

Your Comment on the Tekapo Power Scheme – Applications for Replacement Resource Consents application

Please include all the contact details listed below with your comments and indicate whether you can receive further communications from us by email to substantive@fasttrack.govt.nz

1. Contact Details			
Please ensure that you have authority to comment on the application on behalf of those named on this form.			
Organisation name (if relevant)	Canterbury Regional Council		
First name	Leigh		
Last name	Griffiths		
Postal address	PO Box 345 Christchurch 8140		
Home phone / Mobile phone		Work phone	03) 365 3828
Email (<i>a valid email address enables us to communicate efficiently with you</i>)	fasttrack@ecan.govt.nz		

2. We will email you draft conditions of consent for your comment			
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Please provide your comments below, include additional pages as needed.

Thank you for your comments

22 August 2025

Daniel Sadlier

Expert Panel Chair

substantive@fasttrack.govt.nz



Customer Services
P. 03 353 9007 or 0800 324 636

PO Box 345
Christchurch 8140

P. 03 365 3828
F. 03 365 3194
E. ecinfo@ecan.govt.nz
www.ecan.govt.nz

Kia ora Mr Sadlier,

As you are aware, Genesis Energy Limited has applied under the Fast Track Approvals Act 2024 (**FTAA**) to replace existing resource consents for the continued operation of the Takapō/Tekapo Power Scheme (**TPS**). The proposal consolidates multiple resource consents into a single water permit and a single discharge permit, aiming to simplify monitoring and compliance.

The Canterbury Regional Council (**CRC**) has reviewed the application and participated in expert discussions prior to preparing these comments for the Panel's consideration. While undertaking review of the application, CRC technical experts and planners have focused on areas of disagreement or uncertainty rather than restating Genesis' material.

Please read this CRC advice, together with the attached Planning Memorandum which forms the basis of CRC advice. You will note that the Memorandum is supported by legal submissions on behalf of CRC, key technical memorandum and changes proposed to the proposed conditions of consent.

Activity status

The FTAA requires decision-makers to give greatest weight to its purpose, but also to consider Resource Management Act 1991 (**RMA**) provisions and planning instruments such as the National Policy Statement for Freshwater (**NPS-FM**), the National Policy Statement for Renewable Electricity Generation, the Canterbury Regional Policy Statement (**CRPS**), Waitaki Catchment Water Allocation Regional Plan (**WAP**), and Canterbury Land and Water Regional Plan (**CLWRP**). The application is treated as a controlled activity under the WAP and the CLWRP.

National and regional benefits

CRC agrees with Genesis regarding the national and regional benefits of the renewable hydro-electricity generation of the TPS. Genesis proposes to continue with the same level of power

generation, proffering compensation rather than mitigation to ensure generation output is not compromised. Genesis have obtained support for this proposal from many stakeholders who recognise the importance of the TPS to New Zealand's hydro-electricity generation.

Key issues

Existing environment

CRC's legal submissions (filed as part of the CRC's s53 comments) agree with Genesis that the existing environment includes the TPS infrastructure and its operations. While Genesis's position is that no changes to operation mean no new effects, CRC notes that residual adverse effects remain (e.g. on Takapō River flows, ecological and cultural values) and emphasises that environmental improvements should still be considered at consenting.

Compensation

The diversion of the Takapō River is identified as the most significant residual adverse effect of the TPS. No environmental flow is proposed due to the impact this would have on renewable hydro-electricity generation. Further, the Treaty Impact Assessment (**TIA**) confirms significant, long-standing cultural effects yet Waitaki Rūnaka support the application, framing solutions as part of an intergenerational process. Compensation is offered through the Indigenous Biodiversity Enhancement Programme (**IBEP**), or the name which has been gifted of Kahu Ora.

Genesis offers the IBEP as compensation for residual effects and as a continuation of the existing Project River Recovery (**PRR**). CRC acknowledges the holistic, catchment-wide approach but CRC experts raise a number of matters for the Panel to consider when weighing up the benefits of the IBEP. These include the lack of clarity on quantum of funding and how the money value in conditions was determined, importance of ensuring measurable ecological outcomes, certainty on reporting provisions and opportunities for feedback on the IBEP documents by CRC.

While acknowledging that these conditions are proffered, CRC suggests the IBEP conditions could be strengthened with clearer objectives, baseline monitoring, and independent review.

Uncertainties

Uncertainties exist around climate change impacts, the operation of the TPS within consented limits in response to these changes, hydrological responses, groundwater effects, and lake ecology. CRC recommends additional monitoring (turbidity, macrophytes and groundwater) to better understand long-term changes. Reasons for why such monitoring would not be onerous are included in supporting documents.

Native Fish

CRC recommends the inclusion of conditions to ensure that native fish are provided for when sports fish salvage is undertaken. CRC notes that a tuna trap and transfer programme is

proposed to be managed by Meridian Energy who own and operate the remaining power stations in the Waitaki catchment.

Ongoing discussions with Genesis

CRC has identified two areas where ongoing conversations with Genesis are required to reach agreement on specific conditions of consent. Specifically hydrological monitoring and High Flow Management Plan. Neither are substantive issues, rather areas of refinement which are not anticipated to delay the consideration of this application.

Conclusions

The decision for the Panel to consider ultimately requires taking into account renewable energy benefits along with ongoing residual effects. Regional plans' activity status for this proposal is controlled; therefore CRC recommends the focus of consideration be on conditions of consent.



