

**From:** [Alice Lin](#)  
**To:** [Plan Hearings](#)  
**Cc:** [Karen Sky](#)  
**Subject:** Proposed Plan Change 7 - Statements of Evidence for Genesis Energy Ltd (Submitter ID 422)  
**Date:** Friday, 17 July 2020 2:02:41 pm  
**Attachments:** [image001.png](#)  
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[Statement of Evidence by Mark Alan Cain \(final 20200717\).pdf](#)  
[Statement of Evidence by Roger Graeme Young \(final 20200717\).pdf](#)  
[20200717- CLWRP PC7 - FINAL Phil Mitchell Statement of Planning Evidence.pdf](#)

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Hello

Please find attached, the following statements of evidence-in-chief for Genesis Energy Ltd (Submitter ID 422):

- Mark Cain (Genesis)
- Phil Mitchell (planning)
- Roger Young (ecology)

I would appreciate it if a receipt confirmation email could be provided please. Many thanks.

Kind regards



**Alice Lin** | Environmental Policy & Planning Manager  
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**BEFORE THE HEARING  
COMMISSIONERS**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** Proposed Plan Change 7 to the Canterbury  
Land and Water Regional Plan

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**STATEMENT OF EVIDENCE OF DR PHILIP HUNTER MITCHELL ON  
BEHALF OF GENESIS ENERGY LIMITED**

**17 July 2020**

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## EXECUTIVE SUMMARY

1. This statement of planning evidence has been prepared at the request of Genesis Energy Limited ("**Genesis**")
2. As outlined in the evidence of Mr Cain, the key issues of concern to Genesis in respect of Plan Change 7 ("**PC7**") to the Canterbury Land and Water Regional Plan are:
  - (a) The implications of the identified Critical Habitat of Threatened Freshwater Species on the ongoing operation and maintenance of the Tekapo Power Scheme; and
  - (b) Any potential for water to be transferred from the Upper Waitaki catchment to the Orari-Temuka-Opihi-Pareora Zone.
3. To give effect to the relevant higher order planning documents, including the National Policy Statement for Renewable Electricity Generation 2011 and the Canterbury Regional Policy Statement, it is my opinion that PC7 should be modified along the following lines:
  - (a) The planning maps should be amended to remove the classification of Irishman Creek as a Critical Habitat of Threatened Freshwater Species for a distance of 100 metres upstream and downstream of the culvert beneath the Tekapo Canal; and
  - (b) The definition of Critical Habitat of Threatened Freshwater Species should be amended to make it explicit that this classification does not apply to areas around hydro electricity generation infrastructure; and

- (c) In relation to the Orari-Temuka-Opihi-Pareora Zone, Section 14 of the Canterbury Land and Water Regional Plan should be amended by including a policy, and associated rule, that direct that the “out of catchment” use of water sourced from the Upper Waitaki catchment is prohibited.

## INTRODUCTION

### Qualifications and experience

4. I hold the degrees of Bachelor of Engineering (Hons) and Doctor of Philosophy, both from the University of Canterbury.
5. I am employed by Mitchell Daysh Limited, an environmental consulting practice with five offices around New Zealand that I cofounded in 2016. Previously I was a Director of Mitchell Partnerships Limited, an environmental consultancy I established in 1997, and which was merged with Environmental Management Services to form Mitchell Daysh Limited. Prior to that, I was the Managing Director of Kingett Mitchell & Associates Limited, a firm that I co-founded in 1987.
6. I am a past president and founding executive committee member of the Resource Management Law Association, a full member of the New Zealand Planning Institute and in 2015 was a recipient of the New Zealand Planning Institute's Distinguished Service Award.
7. I have practised in the field of resource management for the past 34 years during which time I have had a lead resource management role in many significant projects throughout New Zealand. Such projects include number of hydro-electricity developments, including consent applications associated with the Tongariro Power Scheme and the Tekapo Power Scheme.
8. I have acted on several Ministerial advisory panels established to review aspects of the Resource Management Act 1991 ("**RMA**") and was a member of the Technical Advisory Group established to review sections 6 and 7 of the RMA.
9. My principal areas of practice are: providing resource management advice to the private and public sectors; facilitating public consultation

processes; undertaking planning analyses; managing resource consent acquisition projects; and developing resource consent conditions.

10. I have acted as a Hearings Commissioner on some 60 occasions, many in the role of Hearing Chair. In that regard, I am currently chairing the hearing of submissions on the proposed Waikato District Plan.
11. Previously, I was appointed jointly by the Minister for Canterbury Earthquake Recovery and the Christchurch City Council as a Hearings Commissioner for the replacement of the Christchurch City District Plan (the district plan that is intended to facilitate the rebuilding of Christchurch).
12. I have prepared this statement of evidence in my capacity as an expert and acknowledge that I have read and understand the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note dated 1 December 2014. I have complied with it when preparing my statement of evidence, and I agree to comply with it when I give any oral evidence. Other than where I state that I am relying on the evidence of another person, my evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

### **Involvement in the process**

13. I was engaged in July 2019 by Genesis Energy Limited (trading as “**Genesis**”) to provide planning advice in respect of Proposed Plan Change 7 (“**PC7**”) to the Canterbury Land and Water Regional Plan (“**CLWRP**”).
14. I have prepared this statement of evidence at the request of Genesis.
15. In preparing this evidence I have reviewed Genesis’ current resource consents and the evidence prepared by Genesis’ other witnesses, as well as the following:

