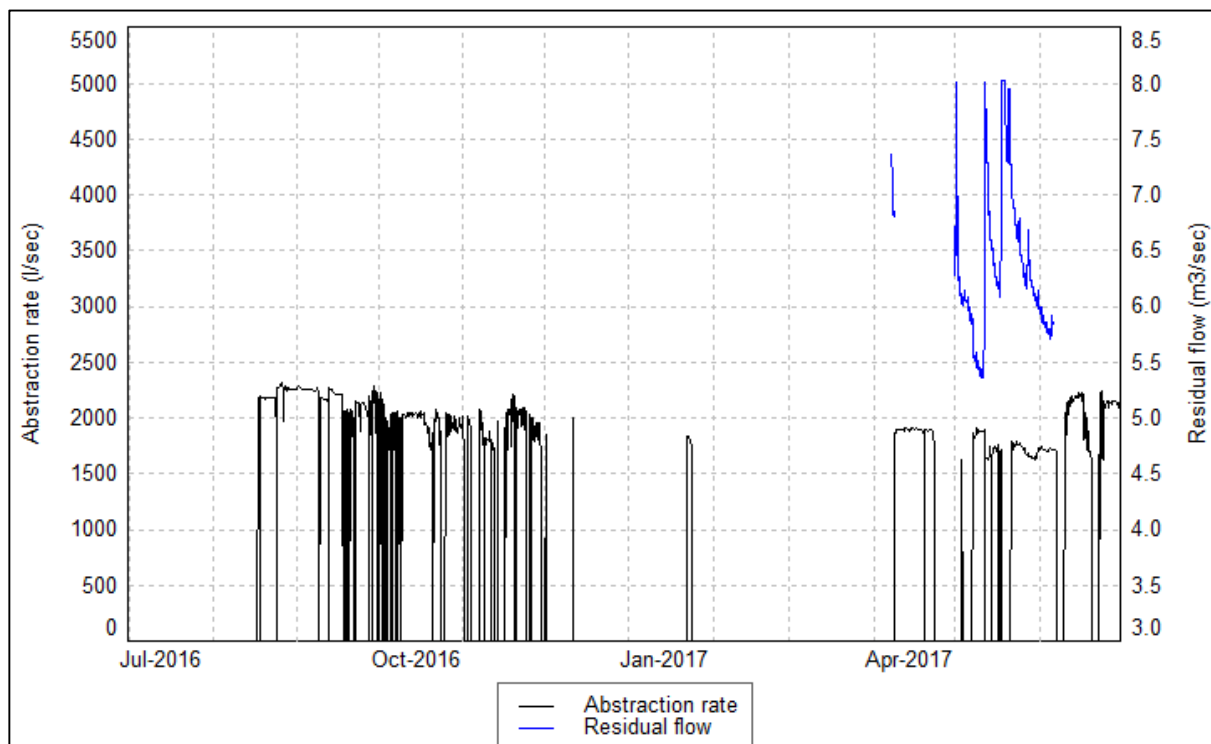


Figure 2 Abstraction and residual flow data recorded by the Company, 2016-2017

The abstraction and residual flow data is also required to meet certain accuracy requirements. The abstraction rate is required to be recorded to an accuracy of 5% while the residual flow is required to be recorded to an accuracy of 10%. The gauging results provide some indication of the accuracy of the abstraction rate data, although due to the standard error applied to the gaugings (8%), the margin of error on this analysis is greater than the accuracy specified in the consent. The results of this analysis, shown in Table 2, indicates that the abstraction rate data maybe of the appropriate accuracy. However, due to the degree of error applied to the gaugings, this approach was discontinued during the reported period. It is apparent that the Company complied with the maximum consented abstraction rate of ten cumecs (Table 1).

Table 2 Assessment of abstraction rate data accuracy using gauging results

Date	Time (NZST)	Location	Gauged flow (l/sec)	Gauged flow with 8% error applied (l/sec)	Potential min/max rate of abstraction (l/sec)	Recorded abstraction rate (l/sec)
28/09/2016	12:49	Downstream of weir	6,362	5,853-6,903	930/3,343	2,173
	14:27	Upstream of weir	8,515	7,833-9,196		
23/11/2016	10:50	Upstream of station discharge	5,567	5,121-6,012	856/2,942	2,089
	12:11	Downstream of station discharge	7,466	6,868-8,063		

During the inspection of 10 May 2017, the Company representative Tim Johnston informed the Council that the ultrasonic sensor which was being used to record abstraction rate had been removed, and that abstraction rate was being recorded by calculation, using the generation rate. It is unclear how accurate this approach is, but the Council has some concerns that this method may not be of sufficient accuracy, due to other influencing factors, such as a gradual breakdown of the pelton wheel (as has been observed). As a result it was decided that the abstraction rate needs to be independently verified every year. How this is to be enforced is detailed further in section 2.3.

The gauging results can also be used to assess the accuracy of the residual flow data, although this data was only being collected during two of these gaugings. The results of this analysis are shown in Table 3, and show that the residual flow being recorded at the time of the gaugings were conducted did not meet the required accuracy of 10%, even when the maximum error is applied.

Table 3 Assessment of residual flow data accuracy using gauging results

Date	Time (NZST)	Gauged flow (l/sec)	Gauged flow $\pm 8\%$ error (l/sec)	Recorded residual flow (l/sec)	Minimum difference between gauged and recorded flow, taking account of gauging error	
					Litres/sec	As % of gauged flow
10/05/2017	13:28	4,296	3,952-4,639	5,416	+777	18%
25/05/2017	15:10	11,146	10,254-12,037	6,408	-3,846	35%

This result is further reinforced when this residual flow data is compared to the flow recorded downstream at State Highway 45 (Figure 3). It is roughly estimated that the flow at the weir equates to approximately 95% of the flow at SH45. Figure 3 shows that not only does the residual flow data not include the high flood peaks, it significantly under represents the rate of flow as the flow recedes following a flood. Furthermore, it does not appear to show much impact of the abstraction of water, despite this abstraction having a clear influence at SH45. It would be expected that an abstraction of almost two cumecs would result in the residual flow reducing by an equivalent amount. This does not appear to be the case, according to the recorded data (Figure 4).

Finally, the data was assessed to determine whether the Company had complied with the residual flow requirements whilst abstracting water for generation. An analysis was performed, by subtracting the recorded abstraction rate from the flow rate recorded at SH45. This analysis assumed the flow at the station is equal to that recorded at SH45. This is the fairest option, as it was not possible to accurately estimate the flow at the weir. Assuming the abstraction rate was accurate, this analysis found one breach of residual flow at the weir. This occurred during receding flows on 24 January 2017 and resulted in the residual flow being too low between 2:45am and 7am, when the station shutdown. The estimated flow dropped as low as 2,777 l/sec at the weir, compared with a required flow of 3,500 l/sec. Further downstream at SH45, the station shutdown resulted in a 'trough' in the flow record, and caused the flow to drop below 3,000 l/sec between 10:45 and 12:15, with a minimum recorded flow of 2,757 l/sec (Figure 5). This incident is discussed further in section 2.3.

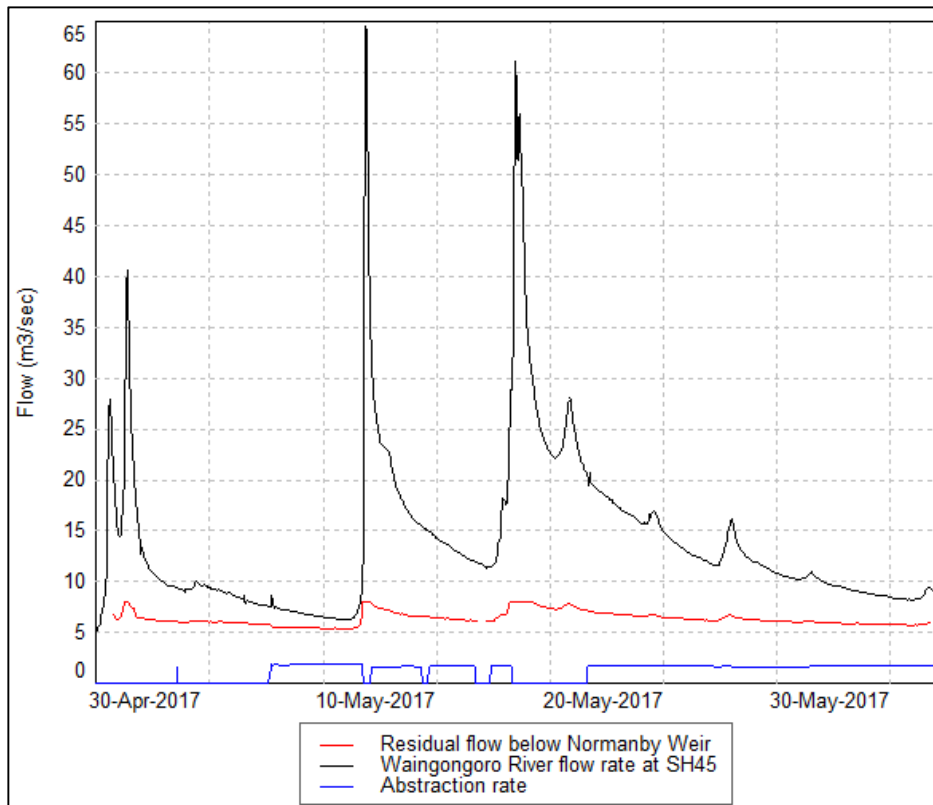


Figure 3 Residual flow data and abstraction data compared with river flow data recorded at State Highway 45, 30 April 2017 to 6 June 2017