Leigh Griffiths

Acting Director Operations

Canterbury Regional Council

Date	22 August 2025
To	Tim Davie, Director Operations, Environment Canterbury
From	Susannah Black, Principal Consents Planner, Environment Canterbury
Project advice provided for	Genesis Tekapo (Takapō) Power Scheme Replacement resource consents - comments to be provided under s53(1)(a) FTAA 2024
Documents referred to	I have considered all applications and supporting documents shared by Genesis Energy Ltd for this project.
Qualifications	I hold a Masters of Applied Science in Environmental Management from Lincoln University (2008), and a Bachelor of Science from University of Canterbury (2006). I am a qualified Hearings Commissioner. I have worked for the Consents Section of the Regional Council since 2008, with role changes to Senior Consent Planner in 2010 and more recently Principal Consent Planner in 2022. During my time at the Regional Council, the majority of my focus has been in relation to proposals associated with water within South Canterbury. Within the Waitaki Catchment; I have been involved in resource consent hearings, worked on catchment reviews to implement specific environmental flow regimes set through Plan Changes to the Waitaki Catchment Water Allocation Regional Plan (WAP) and have been involved in public and pre-application meetings with farmers within the Upper Waitaki catchment in relation to renewing their irrigation resource consents. I am a member of the Mackenzie Inter-Agency Officers Group, which includes colleagues from Department of Conservation, Land Information New Zealand (LINZ), Waitaki District Council (WDC) and Mackenzie District Council (MDC) who meet monthly to discuss consenting matters within the Mackenzie Basin. Whilst I have been aware of conversations relating to the reconsenting process for the Combined Waitaki Power Scheme, I didn't formally join these until more recently in 2023. As such, I have been involved in some pre-application discussions for the CWPS and more recently have been the primary lead processing officer for Genesis's resource consent proposal and now Fast Track application).
Code of Conduct	I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This technical report has been prepared in accordance with that

	Code. In particular, unless I state otherwise, the opinions I express are within my area of expertise, and I have not omitted to consider material facts that might alter or detract from the opinions that I express.
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Executive summary/overview

1. Genesis Energy Limited has applied under the Fast Track Approvals Act 2024 (**FTAA**) to replace existing resource consents for the continued operation of the Takapō/Tekapo Power Scheme (**TPS**). The proposal consolidates multiple resource consents into a single water permit and a single discharge permit, aiming to simplify monitoring and compliance. The Canterbury Regional Council (**CRC**) reviewed the application, focusing on areas of disagreement or uncertainty rather than restating Genesis' material.
2. The FTAA requires decision-makers to give greatest weight to its purpose, but also to consider Resource Management Act 1991 (**RMA**) provisions and planning instruments such as the National Policy Statement for Freshwater (**NPS-FM**), the National Policy Statement for Renewable Electricity Generation, the Canterbury Regional Policy Statement (**CRPS**), Waitaki Catchment Water Allocation Regional Plan (**WAP**), and Canterbury Land and Water Regional Plan (**CLWRP**). As such, the application is treated as a controlled activity under the WAP and the CLWRP.
3. CRC's legal submissions (filed as part of the Council's s53 comments) agree with Genesis that the existing environment includes the TPS infrastructure and its operations. While Genesis's position is that no changes to operation mean no new effects, CRC notes that ongoing residual adverse effects remain (e.g. on Takapō River flows, ecological and cultural values) and emphasises that environmental improvements should still be considered at consenting.
4. The diversion of the Takapō River is identified as the most significant residual adverse effect of the TPS. No environmental flow is proposed due to the impact this would have on renewable hydro-electricity generation. Further, the Treaty Impact Assessment (**TIA**) confirms significant, long-standing cultural effects. Rūnaka support the application, framing solutions as part of an intergenerational process. Compensation is offered instead through the Indigenous Biodiversity Enhancement Programme (**IBEP**).
5. Uncertainties exist around climate change impacts, hydrological responses, groundwater effects, and lake ecology. I recommend additional monitoring (turbidity, macrophytes and groundwater) to better understand long-term changes. Experts agree such monitoring would not be onerous.
6. Genesis offers the IBEP as compensation for residual effects and as a continuation of the existing Project River Recovery (**PRR**). I acknowledge the holistic, catchment-wide approach but raises concerns a number of matters for the Panel to consider when weighing up the benefits of the IBEP. Matters to consider include the lack of clarity on quantum of funding and how it was determined, weak monitoring provisions to ensure measurable

ecological outcomes and opportunities for feedback on the IBEP documents by CRC. While acknowledging that these conditions are proffered, CRC experts suggest strengthening IBEP conditions with clearer objectives, baseline monitoring, and independent review.

7. CRC accepts the national benefits of renewable energy from the TPS and acknowledges Rūnaka support. However, significant residual adverse effects remain, particularly from the continued diversion of the Takapō River.
8. The decision for the Panel to consider ultimately requires balancing renewable energy benefits with cultural, ecological, and other environmental effects.