- (a) Genesis' Primary Submission on PC7 dated 13 September 2019;
- (b) Genesis' Further Submission on PC7 dated 6 December 2019;
- (c) Section 32 Evaluation Report for Plan Change 7 (Omnibus, Orari-Temuka-Opihi-Pareora and Waimakariri) to the Canterbury Land and Water Regional Plan and Plan Change 2 to the Waimakariri River Regional Plan ("**section 32 report**");
- (d) Orari-Temuka-Opihi-Pareora Zone Committee. 2018: Orari-Temuka-Opihi-Pareora Zone Implementation Programme Addendum.
- (e) Section 42A report on PC7, March 2020 ("**section 42A report**") and all appendices and updates; and
- (f) Officers' response to Questions from the Hearing Panel - 28 May 2020 and 16 June 2020.

#### **Purpose and scope of evidence**

16. In my evidence I will:

- (a) Summarise the environmental setting within which the Tekapo Power Scheme ("**TekPS**") sits;
- (b) Set out the planning context as it relates to PC7 and the TekPS;
- (c) Provide my analysis of the matters raised in Genesis' submissions on PC7; and
- (d) Provide a brief conclusion.

## ENVIRONMENTAL SETTING

17. Mr Cain's evidence provides an overview of the TekPS. I particularly note the following:

- (a) The TekPS sits at the head of the Waitaki Valley and comprises the Tekapo A (25 megawatts ("MW")) and Tekapo B (160MW) power stations, Lake Tekapo and its associated inflows, and the Tekapo Canal.
- (b) The TekPS generates approximately 980 gigawatt hours per annum of renewable electricity (equivalent to the amount of electricity used annually by some 120,000 households). In generating this electricity, the TekPS makes an important contribution to New Zealand's security of electricity supply.
- (c) The TekPS has been part of the existing environment of the Waitaki Catchment for many decades, with Tekapo A being commissioned in 1951 and Tekapo B in 1977.
- (d) The Waitaki catchment hydroelectricity power schemes (which include the TekPS and the Meridian owned power stations) form a substantial body of renewable electricity generation, contributing, on average, 25% of New Zealand's renewable electricity generation.
- (e) The Waitaki catchment hydroelectricity power schemes are of national significance. They provide security of supply to New Zealand's electricity network, particularly in the South Island. The Waitaki based schemes alone provide approximately 60% of New Zealand's controllable hydro storage capacity.
- (f) There are nine culverts along the 25.5 km Tekapo Canal. The culverts are located in several waterbodies, including Fork Stream and Irishman Creek, and are in place to divert the



natural flow of these waterbodies under the Tekapo Canal. Regular maintenance and clearing of the culverts are required to ensure they maintain their structural integrity. If the ability to pass flow is not maintained, water can flood on the upstream side of the culvert, which could potentially erode the structural integrity of the Tekapo Canal and create a dam safety hazard.

18. The TekPS relies on being able to store water in, and manage water levels of, Lake Tekapo, and on being able to reticulate water from Lake Tekapo through a series of power stations and canals. Those operations are authorised by a series of resource consents to take, dam, divert and discharge water which expire in 2025. Resource consents are also held for the activities associated with the culverts, including consents that authorise maintenance activities.
19. The key resource consent conditions which affect how much, and for how long, water can be stored in Lake Tekapo for use in the TekPS, and hence the ability to generate electricity, are as follows:
  - (a) Controls on the management of water levels in Lake Tekapo.
  - (b) Requirements to release periodic “recreational flows” into the Tekapo River at specified periods of the year.
  - (c) Restrictions on the rate at which water can be taken from Lake Tekapo into the Tekapo A Power Station and/or from the Tekapo River into the Tekapo Canal, and the rate at which water can be discharged from the Tekapo B Power Station.
  - (d) Controls on the management of spill to the Tekapo River.
20. There is no requirement to release a permanent residual flow into the Tekapo River.
21. Mr Cain has explained that a change in how the TekPS is able to store water in, and take water from, Lake Tekapo, or the loss of water from the

scheme (either through minimum flows into the Tekapo River or additional abstractions of water from Lake Tekapo or the Tekapo Canal), could have significant impacts on the quantum of electricity generated by the TekPS.

22. Those changes would also affect the downstream power stations which also use the water augmented from Lake Tekapo by the TekPS.

## PLANNING CONTEXT

23. I agree with the authors of the section 32 report (in Appendix 3 of the report) and section 42A report (in Appendix B of the report) that the key statutory documents applicable to assessing PC7 are:

- (a) The National Policy Statement for Freshwater Management 2014 (amended 2017) ("**NPSFM**").<sup>1</sup>
- (b) The National Policy Statement for Renewable Electricity Generation 2011 ("**NPSREG**").
- (c) The operative Canterbury Regional Policy Statement ("**CRPS**").
- (d) The operative CLWRP.

24. However, in my opinion, the analysis contained in the section 32 report and section 42A report is such that, in my opinion, it cannot be concluded that PC7 gives effect to the NPSREG and the CRPS, for the reasons set out in the following sections.