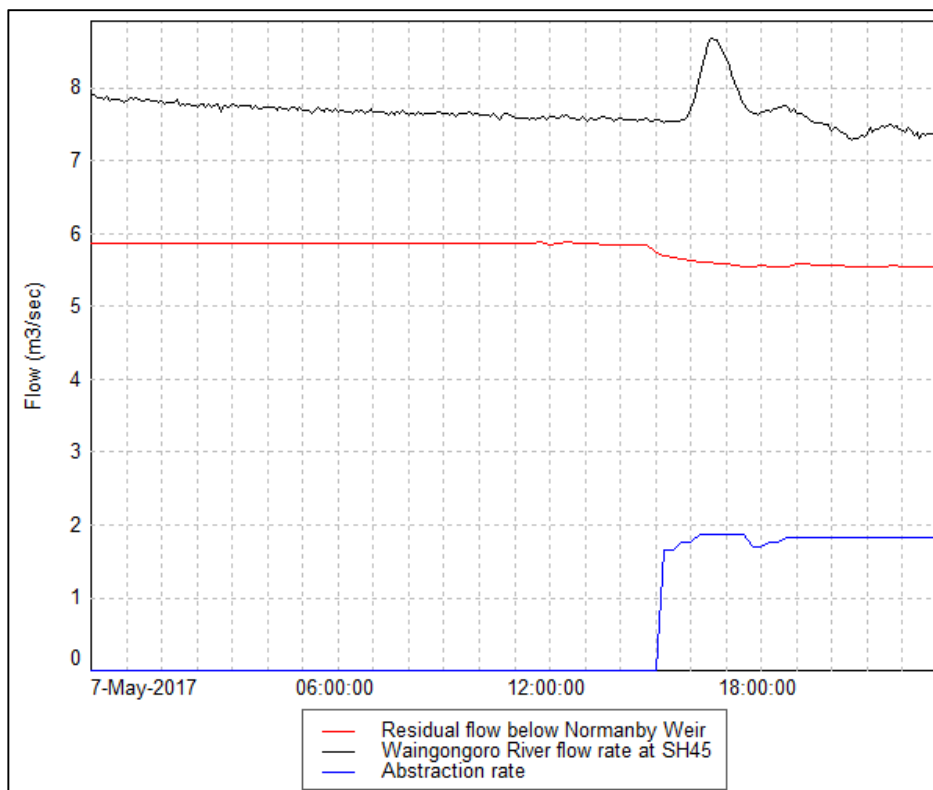


Figure 4 Residual flow data and abstraction data compared with river flow data recorded at State Highway 45, 7 May 2017

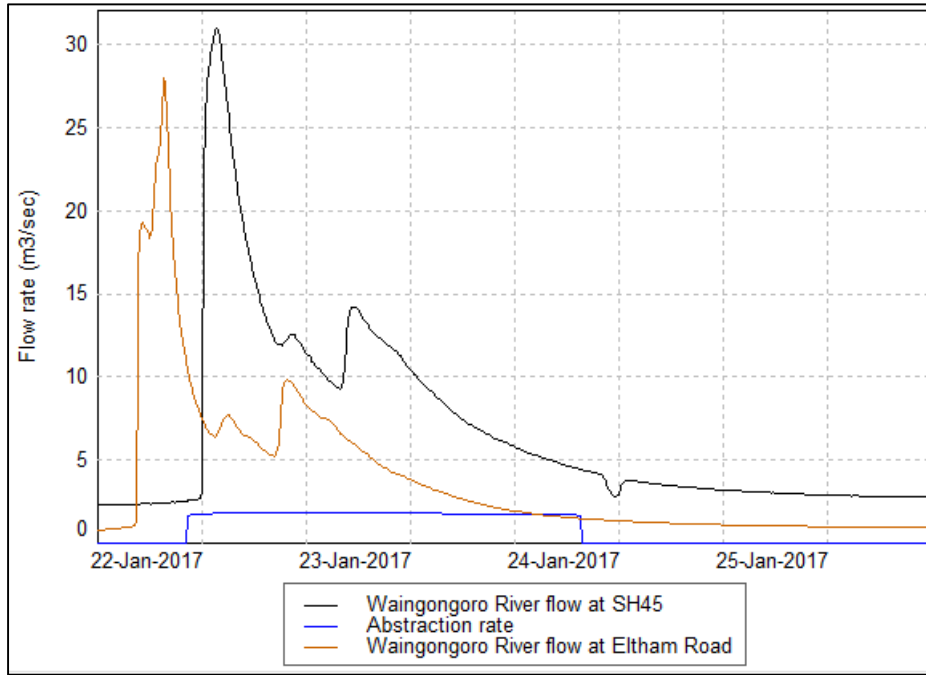


Figure 5 Flow rate in the Waingongoro River at SH45 and Eltham Road, compared with the abstraction rate, 22 January to 26 January 2017

The Company has advised the Council of the method used to calculate the residual flow, which involves measuring the depth of water above the weir crest, and using an equation to calculate the flow rate. While this methodology has merit, and is commonly used in determining flows at monitoring stations which use weirs, it needs to be checked by conducting downstream gaugings, and it is important to routinely compare the water level being recorded with a manual reading off a fixed staff gauge. It appears that neither of these actions are currently part of the maintenance regime run by the Company and as a result, the residual flow data is likely to be significantly inaccurate. As a full year's abstraction data was collected, and that data was being recorded every 15 minutes, there has been an improvement from the previous year in this respect.

2.1.3.1 Flushing flows and surge waves

Consent 6558-1 requires the Company to take specific actions should specific flow conditions occur.

Condition 5 requires that the station ceases to take water for eight hours on any occasion when the river flow exceeds 14 cumecs, following a continuous period of at least 15 days during which flows at the weir didn't exceed 14 cumecs. For the purposes of assessing compliance with this condition, it is taken that this 14 cumecs applies to the natural flow at the weir i.e. the residual flow plus the abstraction rate. It is also taken that if the station is not operating at such a time as a flushing flow is required, the station does not immediately start generating, but allows the flushing flow to continue for eight hours, before commencing generation. Compliance with this condition was assessed using SH45 data, due to the inaccurate and incomplete residual flow data. When these consents were originally granted, it was accepted that the flow at the weir was approximately 95% of that recorded at SH45. Therefore, the SH45 flow equivalent of 14 cumecs at the weir is 14.74 cumecs, which can be used as the trigger flow at SH45. A comparison of the abstraction data with the SH45 flow data indicates that there were three occasions that this condition was not complied with during the 2016-2017 period. They are shown in Figure 6, and it can be seen that either the station was already operating at the time the flushing flow arrived, or that generation began when the flushing flow arrived.