Introduction

9. Genesis Energy Limited (Genesis) have sought approval under section 42(4)(a) of the Fast Track Approvals Act 2024 (FTAA) for replacement resource consents relating to the continued operation of the TPS. The FTAA application provides a comprehensive description of the approval process to date, the resource consents sought, the resource consents being replaced and description of affected environment and so I do not repeat that here.
10. Genesis seek resource consents for activities regulated under sections 14 and 15 of the Resource Management Act 1991 (RMA). A single water permit and a single discharge permit are sought essentially replacing a number of individual consents. I agree with this approach as provides ease of understanding and monitoring for Genesis, Canterbury Regional Council (CRC) officers and others reading the resource consents.
11. Rather than repeating significant sections of the application or listing areas of agreement, I have instead chosen to focus this advice on the areas that I consider are of most benefit to the Panel, primarily being those remaining areas of disagreement or uncertainty.
12. Prior to lodging the FTAA application, a resource consent application had been made under the RMA. Accordingly, technical expert involvement to date has comprised of, pre-application advice, whereby CRC technical experts reviewed draft resource consent applications, reviewing the resource consent application when lodged primarily for the purpose of identifying matters to be requested as further information and reviewing the FTAA application subject to this memorandum. Our technical team provided me with their advice upon reviewing this FTAA application. I have summarised much of that advice in this memorandum, however some technical experts who were involved in expert discussions for this application have provided additional memorandums (Appendix 4 to 9).
13. Ms Lucy de Latour from Wynn Williams has provided legal support for this application, with her legal submissions included as Appendix 1. These submissions focus on the remaining areas of disagreement as between Genesis and CRC, with a particular focus on the additional conditions sought by CRC.

14. Mr Kennedy Lange (Environment Canterbury Senior Biodiversity Officer) has provided a commentary about how Project River Recovery (the name of the current biodiversity programme sponsored by the generators, proposed to be 'replaced' by Kahu Ora the Indigenous Biodiversity Enhancement Programme) interplays with CRC Biodiversity responsibilities in the Waitaki catchment. This commentary is included as Appendix 7. Mr Lange's comments have not been included in Appendix 2 as they do not form a technical review, rather supports some of the comments raised by technical experts.
15. Mr Stephen Hay (CRC Resource Management Officer) has been involved in discussions with Genesis relating to hydrological metering and verification conditions. Mr Hay has not provided technical advice, rather has supported me in my review of the proposed conditions. I acknowledge that Genesis included much of Mr Hay's suggestions in the revised conditions dated 25 July 2025.
16. Section 81(3)(a) FTAA states clause 17 to 22 of Schedule 5 apply. Clause 17(a) of that Schedule sets out criteria and other matters for assessment of consent applications. Specifically, when considering a consent application the Panel must take into account:
 - a. The purpose of the FTAA (greatest weighting given to this);
 - b. the provisions of the RMA that direct decision making on an application for resource consent (including s104 RMA but excluding s104D (which does not apply in this instance); and
 - c. the relevant provisions of any other legislation that directs decision making under the RMA. For transparency, I do not consider there to be relevant provisions of any other legislation for this proposal.
17. Consistent with Genesis' legal submissions presented at the conference overview I have structured the remainder of my advice to the Panel in the same order.

The purpose of the FTAA and regional and national benefits (s81(4), Schedule 5, clause 17(1) FTAA)

18. The purpose of the FTAA is to facilitate the delivery of infrastructure and development projects with significant regional or national benefits.
19. While ultimately a matter for the Panel, I acknowledge that the application has described the regional and national benefits of continued renewable energy power generation, both independently in terms of the TPS, but also the contribution that the TPS has on the Combined Waitaki Power Scheme (CWPS) when considering the water passed through TPS continues through Meridian's network of power stations as well.
20. The benefits of power generation by the TPS are not being questioned; however as described by Genesis; these benefits would be reduced should any changes to flow regimes for the Takapō River be applied.

The provisions of the RMA that direct decision making (Schedule 5, clause 17(2) FTAA)

21. In this section of my memorandum I address the provisions of the RMA that direct decision making.

Requirement for consent

22. While I understand that on a strict reading of the FTAA, that the RMA considerations (including the requirement to grant a controlled activity) is only a matter that needs to be taken into account by the Panel (see FFTA, Schedule 5, clause 17(b)) I agree that in taking into account the RMA provisions under clause 17(b) of Schedule 5 that the application is classified as a controlled activity and I have treated the application as such in assessing the application in the remainder of this advice. CRC's legal memorandum addresses this further.

23. In that regard, I agree that Rule 15A of the WAP is the applicable rule for section 14 RMA activities, and Rule 5.125A of the CLWRP the applicable rule for section 15 RMA activities.

24. I agreed the status for each activity is controlled. This activity status of the proposed discharge triggers one additional rule in the CLWRP which has not been identified by Genesis being:

Rule 5.4 *In consideration of applications for controlled activities or restricted discretionary activities the matters on which—*

(a) control is reserved; or

(b) exercise of discretion is restricted;

—include the lapsing period, the term of the resource consent, the review of the conditions of a resource consent, the need for a bond and the collection, recording, monitoring and provision of information concerning the exercise of a resource consent.

25. Many of these matters are provided for within Rule 5.125A LWRP, however for completeness I note:

- a. **Lapsing period** – because of the nature of the application being for replacement resource consents for activities currently occurring, the resource consents will be exercised from date they are granted.
- b. **Term of consent** – 35 years is sought. Further discussion is provided on duration at the end of this advice.
- c. **Review of conditions** – review conditions are proffered by Genesis.
- d. **Need for bond** – no need for a bond has been identified.

- e. **Collection, recording, monitoring and provision of information concerning the exercise of a resource consent** – conditions have been proposed regarding these matters by Genesis. CRC is also seeking additional conditions relating to these matters.

26. Given the matters of control are also included in the activity specific rule, I do not provide further consideration of Rule 5.4.