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<sup>1</sup> I note that further announcements in respect of the Government's Essential Freshwater work programme were made on 28 May 2020. The details of these reforms are not yet available and therefore the implications are not yet known.

## **National Policy Statement for Renewable Electricity Generation**

25. The objective of the NPSREG is:

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

26. In my opinion, the policies of the NPSREG that are directly relevant to the consideration of PC7 are:

### **A. Recognising the benefits of renewable electricity generation activities**

#### **POLICY A**

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

- a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
- b) maintaining or increasing security of electricity supply at local, regional and national levels by diversifying the type and/or location of electricity generation;

.....

**B. Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources**

**POLICY B**

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

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

**C. Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities**

**POLICY C1**

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

- a) the need to locate the renewable electricity generation activity where the renewable energy resource is available;
- b) logistical or technical practicalities associated with developing,

upgrading, operating or maintaining the renewable electricity generation activity;

- c) the location of existing structures and infrastructure including, but not limited to, roads, navigation and telecommunication structures and facilities, the distribution network and the national grid in relation to the renewable electricity generation activity, and the need to connect renewable electricity generation activity to the national grid;

....

**E. Incorporating provisions for renewable electricity generation activities into regional policy statements and regional and district plans**

....

E2 Hydro-electricity resources

**POLICY E2**

Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing hydro-electricity generation activities to the extent applicable to the region or district.

....

27. The section 32 report states<sup>2</sup>:

The NPSET, NPSREG or NPSUDC is [sic] not considered relevant to PC7. The relevant parts of the NPSFM, NPSREG and NZCPS are set out below.

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<sup>2</sup> On page 23.

28. I assume that this is the reason why the section 32 report contains no analysis of PC7 against the provisions of the NPSREG.
29. The section 42A report does acknowledge the NPSREG when addressing the submissions by Genesis, Meridian Energy Limited and Trustpower Limited, where it states:<sup>3</sup>

I consider the most relevant policies in the NPSREG are:

- Policy C1(a) which requires particular regard to the “the need to locate the renewable electricity generation activity where the renewable energy resource is available”;
- Policy C1(b) which requires particular regard to the “logistical or technical practicalities associated with developing, upgrading, operating or maintaining the renewable electricity generation activity”;
- Policy C1(d) which requires particular regard to the “designing measures which allow operational requirements to complement and provide for mitigation opportunities”;
- Policy C2 which requires regard to offsetting measures or environmental compensation when considering any residual environmental effects that cannot be avoided, remedied or mitigated; and
- Policy E2 which requires regional policy statements and regional and district plans to include provisions that provide for development, operation, maintenance and upgrading of new and existing hydro-electricity generation activities.

30. Additionally, the statutory analysis contained in Appendix B of the section 42A report states:

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<sup>3</sup> Paragraph 5.40 on page 95.

9.9. Of particular relevance to PC7 is Policy E2 [of the NPSREG]:

*Regional policy statements and regional and district plans shall include objectives, policies, and methods (including rules within plans) to provide for the development, operation, maintenance, and upgrading of new and existing hydro-electricity generation activities to the extent applicable to the region or district.*

9.10. The LWRP already gives effect to the NPSREG; it is considered that PC7 does not reduce the degree to which this occurs.

31. While I agree with the section 42A report authors that these policies are relevant, both the section 32 report and the section 42A report do not acknowledge the importance of Policies A and B of the NPSREG and I can find no analysis to suggest that they have been considered when formulating PC7.

### **Canterbury Regional Policy Statement**

32. The CRPS was made operative in 2013.

33. While the CRPS is addressed in both the section 32 and section 42A reports, the analysis in those reports is predominantly confined to highlighting key provisions contained in Section 7 (Freshwater), Section 9 (Ecosystems and Indigenous Biodiversity) and Section 10 (Beds of Rivers and Lakes and their Riparian Zones).

34. In particular, the section 32 report states<sup>4</sup>:

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<sup>4</sup> On page 25.

The CRPS objectives and policies of particular relevance to PC7 to the CLWRP and PC2 to the WRRP include:

- Section 7 (Freshwater) Objectives 7.2.1; 7.2.3 and 7.3.4 and Policies 7.3.4; 7.3.6 and 7.3.7;
- Section 9 (Ecosystems and Indigenous Biodiversity): Objectives 9.2.1; 9.2.3 and Policy 9.3.1; and
- Section 10 (Beds of Rivers and Lakes and their Riparian Zones): Objectives 10.2.1; 10.2.2 and 10.2.3 and Policies 10.3.1; 10.3.2; 10.3.3 and 10.3.4.

35. The section 42A report takes a similar approach.
36. However, PC7 is required to give effect to the CRPS as a whole, not just three specific chapters, and, in my opinion, that requires a broader analysis of the other chapters of the CRPS.
37. In that regard, I consider that the following provisions of the CRPS are also directly relevant to PC7:

**Policy 5.3.9 – Regionally significant infrastructure <sup>5</sup> (Wider Region)**

In relation to regionally significant infrastructure (including transport hubs):

...

- (2) provide for the continuation of existing infrastructure, including its maintenance and operation, without prejudice to any future decision that may be required for the ongoing operation or expansion of that infrastructure; and

...