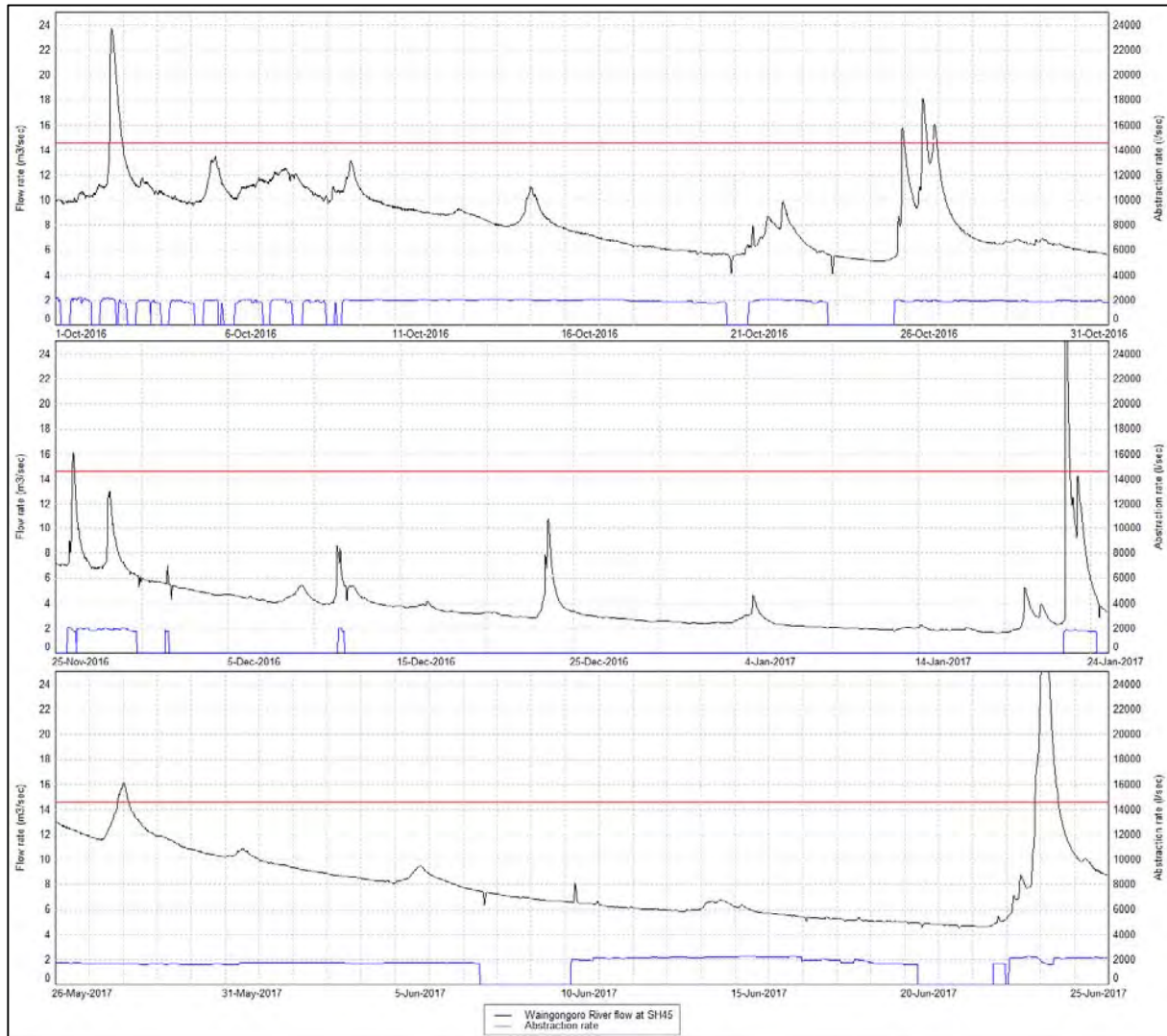


Figure 6 Three occasions when flushing flows were required one not provided

Condition 6 requires that if the flow over the weir does not exceed six cumecs during any continuous 14 day period between 1 October and 30 April, the consent holder shall within 24 hours, stop taking so that the entire river flow passes over the weir for at least three hours. As per the calculations conducted for condition 5 above, with the addition of a conservative abstraction rate of 1,500 l/sec, the trigger flow at SH45 for this flushing flow is 7.82 cumecs. An assessment of the data shows that this condition was complied with throughout the October to April period within the reported year.

Although the flushing flows required by condition 5 were not provided at any time during the reported period, this only becomes an environmental issue when generation capacity increases, and the residual flow is kept at the minimum for extended periods of time. The non-compliance noted in the reported period is unlikely to have resulted in the deterioration of biological communities within the residual flow reach, and rather than taking enforcement action, it was deemed more appropriate to educate the consent holder on these conditions, so that they are better able to comply when generation capacity increases.

In addition to flushing flows, condition 11 requires that the start-up and shutdown of the station does not generate a change in water level in excess of 200 mm in height. Starting generation causes a positive surge wave, resulting in a short-term increase in water level. The reverse occurs when generation stops, causing a short-term reduction in water level. Figure 7 shows how water level changed at SH45 during station start up and shut down in September 2016. It should be noted that the SH45 recorder is located approximately 12

km downstream of the station outlet, and as such the change in water level will be somewhat attenuated at this point. This means that at the station, the variation in water level will be greater. It is clear from the SH45 flow data that start up and shut down can cause a change in water level in excess of 100 mm. On 28 September 2016, the station stopped and started generation in quick succession, and this resulted in a change in water level of 166 mm. This was the greatest change recorded at SH45 in the 2016-2017 monitoring period, and represents an improvement from that recorded in the previous (2015-2016) monitoring period, when a change in water level of 220mm was recorded. It is clear that the start up and shut down needs to be managed with care, especially if the Company is intending to increase the generation capacity at the site. It was originally discussed in the officer report that the limit of 200 mm be applied to a 30-minute period. However, this was not included in the consent condition, and as such the limit of 200 mm is absolute.

Finally, the Company is also required to provide a recreational flow up to twelve times a year, should they receive a written request at least 48 hours beforehand from the New Zealand Recreational Canoe Association. They are also required to keep a log of these recreational release flows to be provided to the Council. It is understood the Company did not receive any such requests during the reporting period.

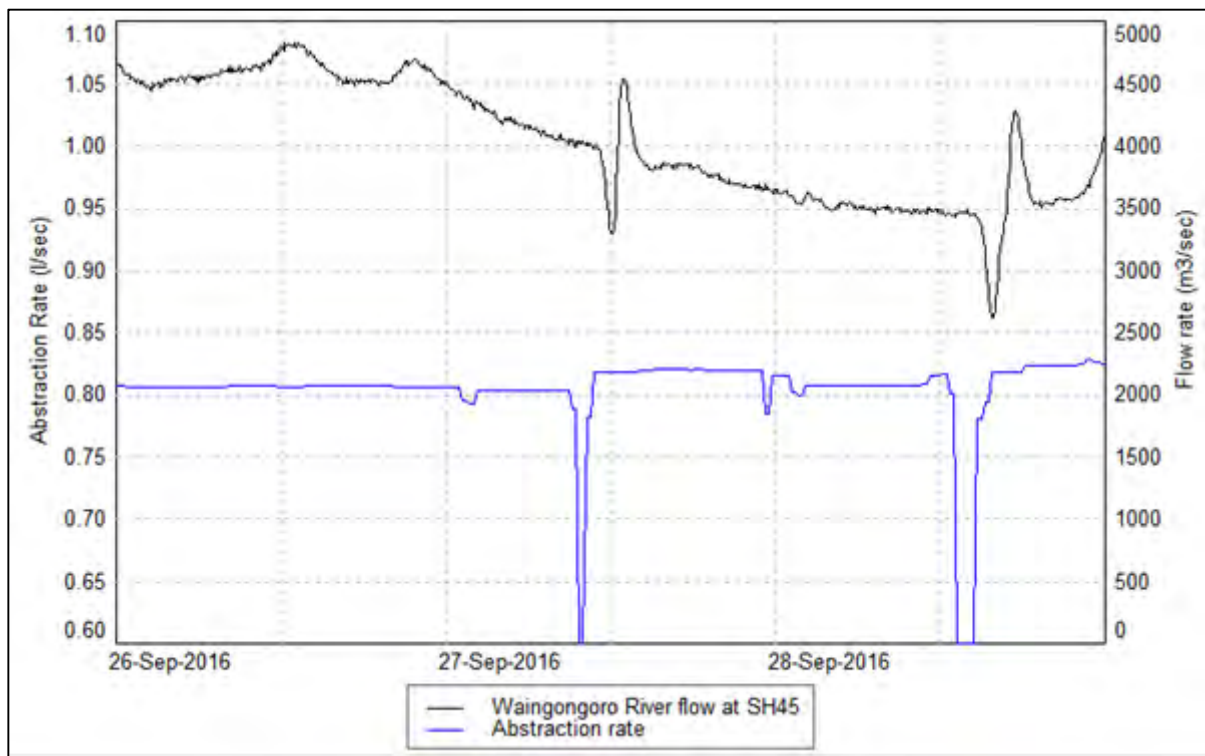


Figure 7 Change in water level (stage height) in the Waingongoro River at SH45 during station start up and shut down

2.1.4 Results of receiving environment monitoring

The Council did not undertake any receiving environment monitoring in the reported period. The consents held by the scheme specify the receiving environment monitoring required to be performed by the Company. This includes baseline monitoring to be performed prior to commissioning, some of which was performed and reported on by the Council (TRC, 2010).

The monitoring required by the resource consents is as follows:

A monitoring programme shall be developed and undertaken in reasonable consultation with submitters. The monitoring programme shall ensure that the effects of this consent are adequately determined and monitored to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council, having considered any independent expert advice he may seek.

