



Submission by Genesis Energy Limited

Trading as Genesis Energy

ON

Proposed Waikato Regional Plan Change 1 - Waikato and Waipa River
Catchments

8 March 2017

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Waikato and Waipa River Catchments

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1. Introduction

Genesis Energy Limited, trading as Genesis Energy (“Genesis Energy”) welcomes the opportunity to submit on Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments (“Healthy Rivers Plan Change”).

Genesis Energy is an electricity generator and energy retailer with approximately 1648 MW of installed generation capacity and more than half a million retail customers. The generation profile of Genesis Energy comprises a range of energy sources.

Genesis Energy wishes to be heard in support of this submission.

Genesis Energy does not gain an advantage in trade competition through this submission.

2. Background

Genesis Energy is an electricity generator and energy retailer with a diverse portfolio of renewable and thermal electricity generation assets including hydro, thermal and wind generation plants. It is one of the largest electricity generators in the country. Genesis Energy owns and operates the following schemes in the Waikato Region that are reliant on freshwater resources:

- Tongariro Power Scheme located on the North Island's central volcanic plateau with a maximum generating capacity of 362 MW; and
- Huntly Power Station located on the Waikato River with a current capacity to generate up to 953 MW of electricity, and a consented capacity of 1,453.8 MW.

Electricity is a vital resource for New Zealand. The continued operation of Genesis Energy's hydro and thermal generation infrastructure is entirely dependent on access to, and use of, freshwater resources.

Tongariro Power Scheme

The Tongariro Power Scheme ('TPS') comprises three power stations – Rangipo (120 MW), Tokaanu (240 MW) and Mangaio (1.8MW).

The TPS has a catchment area of more than 2600 square kilometres in the North Island's central volcanic plateau. The scheme gathers water from the mountains of the central plateau including through Eastern and Western Diversions of the scheme. The water passes through a series of pipes, lakes, canals and tunnels to the Mangaio, Tokaanu and Rangipo hydro power stations before entering Lake Taupo. The TPS

contributes approximately an additional 20 percent of water to the Waikato River catchment via the foreign water diversions.

The water diverted by the TPS produces approximately 5 percent of New Zealand's annual electricity demand, 3.5 percent of this from the TPS power stations and the remainder via additional generation at power stations along the Waikato River.

Huntly Power Station

Huntly Power Station comprises the following six separate generating units:

- Units 1 to 4, the four original nominal 250 MW Rankine generating units capable of burning coal, natural gas or a combination of the two and, when necessary, fuel oil to support unit start up during restricted gas supply or combustion difficulties;
- One nominal 403 MW combined cycle gas turbine; and
- One nominal 50.8 MW open cycle gas turbine, which is also capable of firing diesel.

Collectively, Huntly Power Station represents approximately 12.5% of New Zealand's installed generation capacity. Huntly Power Station is, and will remain for the foreseeable future, a significant component of New Zealand's electricity supply system, particularly due to its size, proximity to the Auckland load centre, unique ability to stockpile fuel (coal) on site and ability to provide security of energy supply during dry years, peak periods or when other weather dependant generation is unable to meet consumer demand. As part of the need to manage thermal generation to meet the future needs of New Zealand, changes have been made to the existing resource consents to provide for the installation and operation of additional fast-start open cycle gas turbines.

Central to the ability of Huntly Power Station to generate electricity is the abstraction of up to 40 m³/s cooling water from the Waikato River and its discharge back to the river (both authorised by resource consents). The discharge of cooling water has the potential to increase the temperature of the cooling water by some 8 – 9 °C, which in turn can affect the temperature of the Waikato River. Accordingly, the resource consent for the discharge is subject to a comprehensive suite of conditions in order to protect the river's ecology. Genesis Energy also holds resource consents for the discharge of process waters from the station to the Waikato River. A range of mitigation measures, such as eel and fishery enhancements are undertaken in association with Huntly Power Station operations.

3. Statutory Provisions

The Waikato Regional Council and the Healthy Rivers Plan Change are required to:

- Be prepared in accordance with Part 2 of the RMA – its purpose and principles.
- The National Policy Statement for Freshwater Management 2014 (“NPS FM”)
- Give appropriate effect to the Waikato Regional Policy Statement (“RPS”).
- Give effect to the Vision and Strategy.

Genesis Energy understands that the Healthy Rivers Plan Change represents part of the measures being taken to restoring and protecting the health and wellbeing of the Waikato and Waipa rivers as provided for in the Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato.