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<sup>5</sup> The definition of regionally significant infrastructure in the RPS encompasses “National, regional and local renewable electricity generation activities of any scale”.



## **Methods**

### **The Canterbury Regional Council:**

#### *Will:*

- (1) Set out objectives and policies, and may include methods in regional plans which:
  - (a) provide for regionally significant infrastructure by reducing constraints on their efficient and effective operation, maintenance and upgrade.
  - (b) avoid development that may impact on regionally significant infrastructure
  - (c) avoid, remedy or mitigate the adverse effects of regionally significant infrastructure on the environment.

### **Policy 7.3.11 - Existing activities and infrastructure**

In relation to existing activities and infrastructure:

- (1) to recognise and provide for the continuation of existing hydro-electricity generation and irrigation schemes, and other activities which involve substantial investment in infrastructure; but
- (2) require improvements in water use efficiency and reductions in adverse environmental effects of these activities, where appropriate.

## **Methods**

### **The Canterbury Regional Council:**

#### *Will:*

- (1) Set out objectives and policies, and may include methods in regional plans (including environmental flow and water allocation regimes) that:

- (a) Recognise and provide for the continuation of existing hydro-electricity and irrigation schemes and other existing water takes, uses, damming and diversions, which involve substantial investment in infrastructure, as appropriate; and
- (b) Require these existing activities to make on-going improvements in water efficiency and reductions in adverse environmental effects, as appropriate, including through reviewing conditions on resource consents.

...

**Policy 16.3.3 – Benefits of renewable energy generation facilities**

To recognise and provide for the local, regional and national benefits when considering proposed or existing renewable energy generation facilities, having particular regard to the following:

- (a) maintaining or increasing electricity generation capacity while avoiding, reducing or displacing greenhouse gas emissions;
- (b) maintaining or increasing the security of supply at local and regional levels, and also wider contributions beyond Canterbury; by diversifying the type and/or location of electricity generation;
- (c) using renewable natural resources rather than finite resources;
- (d) the reversibility of the adverse effects on the environment of some renewable electricity generation facilities;
- (e) avoiding reliance on imported fuels for the purposes of generating electricity; and
- (f) assisting in meeting international climate obligations.

## **Methods**

### **The Canterbury Regional Council:**

#### *Will:*

- (1) Set out objectives and policies, and may include methods in regional plans that recognise the local, regional and national benefits of a renewable energy supply, including security of supply, providing for electricity capacity, and assisting in meeting international climate obligations.

### **Policy 16.3.5 - Efficient, reliable and resilient electricity generation within Canterbury**

To recognise and provide for efficient, reliable and resilient electricity generation within Canterbury by:

- (1) avoiding subdivision, use and development which limits the generation capacity from existing or consented electricity generation infrastructure to be used, upgraded or maintained;
- (2) enabling the upgrade of existing, or development of new electricity generation infrastructure, with a particular emphasis on encouraging the operation, maintenance and upgrade of renewable electricity generation activities and associated infrastructure:
  - (a) having particular regard to the locational, functional, operational or technical constraints that result in renewable electricity generation activities being located or designed in the manner proposed;
  - (b) provided that, as a result of site, design and method selection:
    - (i) the adverse effects on significant natural and physical resources or cultural values are avoided, or where this

is not practicable remedied, mitigated or offset; and

(ii) other adverse effects on the environment are appropriately controlled.

- (3) providing for activities associated with the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation;
- (4) maintaining the generation output and enabling the maximum electricity supply benefit to be obtained from the existing electricity generation facilities within Canterbury, where this can be achieved without resulting in additional significant adverse effects on the environment which are not fully offset or compensated.

## **Methods**

### **The Canterbury Regional Council:**

*Will:*

- (1) Set out objectives and policies, and may include methods in regional plans to:
  - (a) avoid activities on the beds of lakes and rivers, and uses and developments that impact on the generation capacity from, and/or the maintenance and upgrading of consented and existing electricity generation infrastructure; and
  - (b) provide for the full operation, and maintenance and/ or upgrading of, existing generation infrastructure;
  - (c) provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for electricity generation;
  - (d) enable the upgrading of existing and establishment of new electricity generation infrastructure within the coastal marine area and in the beds of lakes and rivers, while

avoiding, remedying or mitigating adverse effects including through the use of best practice approaches to design, construction and effect management.

*Should:*

- (2) Advocate to, cooperate, coordinate and participate with territorial authorities and electricity generators to achieve Policy 16.3.5.

38. I have seen no analysis to indicate that these provisions have been considered when preparing PC7 and, in my opinion it cannot be said to “give effect to” the CRPS.

### **Essential Freshwater Reforms – Draft National Policy Statement for Freshwater Management**

39. In 2019 the Government released a Draft National Policy Statement for Freshwater Management (“**Draft NPSFM**”) for public consultation as part of its freshwater reform package. The Draft NPSFM included an “exception” framework for New Zealand’s six largest hydro schemes (that included the Waitaki Power Scheme – of which the TekPS is part) whereby Regional Councils making decisions relating to freshwater management must consider “the importance of not adversely affecting a scheme’s generation capacity, storage and operational flexibility”.
40. The report prepared by the Independent Advisory Panel appointed by the Government<sup>6</sup> to consider submissions on the Draft NPSFM and recommend amendments, acknowledges the importance of renewable hydro-electricity schemes, stating that:

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<sup>6</sup> “Essential Freshwater - Report of the Freshwater Independent Advisory Panel” (dated 27 February 2020).