Assessment of Environmental Effects (s104(1)(a))

Existing environment

27. A legal (and factual) question arises in relation to assessing the application as to the existing environment that should be applied for the purposes of section 81 and clause 17 of Schedule 5 of the FTAA (which require the Panel to take into account the provisions of Parts 2, 3, 6 and 8 to 10 of the RMA).
28. The existing environment is a matter that has been the subject of some discussion between Genesis and the CRC in the lead up to the RMA resource consent application being lodged (with Appendix F of the application containing a legal opinion from Genesis on this question and the CRC response to that).
29. Since lodgement of the application, CRC has had further correspondence with Genesis and Waitaki Rūnaka relating to the existing environment. CRC legal submissions discuss this further.
30. To summarise, I agree with Genesis that the starting point when considering potential effects of this proposal is the current state of the environment, including existing environmental processes. This includes the existing structures as these are permitted activities under the CLWRP, along with the associated water takes, uses, diversion, damming and discharges. I further agree it is fanciful to consider an 'Eden approach' reverting to conditions that existed before the TPS (and CWPS for that matter) existed.
31. However, it is important to reiterate that I do not consider the inclusion of the TPS within the existing environment means that ongoing adverse effects cannot be considered, provided they fall within the matters of control. In particular, the extent to which those effects should be mitigated, offset or compensated. While the CLWRP is applicable only to the discharge of water, my interpretation is consistent with the CLWRP Policy 4.51 which requires consideration to be given to reductions in adverse effects on the environment and section 1.2.6 of the LWRP which states

"When resource consents expire for this infrastructure and associated water abstractions and discharges, the activity must be reassessed as if new even when there is no practical alternative to continuing to use the existing infrastructure. In these cases, rather than debating whether the infrastructure should exist at all, a more useful approach is to focus

on improving the efficiency, and reducing the environmental effects, of taking and using the water.”

32. I note that matter of control (a) specifically provides that control is reserved in respect of “flows into the Pūkaki River, the Lower Ōhau River or the Takapō River (above the confluence with the Forks Stream), adverse effects, including effects on Ngāi Tahu culture, traditions, customary uses and relationships with land and water” (noting that no environmental flow and level regime has been established for the Takapō River).
33. The WAP and CLWRP clearly intend for the continued operation of ‘the same activity’ associated with TPS through providing a controlled activity pathway, providing the option if considered necessary for the provision of flows within the Takapō River.
34. When considering the existing environment, this is a useful starting point against which to assess the current state of the environment, however my consideration of planning provisions (namely Rule 15A WAP, Policy 4.51 and Section 1.2.6 of the CLWRP) is that there is a clear expectation of environmental improvement and that the application of the legal ‘existing environment’ does not constrain the ability to consider improvements in the adverse effects .
35. Genesis overarching position with respect to the existing environment, seems to be that given no changes are sought to scheme operation then there will be no change to the environment (or effects). However, I find this difficult to reconcile with measures such as Sports Fish Salvage Management Plan, Lakeshore Erosion Management Plan, and proffered compensation which all suggest there is an effect to be managed. Further, Dr Hughey in Appendix 5 to Genesis legal submissions makes a number of comments such as:

“GEL impacts significantly on one large river, the Takapō, but these impacts have not changed over the course of the existing consenting period.”

“The IBEP is compensation, based on consents to be granted for the ongoing operation of the WPS and TekPS with the flow and level regimes as proposed in the application, including the continuation of no environmental flows in the Takapō...”

“I considered 11 of these principles due to their direct ecological relevance and approached them from the perspective that they are to be applied to the residual adverse ecological effects of the TekPS”

“The IBEP objective appropriately addresses the residual and unmitigated effects of the TekPS”

36. It is my consideration, having reviewed the application and receiving technical advice (discussed below), that the current state of the environment in the Takapō catchment, reflects that the TPS does have and will continue to have residual adverse effects on the environment. Some of these can be appropriately mitigated through proposed or

recommended conditions while others (particularly the diversion of the Takapō River) are not proposed to be mitigated. Rather compensation is proffered through IBEP and agreements with Waitaki Rūnaka.

37. I also specifically want to acknowledge the TIA provided in support of the application and its acknowledgement that resolving cultural effects in the Waitaki catchment are multi-generational. I consider that the question of flows in the Takapō River (as well as Pūkaki and Lower Ōhau Rivers), as well as more broad Waitaki catchment considerations, will likely be an ongoing consideration in future planning and consenting processes.
38. The application of this discussion means, when reviewing the application, CRC technical team have considered the proposal as applied for and provided comments relating to potential ongoing and residual effects of that proposal. With respect to the diversion of Takapō River, CRC has not set out to determine what an appropriate flow regime should be – as the proposal is clear that such a regime is not being sought. Rather, CRC has identified what existing, residual or ongoing effects arising from operation of the TPS are occurring.