The monitoring programme shall commence within 6 months of the consent commencing [in terms of section 116 of the Resource Management Act] and shall include an assessment of:

- a. Preparation of a "baseline report" addressing the matters listed in paragraphs b) to f) of this condition, that records the representative baseline against which the effects of the scheme can be assessed. The baseline report shall:
 - i. Incorporate all reasonably available existing information, including the data submitted with the assessment of environmental effects, as well as additional data specifically obtained for the purpose of preparing the report; and
 - ii. Be provided to the Chief Executive, Taranaki Regional Council before the scheme is commissioned
- b. An assessment of the impact of any increased periphyton growth, as a result of this consent, on ecological, recreation and amenity values;
- c. An assessment of the formation of any sediment accumulation immediately below the weir and its effect on 'dam dropping';
- d. An assessment of the impact of this consent on recreational activity [including fishing] in the residual flow reach;
- e. An assessment of the impact of this consent on trout habitat, juvenile and adult trout numbers and benthic macroinvertebrates in the residual flow reach; and
- f. An assessment of the effect of this consent on fish passage.

The monitoring programme shall be reviewed and reported on annually.

To date no baseline data has been collected on the trout communities in the residual flow reach, and little baseline information has been collected on the recreational activity in the residual flow reach. The Company was advised that should they wish to operate the scheme prior to collecting the baseline trout community data, they needed to consult with Fish and Game. No subsequent information was received from the Company, so it is unclear how this was resolved. It appears the Company has chosen to operate without adequate baseline trout community data being collected.

The Company has also not provided any further monitoring data, nor has the programme been reviewed since the current owner took ownership, more than three years ago. However, a consulting firm did contact the Council during the reported period to gather information on what monitoring is required. Whether this firm was engaged by the Company or not is unknown.

The Company has provided an erosion report as required by condition 14 of consent 7078-1. This report, received on 21 April 2017, made some recommendations including planting willows in one location, monitoring another location so that remedial action can be taken if required, and to spray the vegetated island in the river channel, to keep it clear of vegetation in order to improve channel capacity. The consent does not require these recommendations be implemented, but it is anticipated that as a responsible consent holder, the Company will implement them in the near future.

Although performance had improved since the previous period, it is still clear that the Company has not given sufficient priority to the monitoring requirements of the consent, and this is an area where significant improvement is still required.

The fish passage monitoring requirements (condition 10 of consent 7078-1) don't specify a timeframe. However, it is anticipated that this will commence once the upgrades to the fish pass are completed.

2.1.5 Works required by consent

The resource consents held for the scheme require some physical works to be undertaken.

Consent 7078-1 requires specific modification to the fish pass, with these modifications to have been completed by 1 September 2010. This timeframe was extended due to extenuating circumstances, although an abatement notice was eventually issued requiring these works to be completed by 31 May 2015. This abatement notice was never complied with, but due to ownership changes, it is no longer valid. The Council undertook a full review of this requirement, and determined the best option was to apply for an enforcement order to have this condition complied with. This is discussed further in section 2.3.

This consent also requires a baffle be installed from 1 June to 30 September each year to improve lamprey passage. The Company made a number of attempts to get this right, and an inspection done in the reported period found that a steel baffle had been installed, and it met the specifications of the consent (Photo 6). Although the Company intended for this baffle to remain in place throughout the year, an inspection completed in the 2017-2018 monitoring period found that it had been dislodged.



Photo 6 The baffle installed on the weir to improve lamprey passage

Consent 6558-1 requires the intake screen to have a maximum aperture dimension of 30 mm. The screen was originally intended to be a grid of 30 mm triangles. However, the triangular grid was not included in the consent condition. Inspection found that the screen was a grid of rectangles, with a maximum aperture (distance from corner to opposite corner) in excess of 30 mm. The Company has been advised that the intake screen is not compliant with the consent, and they have been working towards varying the consent to allow for the larger screen size. While they were working through this process, the Company installed temporary netting over the screen, in an effort to comply with this requirement, although some of this netting has since been lost, possibly in a flood. It is understood that the Company is currently liaising with affected parties prior to lodging the variation to consent. In the meantime the Company has decided to abstract water while knowingly having a non-compliant intake screen. This constitutes no change from that reported for the 2015-2016 period.

This consent also requires the station to have an emergency backup system. This system is required so that should there be a failure of transmission or generation equipment resulting in an emergency shutdown, the

ramping rate condition can still be complied with. The Company has informed the Council that the site has emergency power for 48 hours, and that the station is currently being shutdown manually, using a butterfly valve. In time, the Company intends for the station to be controlled automatically, allowing for a shutdown that can be controlled remotely when necessary.

The Company is also required to undertake riparian planting and fencing of their land, and of any adjacent land where landowners provide written agreement. The Company is in touch with the Council's land management team to develop a riparian management plan. They are also making contact with the adjacent landowners to identify those who are interested. It is expected that the Company will develop a plan for implementing this condition, as due to the associated costs, it is unreasonable to expect the Company to entirely comply with this condition immediately. It is anticipated that future reports will be able to report on the progress of implementing this plan.

2.2 Stakeholder meeting

A stakeholders meeting was held on 30 May 2017, and was attended by two Company representatives (Tim Johnson, Leone Kueh), John Hooker (Ngāruahine), Allen Stancliff (Taranaki Fish and Game Council) and three Council Staff (Helen Gerrard, Sam Tamarapa and Bart Jansma). Much of the discussion centred on the fish passage issues, including upgrade of the fish pass and installation of the lamprey baffle. Mr Tim Johnson, indicated that the Company would be happy to work with the stakeholders to ensure fish passage is enhanced. The enforcement order was mentioned, but could not be discussed in depth, as it had not yet been issued.

2.3 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The incident register includes events where the Company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

In the 2016-2017 period, the Council was required to undertake significant additional investigations and interventions, or record incidents, in association with the Company's conditions in resource consents or provisions in Regional Plans.

Due to the numerous consent conditions that were not complied with in the previous reported period, it was determined appropriate to apply to the Environment Court for an enforcement order. The application included requiring the Company to comply with various conditions of the consent, but also included a number of items which were additional to the consent conditions, such as requiring the accuracy of the recorded abstraction rate and residual flow to be independently verified.

There were a number of delays in having this enforcement order granted. The order was eventually issued on 30 November 2017. The Company agreed to all of the requirements on the order, avoiding the need for a hearing.

The enforcement order is appended to this report, and in summary, requires that the Company must undertake the following actions:

- Within 60 days, apply for a change to consent 6558-1, so that it includes a requirement to confirm the accuracy of the residual flow and abstraction flow measuring devices.
- Comply with the residual flow restrictions specified in the consent – effective immediately.
- Measure and record the residual flow and abstraction rate to the specified accuracy – effective immediately.
- Undertake the monitoring specified in consents 6558-1, 2299-3 and 7078-1, relating to the effects of the consents – effective immediately.
- Ensure the intake is screened in a way that satisfies condition 10 of consent 6558-1 by 1 December 2017.
- Within 60 days, apply for a change to consent 7078-1, to change conditions 8 and 10, which relate to the modification of the fish pass and providing for the passage of six target fish species. The application is to include a project plan, detailing how the modifications are to be undertaken.

The intake screen requirement has not been complied with, and the due date has passed. However, the station is currently unable to operate due to a mechanical breakdown and it is therefore not critical that the intake screen is compliant, as no water is passing through it. Through consultation with the Council's lawyer, it was determined that the best way forward was to ask for a written undertaking from the Company, where they agree that the screen shall be compliant prior to the abstraction of water recommences and to let the Council know when the condition has been satisfied.

There was an additional incident recorded during the 2016-2017 period being a breach of the residual flow requirements on 24 January 2017. This incident only came to light once the Company had provided their abstraction data in November 2017. It is likely that the residual flow was too low between and the weir and station for over four hours, and it is known that it was too low for at least 1.5 hours, as recorded at SH45. What appears to have taken place is that the station began generating on 22 January 2017 to take advantage of a flood, but that this flood receded overnight (23/24 January). The Company became aware of this recession at 7am, and ceased generating.

Such an event was foreseeable, and for this reason the requirement to monitor the residual flow was included in the consent. It was determined that issuing an infringement notice would have little deterrence value, as the enforcement order is now in force. The Company was issued a warning for this breach.

3 Discussion

3.1 Discussion of site performance

The current owner of the station, Renewable Power Ltd., has owned the station since July 2015, when the Company amalgamated with Normanby Power Ltd. Throughout this time, Mr Tim Johnson, the sole director of both Companies was the person in control of the station. Mr Johnson has managed and operated the scheme since the end of 2014.