The six hydro schemes have high value to the community in providing a substantial component of a reliable, flexible and resilient supply of electricity for both peaking and baseload needs. In total they provide a high proportion of the nation's energy. Relevantly, as renewable operations, they are a major contributor to meeting its climate change commitments. Even so, and particularly because hydro schemes involve major interference with natural waterways by dams and canals, there is now general acceptance that they should mitigate or offset adverse impacts of their operations on the environment to an extent that does not adversely affect their capability, storage, operational flexibility, and output.

41. The Independent Advisory Panel also recommended the retention of the large hydro scheme "exception" clause in the Draft NPSFM, with some modification, as follows:

### **3.22 Exception for large hydro schemes**

- (1) This section applies to the following five hydro-electricity generation schemes (referred to as Schemes):
  - a. Waikato Hydro Scheme
  - b. Tongariro Power Scheme
  - c. Waitaki Hydro Scheme
  - d. Manapouri Power Scheme
  - e. Clutha Hydro Scheme.
- (2) Regional councils may set target attribute states that are below national bottom lines in respect of water bodies or freshwater ecosystems that are adversely affected by particular identified structures that form part of any Schemes, to the extent of such an effect, but in no case may the target attribute state be set

below the current state.

- (3) Despite subclause (2), regional councils must still set target attributes states that, to the extent possible, improve any water body or freshwater ecosystem affected by any Scheme or, where that is not possible, require offsetting of effects.
- (4) When setting target attribute states under subclause (2), and when making plan changes required by this NPS, regional councils must have regard to the importance of not adversely affecting the generation capacity, storage and operational flexibility of a Scheme, and to effects on environmental outcomes to be achieved under clause 3.7(2) for affected water bodies.
- (5) Subclause (1) only applies to part of any Scheme that was first operational on or before 1 August 2019, including any subsequent maintenance, repair or like for like replacement works.

42. A subsequent Cabinet Paper<sup>7</sup> states:

*Preserve hydro-electricity flexibility and output to maintain security of supply*

78. This policy makes an exceptions mechanism available in the new NPS-FM to the five largest existing hydro-electricity schemes in New Zealand, comprising hydro-electricity generation infrastructure associated with the Waikato, Tongariro, Waitaki, Manapouri, and Clutha schemes. These five schemes represent 86% of New Zealand's hydroelectricity generation capacity. Such a policy has been contemplated since 2014 but not developed.

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<sup>7</sup> Cabinet paper titled "Action for Healthy Waterways – Decisions on National Direction and Regulations for Freshwater Management", dated May 2020.

79. The policy requires regional councils to have regard to the importance of not adversely impacting the generation capacity, storage and operational flexibility of a scheme; and was contentious during consultation. We have adjusted it in light of submissions feedback and IAP [Independent Advisory Panel] recommendations to include only the largest existing schemes (i.e. omitting Waikaremoana). We consider the policy necessary in order to provide New Zealand with security of electricity supply, help meet our climate change obligations, and provide regional councils clear direction on how to treat hydro-electricity generation.
80. However, the policy applies only to existing structures within those schemes, i.e. only to structures that were first operational before 1 August 2019. It does not apply to any subsequent new structures, or provide blanket exceptions to the new NPS-FM, or allow councils to let freshwater degrade further.
81. Rather, the policy enables councils to set objectives below bottom lines for waterbodies to the extent they are adversely impacted by existing hydro-electricity infrastructure. And at the same time, councils are required to set objectives that, to the extent possible, improve any waterbody affected by any scheme. Of course, councils can still set objectives above bottom lines if they choose to do so.
82. Cabinet has agreed to update and strengthen national policy direction around renewable energy – in particular the National Policy Statement for Renewable Energy Generation [CAB-19-MIN-0334 refers]. This can provide further direction on how renewable energy should be considered in freshwater planning and consent decisions.



43. I acknowledge that the Draft NPSFM has no statutory status at this time, but, in my opinion, it further reinforces the need to retain the potential for those large hydro schemes to provide renewable electricity to New Zealanders.