4. Submission and Relief Sought

4.1 Submission

Genesis Energy supports the Vision and Strategy for the Waikato River, and the intent of the Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments (“Healthy Rivers Plan Change”) in terms of giving effect to the Vision and Strategy.

4.1.1 Relief Sought

Adopt the Healthy Rivers Plan Change, subject to appropriate amendments.

4.2 Submission

Genesis Energy considers that its electricity generation and transmission activities are adequately recognised in the values and uses for the Waikato and Waipa Rivers.

4.2.1 Relief Sought

That Section 3.11.1.2 Mana Tangata – Use Values and in particular the table on Electricity Generation is retained.

4.3 Submission

Genesis Energy supports the management of diffuse discharges of nitrogen, phosphorus, sediment and microbial pathogens through land use management, particularly by excluding livestock from waterways.

4.3.1 Relief Sought

Retain Policy 1 in the same or similar form.

4.4 Submission

Genesis Energy supports the adoption of an intergenerational time frame to achieve the water quality objectives of the Vision and Strategy, and the implementation of a staged approach to achieving these objectives.

4.4.1 Relief Sought

That Objective 4 and Policy 5 signalling a staged approach to change are retained in their current or similar form.

4.5 Submission

Genesis Energy welcomes the policy recognition given to point source discharges from regionally significant infrastructure and regionally significant industry, recognising that these terms are defined in the Regional Policy Statement ('RPS').

4.5.1 Relief Sought

That Policy 10 be retained and that the RPS definitions of the terms "regionally significant infrastructure" and "regionally significant industry" are retained.

4.6 Submission

Genesis Energy welcomes the policy direction in relation to point source discharges, in particular the application of the 'Best Practicable Option' ("BPO") as defined in the RMA at the time of consent application. Best Practicable Option is familiar in law and application, and is an appropriate concept to apply to point source discharges.

Genesis Energy agrees that “offsets” have a place within the suite of measures available to avoid, remedy or mitigate the adverse effects of contaminants from point source discharges. It is important for all users of the plan that there is clarity around the inclusion of offset measures in the Healthy Rivers Plan Change, and that there is consistency with the RMA where this is appropriate.

Genesis Energy agrees that the application of BPO and offset measures to point source discharges is best considered at the time of resource consent application but considers that any offset measures proposed should be at the discretion of the applicant.

Genesis Energy considers that offsets comprise one part of the suite of measures that are available to avoid, remedy or mitigate adverse effects of a discharge within the context of the purpose of the RMA. Offsets are supported as a potential measure to lessen or reduce adverse effects of a discharge.

4.6.1 Relief Sought

That the following amendments to Policy 11 are adopted:

Policy 11: Application of Best Practicable Option and mitigation or offset of effects to point source discharges/*Te Kaupapa Here 11: Te whakahāngai i te Kōwhiringa ka Tino Taea me ngā mahi whakangāwari pānga; te karo rānei I ngā pānga ki ngā rukenga i ngā pū tuwha*

Require any person undertaking a point source discharge of nitrogen, phosphorus, sediment or microbial pathogens to water or onto or into land in the Waikato and Waipa River catchments to adopt the Best Practicable Option* to avoid or mitigate for preventing or minimising the adverse effects of the discharge, at the time a resource consent application is decided.

Where it is not practicable to ~~avoid or mitigate~~ prevent or minimise all adverse effects, an offset measure may be proposed by that person in an alternative location or locations to the point source discharge, for the purpose of ensuring positive effects on the environment to lessen ~~any~~ the residual adverse effects of the discharge(s) that will or may result from allowing the activity provided that the:

- a. ~~Primary discharge does not result in any significant toxic adverse effect at the point source discharge location; and~~
- b. Offset measure is for the same contaminant; and
- be. Offset measure occurs preferably within the same sub-catchment in which the ~~primary~~ point source discharge occurs and if this is not practicable, then within the same Freshwater Management Unit[^] or a Freshwater Management Unit[^] located upstream, and

cd. Offset measure remains in place for the duration of the consent and is secured by consent condition.

That the following amendment to the definition of offset is adopted:

“Offset means for a specific contaminant/s an action that reduces some or all of the residual adverse effects of that contaminant on water quality”

4.7 Submission

Genesis Energy and other companies that have point source discharges have made significant investments in the management and reduction of contaminant loads to the Waikato River. It is appropriate that these efforts, as well as similar future investments that will be required, are taken into consideration.

4.7.1 Relief Sought

That Policy 12 is retained.

4.8 Submission

Genesis Energy supports methods to implement Chapter 3.11 that involve a wide range of stakeholders.