Performance of the Company remains at a poor level as was reported in the 2015-2016 report. However, there is an indication of an improvement as the collection of abstraction data has improved, no false data was provided to Council, an erosion report was provided to the Council and the number of breaches in residual flow reduced.

The Council is not aware of any monitoring of the effects of the scheme undertaken by the Company, although some progress has been made, with the Company liaising with both the Council and a consultant, confirming what monitoring was required. The intake screen remains non-compliant with the consent, despite it being almost two years since the Company was first notified of the issue. The Company has continued to generate, despite knowing that they do not have a compliant intake screen. The Company has been advised that knowingly operating in contravention of a resource consent may result in enforcement action.

Gaugings undertaken in the 2016-2017 period recorded sufficient residual flow, but indicated that the little residual flow data collected was inaccurate. When this data was compared to that recorded at SH45, it was found that this residual flow data was grossly inaccurate. The collection of residual flow data is an area that requires significant improvement, both in terms of the accuracy of the data, but also ensuring that it is recorded throughout the year. There has also been no progress in upgrading the fish pass, as required by the consent.

In order to continue operating, the Company must meet the requirements of the consent conditions. The monitoring undertaken to date shows that there has been inadequate progress on meeting many of the consent requirements where the Company is required to undertake works or perform monitoring. In response to this, an enforcement order has been issued.

3.2 Environmental effects of exercise of consents

To date, the greatest environmental effect of the scheme is that on fish passage within the Waingongoro River. The Normanby Weir presents a barrier to all but the best climbing species, and even for these species it is likely that only a small proportion of the fish arriving at the weir manage to migrate past it. Some works were undertaken during the reported period to improve fish passage for lamprey. Although this baffle was not having the desired effect on flow at the time of inspection, it is hoped that as flows recede, the baffle results in less flow over the true left edge of the weir, making it easier for lamprey to climb up. Nevertheless, it was determined during the reported period that it meets the specifications of the consent.

The reduction in flow currently caused by the scheme is likely to be having only a minor impact on the biological communities of the residual flow reach, as the amount of water currently being diverted is much less than the maximum consented rate of take of ten cumecs. Although there was one incident resulting in insufficient flow below the weir, due to the short term nature, timing and small scale of this breach, it is not considered to have resulted in any adverse effects. The Company is yet to provide the Council with any monitoring results for the residual flow reach. As it is now a requirement of the recently issued enforcement order, it is expected that the Company will be initiating this monitoring in the 2017-2018 period. Monitoring of the fish communities in relation to fish passage will likely commence following upgrading of the fish pass.

An erosion report was provided by the Company in the 2016-2017 period, and this concluded that while erosion was not a significant issue, some maintenance works were required to keep it at bay. The Company has begun implementing the fencing and planting of riparian margins as required by consent, although this will take some time due to the scale and cost of this task.

The Company did not meet all the flushing flow requirements during the reported period, but it is unlikely they resulted in a deterioration in the biological communities of the residual flow reach, as the current rate of abstraction is still relatively small. It appears that more care was taken when controlling the ramping rates associated with starting and stopping generation, and this will need to continue. The flushing and release flows will become more important as the generation capacity of the scheme is increased, and there will also be potential for the ramping rates to increase. Therefore the Company will need to ensure that compliance with these conditions is incorporated into the management of the scheme.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 4 - 6. An evaluation of the consent holder's compliance record over time is provided in Table 7.

Table 4 Summary of performance for consent 7078-1

Purpose: To erect, place, use and maintain a concrete weir ancillary structures in the Waingongoro River; and to undertake excavation and disturbance of the river bed that is directly associated with that activity		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections of the site	Yes
2. Activity undertaken largely in accordance with application	Inspections of the site	Yes
3. Notification requirements	Notification received – no maintenance works completed during reporting period	N/A
4. Timing of works	Inspections of site – no maintenance works completed during reporting period	N/A
5. Minimise sediment and associated effects	Inspections of site – no maintenance works completed during reporting period	N/A
6. Receiving environment limits	Inspections of site & sampling – no maintenance works completed during reporting period	N/A
7. Minimise area of disturbance	Inspections of site – no maintenance works completed during reporting period	N/A
8. Upgrade fish pass as specified	Inspections of site	No
9. Install baffle for lamprey passage	Inspections of site	Yes
10. Structure not to pose barrier to listed species, and undertake monitoring	Receipt of monitoring results	No
11. Monitoring of effects of this consent	Receipt of monitoring results	No
12. Cease works upon discovery of archaeological remains	Inspections of site – no maintenance works completed during reporting period	N/A

Purpose: To erect, place, use and maintain a concrete weir ancillary structures in the Waingongoro River; and to undertake excavation and disturbance of the river bed that is directly associated with that activity		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
13. Weir and structures not to cause significant erosion	Inspections of site, receipt of monitoring results	Yes
14. Undertake erosion report	Receipt of monitoring results	Yes
15. Stakeholder meeting	Attending meeting at least every two years	Yes
16. Review provision	No review undertaken	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Poor
Overall assessment of administrative performance in respect of this consent		Improvement Required

N/A = not applicable

Table 5 Summary of performance for consent 6558-1

Purpose: To take and use water from the Waingongoro River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notification requirement	Notification received of initial commissioning	Yes
2. Maximum rate of take not to exceed 10 cumecs	Hydrological gaugings, review of records	Yes
3. Minimum flow to be provided below the weir	Hydrological gaugings, review of Council and Company records	No
4. All water to be discharged at powerhouse	Inspections	Yes
5. Flushing flow to be provided in specific circumstances	Review of data	No
6. Release flow to be provided in specific circumstances	Review of data	Yes
7. Provision of recreational flow upon request from NZ Recreational Canoe Association	Review of data, liaison with Company – no requests received	N/A
8. A log of recreational flows to be maintained and provided to Council	Receipt of log – no requests received	N/A
9. Record residual flow and abstraction rate accurately and provide records to Council	Receipt and review of data	No
10. Intake screen size and velocity	Inspections	No

Purpose: To take and use water from the Waingongoro River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
11. Restriction of surge wave magnitude	Inspections, data review	Yes
12. Installation of emergency backup system	Inspections, liaison with Company	Yes
13. Monitoring of effects of this consent	Receipt of monitoring results	No
14. Undertake riparian planting on Company land and on adjacent land	Liaison with Company & landowners – initiated in 2016	Yes
15. Lapse provision	Consent exercised	N/A
16. Stakeholder meeting	Attending meeting at least every two years	Yes
17. Review provision	No review undertaken	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Poor
Overall assessment of administrative performance in respect of this consent		Poor

Table 6 Summary of performance for consent 2299-3

Purpose: To dam the Waingongoro River with a 6 metre high concrete weir		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Monitoring of effects of this consent	Receipt of monitoring results	No
2. Stakeholder meeting	Attending meeting at least every two years	Yes
3. Review provision	No review undertaken	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		Improvement required

Table 7 Evaluation of environmental performance over time

Year	Consent no	High	Good	Improvement req	Poor
2014-2015	7078-1			1	
	6558-1			1	
	2299-3		1		
2015-2016	7078-1				1
	6558-1				1

Year	Consent no	High	Good	Improvement req	Poor
	2299-3		1		
Totals		0	2	2	2

During the year, the Company demonstrated a poor level of environmental and administrative performance with the resource consents as defined in Section 1.1.4. During the year under review the Company demonstrated a lack of progress in implementing certain consent requirements, including fish passage improvements. This lack of fish passage has been compounding over time, contributing to this 'poor' rating. In addition, they did not meet residual flow and flushing flow requirements at times. The lack of accurate residual flow data makes this a conservative assessment, and will also have contributed to the Company's issues with providing sufficient residual flow. They have continued to generate in the knowledge that the intake screen was non-compliant, and that they were not recording residual flow. An enforcement order was recently issued against the Company. An improvement in the Company's environmental performance is required.

3.4 Recommendations from the 2015-2016 Annual Report

In the 2015-2016 Annual Report, it was recommended:

1. THAT monitoring of consented activities at the Normanby HEPS in the 2016-2017 year be amended from that undertaken in 2015-2016, by increasing the time allocated to monitoring and liaising with the Company to 15 hours per year and the time allocated to data auditing to 40 hours per year, increasing the number of inspections to nine per year and including gaugings of the Waingongoro River to assess the residual flow and abstraction rate.
2. THAT the option for a review of the resource consents in June 2017, as set out in conditions of these consents, not be exercised, on the grounds that the conditions are currently considered adequate for the current scheme.
3. That the consent holder develops a plan for implementation that includes timeframes for the following tasks:
 - a. Resolution of the non-compliant intake screen.
 - b. Establishing the baseline condition of the trout communities in the residual flow reach.
 - c. Establishing of the baseline recreational use of the residual flow reach
 - d. Implementing the monitoring of the effects of the scheme as required by the consents.
 - e. The upgrade of the fish pass to that detailed in the consent and associated application (see TRC, 2016).
 - f. Develop and implement a monitoring programme to determine fish passage in the vicinity of the weir as well as changes in target fish distribution throughout the upstream catchment.
 - g. Undertake fencing and planting of the Company's land and any adjacent properties who have given written permission, and maintenance thereof with this plan provided to Council within one month of this report being published.