Management of spills

39. Genesis considers in-flow driven spills of water into the Takapō River to be a naturally occurring event and as such effects associated with these spills should not be considered. I acknowledge that when the lake is at capacity, high inflow events will spill into Lake George Scott and in some instances into the Takapō River; just as high inflow events may result in a river to flood. I also agree it is appropriate these spills are managed in accordance with the HFMP so the integrity of dam structures is preserved.
40. However, management decisions by Genesis relating to lake levels have implications on the frequency of these spills occurring. Genesis obviously, aim to minimise the frequency of such spills to avoid water lost from power generation. Given this level of manipulation within the hydraulic system, I find it hard to agree that the effects of inflow driven spills are not in some way associated with the TPS. Regardless, I understand for the TPS many of the inflow driven spills are essentially 'collected' at Lake George Scott and taken into the Takapō Canal so that they can then be used for power generation at Takapō B power station. This means that while the pattern of spilling water may change with climate change (as discussed in technical expert advice), not all of those spills will flow down the Takapō River to Lake Benmore, limiting the environmental effects (positive and adverse) of those spills.

High Flow Management Plan

41. A HFMP is proposed to be certified within six months of commencement of this consent. CRC has reviewed the HFMP to identify if there would be any matters which would jeopardise that certification (in which case an appropriate time to address these would be before grant). Mr Palmer notes that while there are no concerns with the HFMP achieving its overall purpose, there are some discrepancies in terms used between the proposed

conditions. I believe these are matters which CRC can continue to work with Genesis to refine while the consideration of this application by the Panel progresses. Noting the overly technical nature and importance of this document (and associated conditions) I have not attempted to recommend changes to conditions ahead of those discussions.

Potential adverse effects

42. Appendix 2 provides a detailed summary of CRC technical audit of potential effects arising from the proposal including discussions where appropriate regarding the 'significance' of potential effects and potential solutions, in that table I provide my assessment of the technical comments against the specific considerations of the FTAA. Appendix 2 is further supported by Appendices 4 to 9 written by technical experts who have been involved in expert discussions with Genesis' experts. Experts listed in Appendix 2 are available¹ to answer any specific questions the Panel may have. I also provide a summary of the common themes arising from the technical review in the following section of this memorandum.

Common themes

43. Common themes from CRC technical experts are discussed below, plus a discussion on outstanding concerns relating to native fish:

- a. Consideration of the provision of flows in the Takapō River
- b. Uncertainties relating to how operation of the TPS, within consented limits may change in response to climate change and changes to demand for hydro electricity generation; and the need for monitoring in response to this.
- c. Compensation and comments on the conditions proffered by way of IBEP.

Takapō River flow regime

44. With respect to the diversion of flow from the Takapō River, many of the CRC technical experts consider this has resulted in ongoing adverse effects and that there is environmental benefit to the provision of flows within the Takapō River. As discussed above, given Genesis do not propose such a flow regime, experts have simply noted that this proposal will have ongoing/residual adverse effects. I conclude the adverse effects associated with the continued diversion of the Takapō River are significant, are not proposed to be mitigated (to maintain hydro-generation capabilities through the TPS) and so should be offset or compensated. Genesis consider offsetting to be too difficult to achieve given the scale and location of the TPS. I note that the existing environment discussion above would also have implications on offsetting.

¹ With the exemption of Mr Ben Wilkins who finished at CRC on 20 August, however Mr Wilkin's colleague is available to have further discussions if required.

45. Rule 15A, matter of control (a) specifically states in relation to flow regime for the Takapō River:

“adverse effects, including effects on Ngāi Tahu culture, traditions, customary uses and relationships with land and water”

46. Further, Policy 38 of the WAP (which Rule 15A implements), states:

By acknowledging that the Takapō, Pūkaki and Ōhau Rivers are associated with the mana of Lakes Takapō, Pūkaki and Ōhau and that flows in these rivers could provide continuity of flow from the mountains to the sea.

47. These two provisions are important as while the reference to ‘adverse effects’ in the matter of control is all encompassing and means that the provision of a flow to mitigate the adverse effects identified by CRC technical experts would fall within the matters of control, there is a clear emphasis in the WAP that consideration of Takapō River flow regime is to address adverse cultural effects. The TIA clearly identifies a large number of ways in which the TPS has had and will continue into the immediate future to have adverse effects on cultural values within the Waitaki Catchment. The TIA describes the compensation package agreed to between generators and Waitaki Rūnaka. The TIA acknowledges that achieving Te Mana o Te Wai within the Waitaki is an intergenerational process that cannot solely be achieved by providing flows in the Takapō River. Manawhenua do seek flows in this river, however the TIA acknowledges this is not something to be achieved through consent renewal process.
48. As the Panel will be well aware, setting an environmental flow regime for a river is not a simplistic process, with consideration of flows which provide for a range of values (Policy 4 of the WAP lists 18 matters to consider), in particular cultural values. As such, while CRC’s experts have identified the ongoing effects of the Takapō River diversion, no flow is proposed by CRC as mitigation of these ongoing effects.

Uncertainties and related monitoring

49. Mr Graham considers there is a level of uncertainty relating to how the TPS operations will be impacted by climate change over the next 35 years. While it is agreed inflows are likely to increase, Genesis consider the TPS can accommodate those flows within their current operating regime. While this may be the case, understanding changes in lake levels within the operating range over time provides useful context when assessing potential effects of the operation of TPS on associated values (for example ecological values within the Lake). These uncertainties link to the additional monitoring sought by Dr Bayer.
50. Mr Wilkins concerns relates to the limited long term groundwater level records available for the areas associated with TPS. The existing consents did not require groundwater monitoring, with localised monitoring undertaken by Genesis as part of their dam safety programme. Without any monitoring for this proposal, the TPS would be operating for a period of 70 years without any data to understand how the TPS may affect groundwater

or potential changes in the future. While monitoring points along the canals and Takapō River would provide comprehensive data; as a result of expert discussions Genesis have agreed to provide routine data collected as part of their dam safety assurance programme. I recommend that a condition is included as condition of consent formalising this agreement. Given the agreement to provide the data; plus the fact data is already being collected by Genesis I do not consider the annual provision of data (or upon request by CRC) to be onerous.