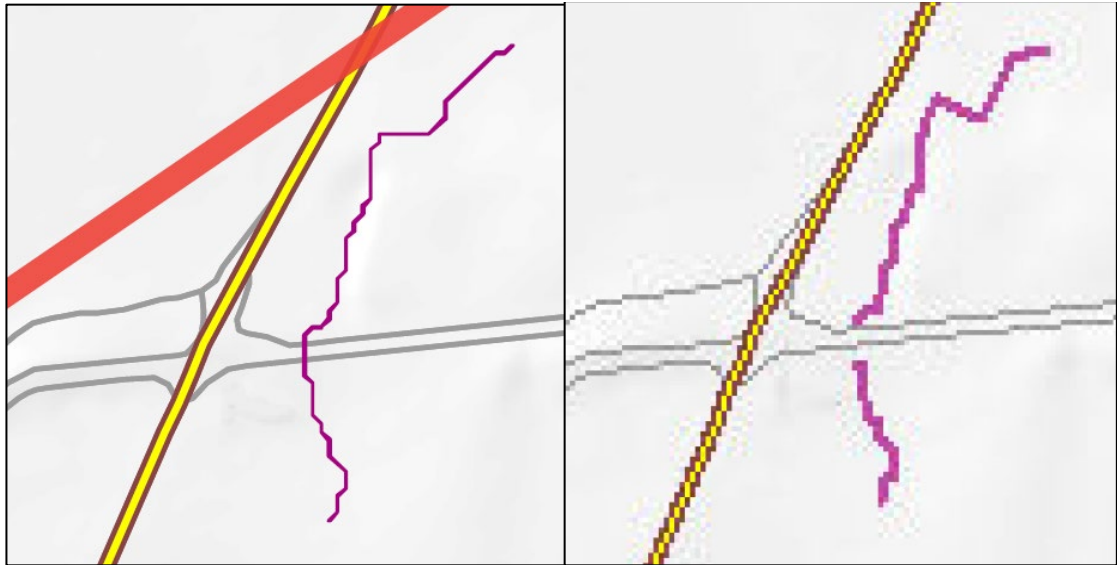
#### **ANALYSIS OF GENESIS' SUBMISSIONS**

44. As outlined in the evidence of Mr Cain, the key issues of concern to Genesis in respect of PC7 are as follows:
- (a) The potential impacts of the identified Critical Habitat of Threatened Freshwater Species on the ongoing operation and maintenance of the TekPS; and
  - (b) The policy framework setting up the use of out of catchment water in the Orari-Temuka-Opihi-Pareora ("**OTOP**") Zone, noting that Lake Tekapo has previously been identified as a potential source of water for this zone.
45. I address each of these matters below.

#### ***Indigenous Freshwater Species Habitat / Critical Habitat of Threatened Freshwater Species***

46. In its primary submission Genesis raised concerns with the mapped areas of Critical Habitat of Threatened Freshwater Species, specifically the implications of having the area around the Irishman Creek culvert (under the Tekapo Canal) identified as such, given the need to maintain the efficacy of the culverts following large hydrological events.
47. Mr Cain has explained the importance of the culverts beneath the Tekapo Canal in protecting the structural integrity of the canal, and that they are required to be maintained on an ongoing basis.

48. In responding to Genesis' submission, the section 42A report authors recommend adopting a 40-metre buffer, upstream and downstream of the Irishman Creek culvert, as shown in the following figure.



**Figure 1. Notified Planning Maps (Left) and Section 42A Recommend Map (Right) for Irishman Creek.**

49. The section 42A report authors state:

5.36 Meridian, Trustpower and Genesis oppose the Planning Map layer 'Indigenous Freshwater Species Habitat' in the vicinity of their hydro-electric power generation infrastructure and the associated maintenance activities. Meridian raises concerns about the nature and extent of habitat mapping in Lake Benmore and Lake Aviemore, and the potential impacts of the suite of provisions on the continued maintenance and operation of the nationally significant Waitaki Power Scheme. Trustpower seeks amendments to the map layer in the vicinity of their existing Coleridge Hydro-Electric Power Scheme infrastructure and the associated maintenance activities. In particular, the submitter requests a 40-metre buffer from Trustpower assets, and helpfully provides aerial imagery of its assets and the

proposed boundary amendments to the PC7 habitat layer<sup>8</sup>.

....

5.41 I agree with Meridian, Trustpower and Genesis that the restrictions associated with this definition and mapping should not impact on existing renewable generation infrastructure and associated operation and maintenance activities in the immediate vicinity of this infrastructure. Accordingly, high resolution aerial photos have been assessed and recommendations are made to amend the mapped habitat area to provide an at least 40 metre buffer from existing hydro-electricity generation structures and activity locations detailed in their submissions. This buffer should account for the hydrological fluctuations raised in the submission by Genesis. In forming this recommendation, I have considered the requirement in s6(c) of the RMA to recognise and provide for the protection of significant habitats of indigenous fauna and the Objectives of the CLWRP, but I consider the NPSREG (in particular the policies listed above) to be more directive in requiring recognition of the practical constraints associated with operating and maintaining the existing hydro-electricity generation infrastructure<sup>9</sup>.

50. Whilst the concept of a buffer is accepted, Mr Cain states<sup>10</sup> that a buffer of up to 100 metres would be needed, if it were not to impact maintenance activities associated with the Irishman Creek culvert.
51. From an ecological perspective, Dr Young acknowledges the presence of the threatened Bignose galaxias (*Galaxias macronasus*) within Irishman Creek, but concludes that<sup>11</sup>:

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<sup>8</sup> At paragraph on 5.36 on page 94.

<sup>9</sup> At paragraph on 5.41 on page 95.

<sup>10</sup> At paragraph 30.

<sup>11</sup> At paragraph 33.

In my opinion, occasional maintenance activities that avoid disturbance to fish populations within the small additional part of the available critical habitat are unlikely to threaten the viability of the Bignose galaxias population within Irishman Creek.