Recommendation 1 was implemented in-full, although gaugings were reduced to one per inspection during the year, as the data collected was not accurate enough to determine the accuracy of the recorded abstraction rate.

Recommendation 2 was implemented, with no consent reviews undertaken.

Recommendation 3 was implemented in-part by the Company.

3.5 Alterations to monitoring programmes for 2017-2018

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed that for 2017-2018, site inspections be reduced back to six per year, as there is little change on site between inspections and that the amount of time allocated to annual reporting is reduced from 45 to 40 hours.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2017-2018.

3.6 Exercise of optional review of consent

The three resource consents held for the scheme provide for optional reviews as follows:

- a. annually during the month of June until the June following the third anniversary of the scheme first operating; and/or
- b. at three yearly intervals during the month of June after the June following the third anniversary of the scheme first operating;
- c. after receipt of monitoring reports that show adverse effects on those matters that required to be monitored 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 either not foreseen at the time the application was considered or are of a greater scale than predicted, or which it was not appropriate to deal with at the time.

Although there is no date when the scheme was formally commissioned, for the purposes of the above condition, the scheme was commissioned on 1 October 2010. Therefore, the opportunity to review as per the first point listed above has passed, and the next review date under the second point is June 2020. The third point listed above is not yet of relevance, as no monitoring reports have been received by the Council.

Therefore there is no provision to review the consents in June 2018.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at the Normanby HEPS in the 2017-2018 year be amended from that undertaken in 2016-2017, by reducing the number of site inspections from 9 to 6, and to reduce the time allocated to annual reporting from 45 to 40.
2. THAT should there be issues with environmental or administrative performance in 2017-2018, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

Biomonitoring	Assessing the health of the environment using aquatic organisms.
Bund	A wall around a tank to contain its contents in the case of a leak.
Cumec	A volumetric measure of flow- 1 cubic metre per second (1 m ³ s ⁻¹).
Fresh	Elevated flow in a stream, such as after heavy rainfall.
g/m ² /day	Grams/metre ² /day.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident Register	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
Residual flow	Flow required to maintain fish passage and/or aquatic habitat.
RMA	<i>Resource Management Act 1991</i> and including all subsequent amendments.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.

Bibliography and references

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- Taranaki Regional Council, 2010: *Normanby Power Ltd, Normanby Power Scheme, Baseline Monitoring Report*. Technical Report 2010-18.
- Taranaki Regional Council, 2016: *Normanby Power Station – review of monitoring and performance to date*. Internal Memorandum, Document Number 1654130.
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Appendix I

Resource consents held by Renewable Power Ltd

(For a copy of the signed resource consent
please contact the TRC Consents department)

Water Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Renewable Power Limited
22 Campbell Street
Hawera 4610

Decision Date: 1 September 2009

Commencement Date: 1 September 2009

Conditions of Consent

Consent Granted: To dam the Waingongoro River with a 6 metre high concrete weir for hydroelectric power generation purposes

Expiry Date: 1 June 2029

Review Date(s): See condition 3

Site Location: Normanby Road, Okaiawa

Legal Description: Subdivision 2 of Section 63 Block I Hawera SD
Part Subdivision 1 of Section 63 Blk I Hawera SD
Part Subdivisions 1 of Section 20 Blk I Hawera SD
Part Subdivisions 2 of Section 20 Blk I Hawera SD
Lot 1 DP 5613 being Part Okahu B No. 4B Blk, Blk I
Hawera SD, Section 73 & 74 Blk I Hawera SD

Grid Reference (NZTM) 1706150E-5624519N

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) 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.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. In conjunction with special condition 13 of consent 6558-1 and special condition 11 of consent 7078-1, a monitoring programme shall be developed and undertaken in reasonable consultation with submitters. The monitoring programme shall ensure that the effects of this consent are adequately determined and monitored to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council, having considered any independent expert advice he may seek.

The monitoring programme shall commence within 6 months of the consent commencing [in terms of section 116 of the Resource Management Act] and shall include:

- a. Preparation of a "baseline report" addressing the matters listed in paragraphs b) to f) of this condition, that records the representative baseline against which the effects of the scheme can be assessed. The baseline report shall:
 - i. Incorporate all reasonably available existing information, including the data submitted with the assessment of environmental effects, as well as additional data specifically obtained for the purpose of preparing the report; and
 - ii. Be provided to the Chief Executive, Taranaki Regional Council before the scheme is commissioned
- b. An assessment of the impact of any increased periphyton growth, as a result of this consent, on ecological, recreation and amenity values;
- c. An assessment of the formation of any sediment accumulation immediately below the weir and its effect on 'dam dropping';
- d. An assessment of the impact of this consent on recreational activity [including fishing] in the residual flow reach;

- e. An assessment of the impact of this consent on trout habitat, juvenile and adult trout numbers and benthic macroinvertebrate communities in the residual flow reach; and
- f. An assessment of the effect of this consent on fish passage.

The monitoring programme shall be reviewed and reported on annually.

- 2. The consent holder shall meet as appropriate and at least every two years with staff of the Taranaki Regional Council and interested submitters to the consent to discuss any matter relating to the exercise of this resource consent, including the monitoring programme design, implementation and interpretation.
- 3. 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, amend, delete or add to the conditions of this resource consent by giving notice of review:
 - a. annually during the month of June until the June following the third anniversary of the scheme first operating; and/or
 - b. at three yearly intervals during the month of June after the June following the third anniversary of the scheme first operating;
 - c. after receipt of monitoring reports that show adverse effects on the matters listed in condition 1 (b) - (f).

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 either not foreseen at the time the application was considered or are of a greater scale than predicted, or which it was not appropriate to deal with at the time.

Transferred at Stratford on 19 October 2015

For and on behalf of
Taranaki Regional Council



A D McLay
Director - Resource Management

Water Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Renewable Power Limited
22 Campbell Street
Hawera 4610

Decision Date: 1 September 2009

Commencement Date: 1 September 2009

Conditions of Consent

Consent Granted: To take and use water from the Waingongoro River for hydroelectric power generation purposes

Expiry Date: 1 June 2029

Review Date(s): See condition 17

Site Location: Normanby Road, Okaiawa

Legal Description: Subdivision 2 of Section 63 Block I Hawera SD
Part Subdivision 1 of Section 63 Blk I Hawera SD
Part Subdivisions 1 of Section 20 Blk I Hawera SD
Part Subdivisions 2 of Section 20 Blk I Hawera SD
Lot 1 DP 5613 being Part Okahu B No. 4B Blk, Blk I
Hawera SD, Section 73 & 74 Blk I Hawera SD

Grid Reference (NZTM) 1706164E-5624471N

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) 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.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least seven days prior to the exercise of this consent. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
2. The rate of taking shall not exceed 10 cubic metres per second.
3. The taking of water authorised by this consent shall be managed to ensure that the flow in the Waingongoro River immediately below the intake point is no less than 3,500 litres per second in the period 1 October to 30 April inclusive and no less than 3,000 litres per second in the period 1 May to 30 September inclusive. In the period 1 October to 30 April inclusive, no taking shall occur when the flow is less than 3,500 litres per second. In the period 1 May to 30 September inclusive, no taking shall occur when the flow is less than 3,000 litres per second.
4. All water taken shall be discharged back into the river adjacent to the power house.
5. If a 'flushing flow' [defined as a flow over the weir that exceeds 14 cubic metres per second] does not occur during any continuous period of 15 days, the consent holder shall facilitate a flushing flow at the next opportunity. To facilitate a flushing flow the consent holder shall ensure that on the next occasion that the river flow exceeds 14 cubic metres per second, taking shall cease for 8 hours.
6. If the flow over the weir does not exceed 6 cubic metres per second during any continuous period of 14 days between 1 October and 30 April, the consent holder shall, within 24 hours, stop taking so that the entire river flow passes over the weir for at least 3 hours. Once a release flow has occurred, the 14 day period shall restart, irrespective of the total flow which passed over the weir during the release.