51. Dr Bayer notes the uncertainty Mr Graham discusses in relation to potential changes within the consented operating range as a result of climate change. Dr Bayer is concerned that without ongoing monitoring of macrophytes and turbidity for the 35 year duration sought, the understanding of the relationship between climate change and TPS operation on lake values will continue to be poor. Expert discussions between CRC and Genesis representatives drafted two condition sets which they considered appropriate to manage this proposal of monitoring by Dr Bayer. While not proposed by Genesis following those discussions, I have recommended these be included for this proposal. Dr Bayer explains why she does not consider that these conditions are onerous.
52. I recommend the addition of (b) to condition 41 which provides for the review of conditions of consent where any of the monitoring proposed in these conditions demonstrate operation of the TPS has an unanticipated adverse. I acknowledge that 41 as drafted and 42 provide for review of unanticipated effects and adequacy of monitoring conditions (at specified intervals) however consider 41(b) bridges any discrepancies between the two review conditions.

Compensation

53. CRC technical staff have provided their individual consideration of the proposed IBEP compensation package.
54. Rather than providing comments on the IBEP in multiple sections of this advice, I have included specific technical experts' comments in Appendix 2, and will address these in more detail in the compensation discussion below. Dr Jack and Dr Meijer also both specifically comment on the IBEP in their technical reviews in terms of the effects of the application on avifauna and river values. I also note that given one of the areas of focus for the IBEP is the Takapō River – there is some potential for the compensation to also act as mitigation (for example creation of bird nesting islands in the Takapō River as discussed in Dr Jack's advice).

Native fish

55. In addition to the above themes, the other outstanding area of contention following the technical review of the application and its appendices relates to effects on native fish.
56. After sharing concerns relating to how stranded native fish may be managed alongside sports fish salvage at expert discussions, Genesis have proposed an advice note to be

included within the sports fish salvage management plan (FSMP) to address sports fish salvage. I note advice notes have no legal weight and so recommend changes to the FSMP conditions including provisions for consideration of native fish. It was agreed at discussions that when undertaking fish salvage, if a stranded tuna/eel for example was identified alongside salmonids, then it would be returned to an appropriate location. As such, I do not consider these changes to be considered onerous. Having reviewed the proposed conditions relating to FSMP I am unable to see where provision of the FSMP to CRC is required and so have suggested a change to include that provision to condition 14.

57. Further in relation to native fishery, Dr Hughey comments *“I do not consider current operation of the power scheme is having any more than minor effects on ecological values of the Takapō River, with the notable exception of longfin tuna which is being actively managed by Rūnaka in association with Meridian (and supported by GEL)”*. While experts are in agreement regarding the mitigation for this effect being managed by rūnaka and provided for in conditions on Meridian’s resource consents (when granted), I draw the Panel’s attention to the fact that while there will be ongoing adverse effects by the TPS these are not proposed to be managed by this application.

Planning Considerations (s104(1)(b))

58. The application provides a relatively high-level consideration of relevant statutory planning documents at section 7.2.4. While I generally agree with the assessment, there are some provisions where I wish to draw the Panel’s particular attention to.

National Policy Statement for Renewable Electricity Generation 2011

59. I agree with the benefits of renewable energy generation, and note of particular relevance, to this proposal is Policy C2:

When considering any residual environmental effects of renewable electricity generation activities that cannot be avoided, remedied or mitigated, decisionmakers shall have regard to offsetting measures or environmental compensation including measures or compensation which benefit the local environment and community affected.

60. Genesis have explained why residual effects associated with the diversion of the Takapō River cannot be avoided, remedied or mitigated. This policy thereby directs the Panel to consider the IBEP and the extent to which it will benefit the local environment and community affected.

National Policy Statement for Freshwater Management 2020

61. I agree with Genesis’s comment on page 229 of the application *“operation of the Tekapo PS may not be consistent with each and every provision of the NPSFM, particularly in respect of the lack of minimum flows in the Takapō River. The NPSFM recognises that*

there are ongoing impacts of hydro schemes on freshwater bodies where a balancing exercise is required”.

62. Policy 6 and 7 relate to the loss of extent and values of natural inland wetlands and rivers. These policies are given effect by including national direction policies within the WAP and CLWRP (Policies 5A.3 to 5A.5/2A.1 to 2A.3 respectively). Genesis have not provided assessment against the national direction policies that have been included in the WAP and CLWRP.
63. These policies discuss avoiding activities which may result in loss of extent and values of natural inland wetlands and rivers unless there is a functional need for the activity and the effects management hierarchy is applied. Of particular relevance to this application are the national direction policies which give effect to Policy 7 NPS-FM (noting Policy 6 follows a similar process of consideration as discussed below). I consider while there is unlikely to be further significant loss of river extent or values as a result of the continued operation of the TPS (acknowledging the existing environment for assessing effects), given the identified ongoing adverse effects of the operation of the TPS (including on the Takapō River), there remains a question over the application of this policy and how the effects management hierarchy should be applied.
64. Should the Panel consider the effects management hierarchy is to be applied, further consideration would need to be given to the conditions section the national direction policies. In addition, where the effects management hierarchy has not applied these policies suggest the proposal should be avoided (refused) – something which is difficult when the plans those policies are incorporated within classify the activity as controlled activities.
65. Genesis have advised the IBEP is proffered compensation under s104(1)(ab) of the RMA, not aquatic compensation in accordance with Appendix 7 of the NPS-FM. However, I note that in Appendix 5 to Genesis legal submissions, Dr Hughey states he has considered the IBEP against 11 of the 13 Principles of aquatic compensation but does not provide this assessment.
66. I consider that ultimately, determining if the proffered conditions appropriately reflect the requirements of the NPSFM (as implemented in the WAP and LWRP) is a matter for the Panel to determine, noting that the Panel will have to undertake the weighting exercise required by clause 17 of Schedule 5 when making a decision on the application (including the requirement to give the greatest weight to the purpose of the FTAA).