52. I therefore consider that the planning maps should be amended to remove the classification of Irishman Creek as a Critical Habitat of Threatened Freshwater Species for a distance of 100 metres upstream and downstream of the culvert beneath the Tekapo Canal.
53. In addition to the above, it is my opinion that the definition of Critical Habitat of Threatened Freshwater Species should be amended along the following lines (additions to the section 42A report authors recommendations shown as underlined) to make it explicit that this classification does not apply to areas around hydro electricity generation infrastructure:

Critical Habitat of Threatened Freshwater Species means the area of the bed and the riparian margin of a surface water body that is:

- a. within ten metres of any surface water, as measured at any time, located within the upstream and downstream extents of a line on the Planning Maps identified as 'Critical Habitat of Threatened Indigenous Freshwater Species'; and
- b. within an area identified as 'Critical Habitat of Threatened Indigenous Freshwater Species' on the Planning Maps

which provides habitat for at least one of the freshwater species listed below:

1. Giant kōkopu/Taiwharu (*Galaxias argenteus*)
2. Lowland longjaw galaxias (Waitaki River) (*Galaxias aff. cobitinis* “Waitaki”)
3. Canterbury mudfish/Kōwaro (*Neochanna burrowsius*)
4. Bignose galaxias (*Galaxias macronasus*)
5. Upland longjaw galaxias (Canterbury, West Coast) (*Galaxias prognathus*)
6. Upland longjaw galaxias (Waitaki River) (*Galaxias aff. prognathus* “Waitaki”)
7. Shortjaw kōkopu (*Galaxias postvectis*)
8. Northern flathead galaxias (*Galaxias “northern”*)
9. Lamprey/Kanakana (*Geotria australis*)
10. Freshwater crayfish/Kekewai (*Paranephrops zealandicus*)
11. Freshwater mussel/Kākahi (*Echyridella menziesi*)

but does not include any area;

- (a) 100 metres upstream and downstream of the Irishman Creek culvert under the Tekapo Canal; or
- (b) 40 metres from any other infrastructure associated with hydro-electricity schemes.

### **Orari-Temuka-Opihi-Pareora Zone**

54. Proposals to draw water from Lake Tekapo and reticulate it out of catchment to South Canterbury (the OTOP Zone) via Burkes Pass have been discussed for many years<sup>12</sup>.

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<sup>12</sup> For example, URS reviewed the potential to transfer water for environmental and irrigation purposes from Lake Tekapo via Burkes Pass to the South Canterbury region in 2014 (report titled “Tekapo Transfer Review 2014”).

55. Most recently, Section 4.9 of the OTOP Zone Implementation Programme (“ZIP”) Addendum<sup>13</sup>, report prepared by the OTOP Zone Committee, states:

**Out of Catchment Water**

The Committee are supportive of out-of-catchment water being introduced into the zone, provided Papatipu Rūnanga are actively engaged in any decision-making process. The Committee have therefore recommended that the sub-region plan change enables out-of-catchment water to be brought into the zone to restore any potential reduction in reliability that may occur as a result of increased minimum flows, or to provide for new irrigation.

....

**4.9.6 Recommendation: Introduced Out-of-Catchment Water**

- I. The sub-region plan change for OTOP supports out-of-catchment water being brought into the zone.
- II. Papatipu Rūnanga are actively involved in any decision-making regarding out of catchment water being brought into the zone.
- III. The use of introduced water is to be prioritised over individual surface and groundwater sources.

Note: The Zone Committee did not reach consensus on this recommendation as the outcome does not address the concerns of Te Rūnanga o Arowhenua.

56. Genesis’ submission sought that two additional provisions be inserted into PC7, namely:

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<sup>13</sup> As I understand, Zone Implementation Programmes are developed by Zone Committees. The OTOP Zone Committee is a collaboration between Canterbury Regional Council (Environment Canterbury) and Timaru, Mackenzie and Waimate District Councils, and membership includes papatipu rūnanga, community members and representatives from each of the councils.

- (a) A policy that expressly prohibits the “out of catchment” use of water sourced from the upper Waitaki Catchment; and
- (b) A rule prohibiting the use of water sourced from the upper Waitaki Catchment in the OTOP Zone.

57. When addressing Genesis’ submission, the section 42A report author has recommended amendments to Policy 14.4.14, as follows:

**Policy 14.4.14**

~~When introducing water from outside the catchment, protect the values, customs and culture of papatipu rūnanga by:~~

- ~~a. requiring any proposal to include, in addition to the matters in Policy 4.55, evidence of any consultation undertaken with Te Rūnanga o Ngāi Tahu and papatipu rūnanga, and a description of how the proposal responds to any matters raised; and~~
- ~~b. In addition to the matters contained in Policy 4.55, decision makers will have decision makers having particular regard to any views expressed by Te Rūnanga o Ngāi Tahu and papatipu rūnanga, and in particular any views expressed regarding the extent to which the proposal diminishes the mauri of freshwater resources or compromises values or customs~~

58. I agree with the recommendation of the section 42A report authors insofar as it explicitly states that any proposals for out of catchment water use must consider the views expressed by Te Rūnanga o Ngāi Tahu and papatipu rūnanga. However, that does not address Genesis submission point.