7. On up to 12 occasions per year the consent holder shall regulate, or stop, taking to allow a 'recreational flow' over the weir. A 'recreational' flow shall:
 - a. be the entire flow of the river;
 - b. occur for a maximum duration of 3 hours;
 - c. only occur at the written request of a person delegated to make such requests by the New Zealand Recreational Canoe Association, received by the consent holder no less than 48 hours beforehand; and
 - d. occur at the time reasonably requested, or agreed to, by the organisation.
8. A log of recreational release flows shall be maintained and provided to the Chief Executive, Taranaki Regional Council and/or the New Zealand Recreational Canoe Association upon request. Such a log shall include:
 - a. name of person making the request;
 - b. date and time the request was made;
 - c. date of release flow;
 - d. time and duration of release flow; and
 - e. maximum flow released.
9. The consent holder shall measure and electronically record at intervals not exceeding 15 minute intervals the:
 - rate that water is taken from the Waingongoro River to an accuracy of $\pm 5\%$;
 - flow in the Waingongoro River immediately downstream of the weir to an accuracy of $\pm 10\%$;and shall provide these records to the Chief Executive, Taranaki Regional Council, at three monthly intervals or upon reasonable request.
10. The intake shall be screened with a screen having a maximum aperture dimension of 30 mm. The maximum through screen velocity shall be 0.3 metres per second.
11. That start-up and shutdown of the power station shall not generate a change in water level [including both positive and negative surge waves] in excess of 200 mm in height downstream of the weir or power station discharge.
12. That an emergency backup system [power and communication] be installed prior to commissioning of the scheme to ensure that generation can continue to be managed during emergency situations for up to 48 hours.
13. In conjunction with special condition 1 of consent 2299-3 and special condition 11 of consent 7078-1, a monitoring programme shall be developed and undertaken in reasonable consultation with submitters. The monitoring programme shall ensure that the effects of this consent are adequately determined and monitored to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council, having considered any independent expert advice he may seek.

The monitoring programme shall commence within 6 months of the consent commencing [in terms of section 116 of the Resource Management Act] and shall include an assessment of:

- a. Preparation of a “baseline report” addressing the matters listed in paragraphs b) to f) of this condition, that records the representative baseline against which the effects of the scheme can be assessed. The baseline report shall:
 - i. Incorporate all reasonably available existing information, including the data submitted with the assessment of environmental effects, as well as additional data specifically obtained for the purpose of preparing the report; and
 - ii. Be provided to the Chief Executive, Taranaki Regional Council before the scheme is commissioned
- b. An assessment of the impact of any increased periphyton growth, as a result of this consent, on ecological, recreation and amenity values;
- c. An assessment of the formation of any sediment accumulation immediately below the weir and its effect on ‘dam dropping’;
- d. An assessment of the impact of this consent on recreational activity [including fishing] in the residual flow reach;
- e. An assessment of the impact of this consent on trout habitat, juvenile and adult trout numbers and benthic macroinvertebrate communities in the residual flow reach; and
- f. An assessment of the effect of this consent on fish passage.

The monitoring programme shall be reviewed and reported on annually.


14. The consent holder shall undertake riparian planting on any land owned by the consent holder, and on any adjacent land where individual landowners provide written agreement, in the area that is affected by the power scheme. The purpose of the planting shall be to mitigate the environmental effects of the water take. The planting shall include fencing, planting and on-going maintenance of the riparian area for the duration of the consent.
15. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
16. The consent holder shall meet as appropriate and at least every two years with staff of the Taranaki Regional Council and interested submitters to the consent to discuss any matter relating to the exercise of this resource consent, including the monitoring programme design, implementation and interpretation.

17. 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, amend, delete or add to the conditions of this resource consent by giving notice of review:
- a. annually during the month of June until the June following the third anniversary of the scheme first operating; and/or
 - b. at three yearly intervals during the month of June after the June following the third anniversary of the scheme first operating;
 - c. after receipt of monitoring reports that show adverse effects on the matters listed in condition 13 (b) - (f).

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 either not foreseen at the time the application was considered or are of a greater scale than predicted, or which it was not appropriate to deal with at the time.

Transferred at Stratford on 19 October 2015

For and on behalf of
Taranaki Regional Council



A D McLay

Director - Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Renewable Power Limited
22 Campbell Street
Hawera 4610

Decision Date: 1 September 2009

Commencement Date: 1 September 2009

Conditions of Consent

Consent Granted: To erect, place, use and maintain a concrete weir and ancillary structures in the Waingongoro River; and to undertake excavation and disturbance of the river bed that is directly associated with that activity, for hydroelectric power generation purposes

Expiry Date: 1 June 2029

Review Date(s): See condition 16

Site Location: Normanby Road, Okaiawa

Legal Description: Subdivision 2 of Section 63 Block I Hawera SD
Part Subdivision 1 of Section 63 Blk I Hawera SD
Part Subdivisions 1 of Section 20 Blk I Hawera SD
Part Subdivisions 2 of Section 20 Blk I Hawera SD
Lot 1 DP 5613 being Part Okahu B No. 4B Blk, Blk I
Hawera SD Sec 73 & 74 Blk I Hawera SD

Grid Reference (NZTM) 1706150E-5624519N

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) 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.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. Notwithstanding any other condition of this consent the consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this resource consent.
2. The exercise of this consent shall be undertaken substantially in accordance with the documentation submitted in support of application 4558. In the case of any contradiction between the documentation submitted in support of application 4558 and the conditions of this consent, the conditions of this consent shall prevail.
3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least seven days prior to the exercise of this consent and at least 48 hours prior to and upon completion of any maintenance works which would involve disturbance of or deposition to the river bed or discharges to water. Notification shall include the consent number and a brief description of the activity consented and be emailed to worknotification@trc.govt.nz.
4. Any disturbance of parts of the riverbed covered by water and/or any works which may result in downstream discolouration of water shall be undertaken only between 1 November and 30 April, except where this requirement is waived in writing by the Chief Executive, Taranaki Regional Council.
5. The consent holder shall take all reasonable steps to:
 - a. minimise the amount of sediment discharged to the river;
 - b. minimise the amount of sediment that becomes suspended in the river; and
 - c. mitigate the effects of any sediment in the river.

Undertaking work in accordance with *Guidelines for Earthworks in the Taranaki region*, by the Taranaki Regional Council, will achieve compliance with this condition.

Consent 7078-1

6. After allowing for reasonable mixing, within a mixing zone extending 100 metres downstream of any discharge, that discharge shall not give rise to either of the following effects in the receiving waters of the Waingongoro River:
 - a. an increase in suspended solids concentration in excess of 10 gm^{-3} , when the stream turbidity as measured immediately upstream of the discharge point in the Waingongoro River is equal to or less than 5 NTU [nephelometric turbidity units]; or
 - b. an increase in turbidity of more than 50% when the stream turbidity as measured immediately upstream of the discharge point in the Waingongoro River is greater than 5 NTU [nephelometric turbidity units].
7. The consent holder shall ensure that the area and volume of river bed disturbance shall be the practical minimum necessary to achieve its purpose. Any areas which are disturbed shall, as far as practicable, be reinstated.
8. Within one year of the commencement of this consent the consent holder shall modify the existing fish pass by:
 - Extending the bottom of the fish pass and adjusting weir heights to get a 7.9 degree gradient throughout the fish pass; and
 - Forming a rock ramp in each concrete pool that generates a central channel with emergent rocks on each side.
9. Within one year of the commencement of this consent the consent holder shall construct an angled, rounded timber baffle 2m long [or similar structure that achieves the same effect], which can be placed on the dam crest, to provide for lamprey passage past the weir. This is to be installed and operative during the lamprey migration season defined as 1 June to 30 September each year.
10. The structure authorised by this consent shall not significantly affect the passage of the following target fish species:
 - Brown trout;
 - Rainbow trout;
 - Torrentfish;
 - Smelt;
 - Inanga;
 - Redfin bullies;

as determined by a specific monitoring programme undertaken to determine fish passage in the immediate vicinity of the weir as well as changes in target fish distribution throughout the upstream catchment. Notwithstanding special condition 8 above, if monitoring confirms the fish pass is not providing adequate passage for any target fish species, further changes to the fish pass may be required within three months or a time reasonably agreed by the Chief Executive, Taranaki Regional Council.

11. In conjunction with special condition 1 of consent 2299-3 and special condition 13 of consent 6558-1, a monitoring programme shall be developed and undertaken in reasonable consultation with submitters. The monitoring programme shall ensure that the effects of this consent are adequately determined and monitored to the reasonable satisfaction of the Chief Executive, Taranaki Regional Council, having considered any independent expert advice he may seek.