Canterbury Regional Policy Statement

67. The TPS is considered “regionally significant infrastructure” under the CRPS, with Policies 5.3.9 and 7.3.11 in particular providing for existing infrastructure. These policies are ultimately reflected in the controlled activity status in CLWRP and WAP to provide for the continuation of existing infrastructure.

68. Policy 7.3.13 discusses the resolution of freshwater management issues:

To encourage the involvement of people and communities in the management of fresh water, including:

- 1. community stewardship of water resources and programmes to address fresh water issues at a local catchment level;*
- 2. Ngāi Tahu, as tāngata whenua, exercising kaitiakitanga in accordance with tikanga Māori and*
- 3. providing opportunities for consent holders to take greater stewardship of fresh water resources, within consent conditions*

69. While Genesis have engaged with a number of key parties, the use of the FTAA process has excluded the wider and ongoing involvement of the community. Importantly, Waitaki Rūnaka together with Ngāi Tahu support the proposal.

70. Policy 9.3.1 1. Relates to protecting significant natural area and describes assessment criteria for determining significance of areas. Experts are in agreement that the Mackenzie Basin in particular provides for some of New Zealand's most important biodiversity values. Dr Grove considers this criteria has not been applied across the effected areas sufficiently to determine the existing scale of effect the TPS is having. I note that regardless of the presence of the TPS, the area still retains significant biodiversity values which will be enhanced by the proposed IBEP.

Canterbury Land and Water Regional Plan

71. I note the application has assessed objectives and policies which would generally be applied to consents sought under s 14 RMA whereby only objectives and policies relating to the discharge of water to water need be considered for this application.
72. Policies 4.1 and 4.2 discuss managing water quality to meet the water quality limits set in the Plan. CRC experts agree the cause for any exceedances of freshwater outcomes and limits set in the Section 15B of the CLWRP are unlikely to be the discharge of water from the TPS.
73. Policy 4.51 relates to existing hydro-electricity generation forming part of the existing environment (as discussed earlier). While this policy, as Genesis states, "recognises the national benefits of existing hydro-electricity generation and considers its discharges as part of the existing environment" consideration can be had to the ongoing adverse effects on the environment.

74. With respect to effects of the discharge of water, these are mitigated through proposed consent conditions. In particular the HFMP ensures high flows are managed appropriately.

Waitaki Catchment Water Allocation Regional Plan

75. Objective 5A.1 provides “*The passage of fish is maintained, or improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habits.*”
76. Genesis are not proposing any changes to their infrastructure to exclude fish from passing through turbines. Genesis consider effects on tuna/eels are best mitigated through the trap and transfer programme to be undertaken by Waitaki Rūnaka, with conditions proposed by Meridian for their consent renewal. Tuna trap and transfer forms part of the agreement the generators have reached with Waitaki Rūnaka.
77. Other national direction policies have been discussed above in the NPS-FM discussion.
78. Policy 38 provides “*By acknowledging that the Takapō, Pūkaki and Ōhau Rivers are associated with the mana of Lakes Takapō, Pūkaki and Ōhau and that flows in these rivers could provide continuity of flow from the mountains to the sea.*”
79. As discussed earlier, this policy acknowledges what flows in these rivers could address but does not require flows; I note the Waitaki Rūnaka support the WPS as expressed through the TIA.

Compensation (s104(1)(ab) and IBEP

80. I consider that in determining this application, that the compensation proposed by the IBEP, along with the renewable energy benefits will all be relevant considerations to be taken into account by the Panel in making a decision on the conditions for this proposal. When considering compensation proffered by Genesis, I consider there are a number of matters for the Panel to consider and work through in determining whether the proffered compensation is appropriate for this proposal. Specifically:
- a. The planning context for consideration of compensation;
 - b. Consideration of quantum of compensation;
 - c. Consent conditions

81. The overall principles in terms of the holistic approach taken by the IBEP is supported but due to a lack of information it has been difficult for CRC ecologists to determine whether overall the compensation proposed equates to positive effects sufficient to address adverse effects of proposal.
82. The overall objective of the IBEP “to improve the condition, resilience, indigenous biodiversity, ecological and other values of the braided rivers...” is generally supported by CRC’s ecologists. While individual ecologists may have different opinions on the IBEP’s approach in relation to biodiversity in general (rather than the individual ecological components), I acknowledge this approach.
83. I also acknowledge that the proposal meets several of the tests and principles that apply to compensation in terms of it being:
 - a. Related to the natural and physical resources being used in the application; and
 - b. Being as close as possible to the site of the proposed activity or in an area with comparable conservation work.