4.8.1 Relief Sought

Retain Implementation Method 3.11.4.1 in the same or similar form.

4.9 Submission

Genesis Energy supports sub-catchment planning that involves stakeholders as proposed in Method 3.11.4.1. Genesis Energy considers that effort and investment should be prioritised in sub-catchment plans, while recognising stakeholder involvement is required.

4.9.1 Relief Sought

Amend Implementation Method 3.11.4.5 to add the following, or words to similar effect:

“Waikato Regional Council will work with others in accordance with Method 3.11.4.1 to develop **sub-catchment** scale plans...

h. prioritise **sub-catchment** actions”

4.10 Submission

Genesis Energy supports the establishment and operation of a publicly available, robust accounting system and monitoring for each FMU, as required by the NPS FM.

The location of FMU monitoring sites is not in the proposed Healthy Rivers Plan Change. However, the policies regarding accounting and future allocations will take into account data collected for an FMU. Genesis Energy submits that the location of monitoring sites for accounting water quality should be within the FMU, or at the downstream boundary of the FMU, and should be shown on a map or tabulated with an appropriate map reference.

Genesis Energy recognises that established water quality monitoring sites provide baseline data but submits that the collective actions of land owners, industry, local authorities and others within an FMU should most accurately be accounted for at sites that are the best representation for the FMU. For example, an FMU monitoring site should not be located downstream of point source discharges in a downstream FMU.

4.10.1 Relief Sought

Amend 3.11.4.10 (a)(ii) to read as follows, or words to like effect:

“ii. additional monitoring sites in sub-catchments and on tributaries that are currently unrepresented in the existing monitoring network; and”

Establish representative FMU monitoring sites at, or very near, the downstream boundary of an FMU to monitor the progress toward water quality objectives over the next 80 years.

Amend Map 3.11-1 or insert another map or table that identifies the location of FMU monitoring sites.

4.11 Submission

Genesis Energy supports development of best management practice guidelines and research into methods for reducing diffuse discharges of contaminants to water.

4.11.1 Relief Sought

Retain Implementation Method 3.11.4.12 in the same or similar form.

If you would like to discuss any of these matters outlined in the submission further, please do not hesitate to contact me on 021 385 991 or via email abbie.fowler@genesisenergy.co.nz.

Yours sincerely



Abbie Fowler
Environmental Coordinator – Policy & Projects

Summary of Genesis Energy Submissions

Ref	PC1 Provision	Support / Oppose	Submission Summary	Relief Sought
4.2	General	Support	PC1 is supported in terms of giving effect to the Vision and Strategy	Adopt PC1 subject to appropriate amendments
4.4	Section 3.11.1.2	Support	Electricity generation is adequately recognised in the Waikato and Waipa River values	Retain table on electricity generation in Section 3.11.1.2
4.6	Policy 1	Support	Management of diffuse discharges through land use management is appropriate	Retain Policy 1 in the same or similar form
4.8	Objective 4 Policy 5	Support	An intergenerational time frame is appropriate to achieve the water quality objectives	Retain Objective 4 and Policy 5 in the same or similar form
4.10	Policy 10	Support	Policy recognition for regionally significant infrastructure and industry point source discharges is appropriate	Retain Policy 10 and the definitions of “regionally significant infrastructure” and “regionally significant industry” as provided for in the Regional Policy Statement
4.12	Policy 11	Support in part	The policy direction in relation to point source discharges is helpful. However, it is unreasonable to provide offsets for all adverse effects that are not avoided or mitigated.	Amend Policy 11 and the definition of offset.
4.14	Policy 12	Support	The significant investment that has been made in the management and reduction of contaminant loads in the catchment should be taken into account	Retain Policy 12
4.16	Method 3.11.4.1	Support	Implementation of PC1 should involve a range of stakeholders	Retain Implementation Method 3.11.4.1 in the same or similar form

Ref	PC1 Provision	Support / Oppose	Submission Summary	Relief Sought
4.18	Method 3.11.4.5	Support in part	Implementation involving stakeholders on a prioritised sub-catchment basis is appropriate	Amend 3.11.4.5 to refer to Implementation Method 3.4.11.1
4.20	Method 3.11.4.10	Support in part	Genesis Energy supports robust monitoring and accounting systems for each FMU	Amend 3.11.4.10(a)(ii) to include additional monitoring sites and update Map 3.11-1
4.22	Method 3.11.4.12	Support	Development of best practice guidelines and research in methods for reducing diffuse discharges of contaminants is appropriate	Retain Implementation Method 3.11.4.12 in the same or similar form