59. I also acknowledge that there are two existing policies in the CLWRP that are relevant to out of catchment water transfer proposals:

**Policy 4.55**

Any discharge of water resulting from moving water from one catchment or waterbody to another in particular:

- a) does not facilitate the unwanted transfer of fish species, plant pests or unwanted organisms into catchments where they are not already present;
- b) takes into account Ngāi Tahu values;
- c) does not have a more than a minor adverse effect on the natural character of the receiving water;
- d) does not compromise the ability of existing drinking-water treatment systems to effectively treat the water to achieve the standards set out in the Drinking-water Standards for New Zealand; and
- e) does not have a more than a minor adverse effect on fish migration.

**Policy 4.56**

Where water is introduced from outside a catchment, the additional surface water flows are not available for abstraction unless either:

- a) a new or revised environmental flow and allocation regime is introduced through a plan change; or
- b) the existing environmental flow and allocation regime has been developed in anticipation of the additional surface water flows.

60. These policies are silent on the impacts of out of catchment water transfer proposals on hydro-electricity generation.

61. The author of the section 42A report addresses these policies at paragraphs 4.99 - 4.103, and states:

4.99 However, we note that Policy 14.4.14 sets out other matters to be considered in addition to those listed in region-wide Policy 4.55. Policy 4.55 includes matters to consider for any



discharge of water resulting from moving water from one catchment or waterbody to another. It is unclear whether the intent of Policy 14.4.14 is to apply the matters listed in Policy 4.55 in the context of introducing water from outside of the sub-region, or whether it also seeks to manage the movement of water between individual catchments or waterbodies.

4.100 In any event, Policy 4.56 requires that where water is introduced from outside a catchment (whether or not from outside a zone), the additional surface water flows are not available for abstraction unless either a new or revised environmental flow and allocation regime is introduced through a plan change or the existing environmental flow and allocation regime has been developed in anticipation of the additional surface water flows.

4.101 Further, alternate scenarios relating to the introduction of additional water were not pursued as there was, and is currently still not, a reliable and certain proposal to bring out-of-catchment water into the OTOP sub-region.

4.102 We note that consensus was not reached on the ZIPA recommendation because concerns of Te Rūnanga o Arowhenua were not addressed. The introduction of water from outside the catchment was discussed as a potential option for the sub-region but was never adopted into the final flow and allocation regimes (which must occur in order for introduced water to be abstracted in accordance with Policy 4.56).

4.103 Overall, if out of catchment water effectively cannot be brought in the OTOP sub-region and discharged to a waterbody without another plan change, we doubt the value of this Policy, over the guidance already provided by Policies

4.55 and 4.56, with the exception of focusing on the views of tangata whenua. Amendments to the policy to focus on this, in addition to the matters in Policy 4.55, are recommended.

62. I agree that, as currently drafted, a plan change would be required to introduce water into the OTOP Zone from another catchment. However, I do not consider that approach to be effective or efficient, including in section 32 terms, given the very strong policy directive in the higher order planning documents to protect renewable energy generation capacity.
63. To give effect to the provisions of the NPSREG, in ensuring that the output of the TekPS (and the downstream power stations) is maintained, and the provisions of the CRPS that I discussed earlier, it is my opinion that PC7 should amend Section 14 of the CLWRP by including a policy and associated rule that prohibits the “out of catchment” use of water sourced from the Upper Waitaki catchment.
64. Possible wording is as follows (additions shown as underlined):

**Out of Catchment Water**

POLICY 14.4.14

....

14.4.14A

The use and/or discharge of out of catchment water from the Upper Waitaki Catchment shall not be allowed.

RULE XXX

The use and / or discharge of out of catchment water sourced from the Upper Waitaki catchment is a prohibited activity.

65. In my opinion, these additions are necessary to give effect to the NPSREG and to maintain the generation output of the TekPS.

## **Section 32AA**

66. Section 32AA of the RMA, requires that:

### **Requirements for undertaking and publishing further evaluations**

- (1) A further evaluation required under this Act—
  - (a) is required only for any changes that have been made to, or are proposed for, the proposal since the evaluation report for the proposal was completed (the changes); and
  - (b) must be undertaken in accordance with section 32(1) to (4); and
  - (c) must, despite paragraph (b) and section 32(1)(c), be undertaken at a level of detail that corresponds to the scale and significance of the changes; and
  - (d) must—
    - (i) be published in an evaluation report that is made available for public inspection at the same time as the approved proposal (in the case of a national policy statement or a New Zealand coastal policy statement or a national planning standard), or the decision on the proposal, is notified; or
    - (ii) be referred to in the decision-making record in sufficient detail to demonstrate that the further evaluation was undertaken in accordance with this section.
- (2) To avoid doubt, an evaluation report does not have to be prepared if a further evaluation is undertaken in accordance with subsection (1)(d)(ii).

(3) In this section, proposal means a proposed statement, national planning standard, plan, or change for which a further evaluation must be undertaken under this Act.

67. In my opinion, the amendments I have proposed are more effective and efficient than those in the section 42A report because they will achieve similar environmental outcomes, but do so in a manner that does not impact the ongoing operation and maintenance of the TekPS.

## **CONCLUSION**

68. In addition to the amendments to PC7 recommended in the section 42A report, I consider that the additional amendments outlined in my evidence are necessary to give effect to the NPSREG and the CRPS.

**DR PHILIP HUNTER MITCHELL**

17 July 2020