The monitoring programme shall commence within 6 months of the consent commencing [in terms of section 116 of the Resource Management Act] and shall include an assessment of:

- a. Preparation of a “baseline report” addressing the matters listed in paragraphs b) to f) of this condition, that records the representative baseline against which the effects of the scheme can be assessed. The baseline report shall:
 - i. Incorporate all reasonably available existing information, including the data submitted with the assessment of environmental effects, as well as additional data specifically obtained for the purpose of preparing the report; and
 - ii. Be provided to the Chief Executive, Taranaki Regional Council before the scheme is commissioned
- b. An assessment of the impact of any increased periphyton growth, as a result of this consent, on ecological, recreation and amenity values;
- c. An assessment of the formation of any sediment accumulation immediately below the weir and its effect on ‘dam dropping’;
- d. An assessment of the impact of this consent on recreational activity [including fishing] in the residual flow reach;
- e. An assessment of the impact of this consent on trout habitat, juvenile and adult trout numbers and benthic macroinvertebrates in the residual flow reach; and
- f. An assessment of the effect of this consent on fish passage.

The monitoring programme shall be reviewed and reported on annually.

12. In the event that any archaeological remains are discovered as a result of works authorised by this consent in the river bed, the works shall cease immediately at the affected site and Tangata Whenua and the Chief Executive, Taranaki Regional Council, shall be notified within one working day. Works may recommence at the affected area when advised to do so by the Chief Executive, Taranaki Regional Council. Such advice shall be given after the Chief Executive has considered: Tangata Whenua interest and values, the consent holder’s interests, the interests of the public generally, and any archaeological or scientific evidence. The New Zealand Police, Coroner, and Historic Places Trust shall also be contacted as appropriate, and the work shall not recommence in the affected area until any necessary statutory authorisations or consents have been obtained.

Consent 7078-1

13. The weir and associated structures shall not cause any significant erosion of the river bed or banks.
14. A report investigating erosion of the river bed and banks for a distance of 100 m downstream of the weir shall be provided to the Chief Executive, Taranaki Regional Council within one year of the commencement of this consent. The report shall be prepared by a suitably qualified river engineer and shall detail:
 - a. existing erosion of the river bed and banks;
 - b. the potential for further erosion;
 - c. the impact of existing and potential erosion on any land, the weir and any wāhi tapu site [including urupa];
 - d. the extent that the erosion may be caused by any structures authorised by this consent; and
 - e. recommendations for any work to mitigate erosion.
15. The consent holder shall meet as appropriate and at least every two years, with staff of the Taranaki Regional Council and interested submitters to the consent to discuss any matter relating to the exercise of this resource consent, including the monitoring programme design, implementation and interpretation.
16. 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, amend, delete or add to the conditions of this resource consent by giving notice of review:
 - a. annually during the month of June until the June following the third anniversary of the scheme first operating; and/or
 - b. at three yearly intervals during the month of June after the June following the third anniversary of the scheme first operating;
 - c. after receipt of monitoring reports that show adverse effects on the matters listed in condition 11 (b) - (f).

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 either not foreseen at the time the application was considered or are of a greater scale than predicted, or which it was not appropriate to deal with at the time.

Transferred at Stratford on 19 October 2015

For and on behalf of
Taranaki Regional Council



A D McLay

Director - Resource Management

Appendix II

Enforcement Order

BEFORE THE ENVIRONMENT COURT

Decision No. [2017] NZEnvC 192

IN THE MATTER of an application under ss 314 and 316
of the Resource Management Act 1991

BETWEEN TARANAKI REGIONAL COUNCIL
(ENV-2017-WLG-000049)

Applicant

AND RENEWABLE POWER LIMITED

First Respondent

AND TIM MARK JOHNSON

Second Respondent

Court: Environment Judge B P Dwyer

Heard: In Chambers, under s 309 of the Resource Management Act
1991

Date of Decision: 30 November 2017

Date of Issue: 30 November 2017

ENFORCEMENT ORDERS



1. The Court, by consent, makes these enforcement orders under subsections 314(1)(a)(i), 314(1)(b)(i), 314(1)(b)(ii), 314(1)(d)(iii), 314(3) and 314(5) and section 316 of the Resource Management Act 1991 with the terms and conditions as set out below.
2. The name and address of the Respondents against whom the enforcement orders are granted are:
 - a. First Respondent: Renewable Power Limited, 22 Campbell Street, Hawera, 4610.
 - b. Second Respondent: Tim Mark Johnson, 22 Campbell Street, Hawera, 4610.

-
1. This Enforcement Order applies to the Normanby Power Scheme and includes the Normanby Power Station at Normanby Road, Okaiawa which is located on the land described below:
 - a. Computer freehold register identifier TNA3/1320, legal description Subdivision 2 and Part Subdivision 1, Section 63 Block I Hawera Survey District and Part Subdivision 1 – 2 Section 20 Block I Hawera Survey District, comprising 1.4083 hectares more or less, Taranaki Land Registration District.
 - b. Computer freehold register identifier TN140/151, legal description Lot 1 Deposited Plan 5613, comprising 195 square metres more or less, Taranaki Land Registration District.
 - c. Computer freehold register identifier TN191/81, legal description Section 73-74 Block I Hawera Survey District, comprising 1621 square metres more or less, Taranaki Land Registration District.



**CHANGE OF CONDITIONS OF RESOURCE CONSENT 6558-1 -
ACCURACY OF MEASURING DEVICES**

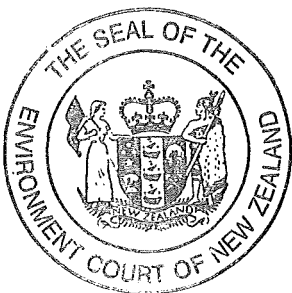
2. The Respondents shall within 60 working days from the date of service of this Order submit, to the Taranaki Regional Council, a complete application for change of conditions of Resource Consent 6558-1 (made in accordance with all applicable requirements of section 88 of the Resource Management Act 1991) to add a condition or conditions to the Resource Consent 6558-1 that will confirm the accuracy of both the residual flow and abstraction flow measuring devices used to undertake the measurements and recording required by condition 9 of Resource Consent 6558-1 and to facilitate compliance with conditions 2, 3, 5 and 6 of Resource Consent 6558-1.

COMPLIANCE WITH CONDITIONS OF RESOURCE CONSENTS

3. The Respondents shall comply with Special Conditions 3, 9 and 13 of Resource Consent 6558-1.
4. The Respondents shall comply with Special Condition 10 of Resource Consent 6558-1 by 1 December 2017.
5. The Respondents shall comply with Special Condition 1 of Resource Consent 2299-3.
6. The Respondents shall comply with Special Condition 11 of Resource Consent 7078-1.

CHANGE OF CONDITIONS OF RESOURCE CONSENT 7078-1 – FISH PASS

7. The Respondents shall, within 60 working days from the date of service of this Order submit, to the Taranaki Regional Council, a complete application for change of Resource Consent 7078-1 (made in accordance with all applicable requirements of section 88 of the Resource Management Act 1991) to change special

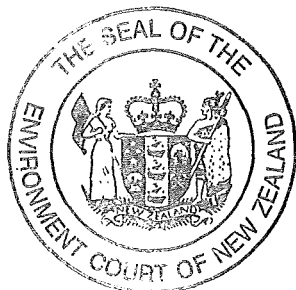


conditions 8 and 10 of the Resource Consent 7078-1. The Respondents shall include with the application a Project Plan for the installation of a fish pass which shall include as a minimum (but not be limited to) the following:

- a. An overall project plan; and
- b. Completion dates for the various stages of development of the fish pass; and
- c. A date by which the project will be completed and become operational; and
- d. Outcome of the consultation process undertaken with Taranaki Fish and Game Council.

FURTHER REQUIREMENTS/MATTERS


8. The Respondents shall not restrict Enforcement Officers of the Taranaki Regional Council and/or any experts instructed by the Taranaki Regional Council (with such assistance from other people as is necessary) to enter and re-enter the Normanby Power Station Site for the purposes of checking on compliance with this Enforcement Order, provided that all persons (other than Enforcement Officers of the Taranaki Regional Council) entering the Normanby Power Station Site are accompanied by an Enforcement Officer of the Taranaki Regional Council.
9. The Respondents shall reimburse the Taranaki Regional Council, in full, for actual and reasonable costs incurred by the Taranaki Regional Council (that are not recoverable pursuant to section 36 of the Resource Management Act 1991) for:
 - a. Monitoring of this Order including inspections pursuant to this Order; and
 - b. Any costs for experts (excluding costs for experts employed by the Council) incurred by the Taranaki Regional Council.
10. This Order shall apply to the personal representatives, successors, and assigns of the Respondents to the same extent as it applies to



the Respondents.

11. Leave is reserved to the Taranaki Regional Council; the Respondents; and the personal representatives, successors, and assigns of the Respondents, to seek further directions and/or orders from the Court.

12. This Order shall take effect when it is served on the Respondents.



B P Dwyer
Environment Judge