Planning context for consideration of compensation

84. In section 1.5.2 of the application, Genesis notes that the IBEP is proffered compensation in accordance with section 104(1)(ab). Genesis further expands that the Panel cannot impose a requirement for offsetting or compensation from Genesis, nor could the conditions be altered without Genesis agreement. Genesis also makes it clear, that should mitigation conditions more onerous than the proffered IBEP conditions are imposed by the Panel, then they may reduce the level of compensation provided for by the IBEP.
85. I agree with Genesis that the Panel cannot alter *Augier* conditions. However, the Panel must still take into account the NPS-FM (and the policies that it has required be inserted into the WAP and CLWRP). The NPS-FM provides for an effects management hierarchy to be applied in situations where there is a functional need for an activity that may otherwise affect the extent or values of a wetland or river. Specifically:
 - a. adverse effects are avoided where practicable;
 - b. then where adverse effects cannot be avoided, they are minimised where practicable;
 - c. then where adverse effects cannot be minimised, they are remedied where practicable;

- d. then where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided where possible;
 - e. then if aquatic offsetting of more than minor residual adverse effects is not possible, aquatic compensation is provided; then if aquatic compensation is not appropriate, the activity itself is avoided.
86. Genesis considers the proposal will not have a change in effect on wetland or river extent or values. However, as discussed above, I consider the proposal will continue to affect the extent and values of the Takapō River (with associated ecological effects, including on avifauna). The NPS for Renewable Energy also directs consideration to the compensation proposed.
87. Technical experts have raised concern that the effects management hierarchy has not been applied to this proposal. While my understanding is that Genesis do not consider compensation proffered to be aquatic compensation as set out in Appendix 7; I note that Dr Hughey's advice states he has considered most of the principles for aquatic compensation. I note however that as set in Appendix 7 to the NPS-FM, however that assessment is not included with the application. This appears to be a different position than that of the application.
88. The difficulty when applying the effects management hierarchy for this proposal is that in terms of applying the RMA related considerations, as a controlled activity, the activity itself cannot be avoided – it must be granted. While the requirement to grant a controlled activity might apply differently in the context of the FTAA, as is acknowledged in the legal memorandum accompanying these comments, in undertaking a weighting of the purpose of the FTAA, given the very clear regional or national benefits of this application, there is no suggestion that the application should be declined.

Consideration of quantum of compensation

89. Genesis have not provided details as to how the financial quantum proffered towards the IBEP was determined. As such it is also unclear however whether the quantum of effects management is commensurate with effects associated with the TPS (such that it will maintain, restore or improve the qualities being conserved). Further Genesis are not proffering the IBEP as aquatic compensation. Irrespective, it would have been helpful to understand how the quantum for the IBEP was arrived at.
90. CRC technical staff have raised concern regarding the lack of information supporting the figure proposed, meaning that the CRC has not been able to undertake any assessment to

determine if the quantum proposed is appropriate for this proposal.

91. I consider ultimately the balancing of this proffered compensation with the ongoing adverse effects is a matter for the Panel to determine.

IBEP Conditions

92. I acknowledge the restrictions on the Panel in altering *Augier* conditions, and the further restrictions of the FTAA relating to imposition of 'onerous' conditions meaning there is little scope for change of these conditions.
93. However, having reviewed the proffered IBEP conditions, and considered advice from CRC technical team (including for example Dr Jack's advice in terms of how to manage effects on avifauna) and Mr Lange's comments, there are some key matters that I would like to bring to the Panel's attention.
94. These matters may be useful when balancing the merits of the proposed compensation package against alternative mitigation measures (such as flows in the Takapō River). I have included changes to conditions 23 to 38 to illustrate to the Panel areas where experts consider the IBEP may be strengthened.

Strategic and annual plans – outcome focused

95. Both Drs Jack and Meijer consider that the IBEP proffered condition set has a lack of explicit and clear outcomes for ecological values (including freshwater values) and suggest inclusion of outcomes that the IBEP should meet as condition 25 (d). Based on Dr Jack's advice I understand that the intent of this inclusion would enable the strategic plan to determine which particular taxa to target, with measured outcomes to be achieved.
96. My review of the conditions raised some concern relating to the timing of annual and strategic plans, reviews of those plans, how learnings are incorporated into the next plan, and of key importance, the limited timeframe for which CRC to provide comment on the reviewed Strategic Plan. Mr Lange provides some useful context regarding involvement CRC has informally with Project River Recovery which I've incorporated into the discussion below.
97. The timeline under proposed conditions results in (note I have provided 'names' for each of the documents described for ease of reference in the following discussions):
 - a. Condition 30 report which essentially reviews the effectiveness of the Strategic Plan is to be provided to CRC within 6 months of completion of the Strategic Plan period ('effectiveness report')

- b. The Strategic Plan is reviewed and the draft provided to CRC (with 10 days to provide comment) in accordance with condition 29 ('draft strategic plan')
 - c. The Strategic Plan provided to CRC before the start of the next Strategic Plan period ('final plan').
98. While I believe the intent of the timeline discussed above would be as I've set it out; the conditions are drafted such that:
- a. There is no provision for the next Strategic plan to incorporate findings of the 'effectiveness report', and
 - b. It could be possible that Genesis provide both the effectiveness report and draft strategic plan to CRC at the same time, or even in reverse order.
99. To ensure well considered feedback is provided to Genesis on the Strategic Plan, clear timeframes should be included within the conditions. Considering the timing suggested by Mr Lange appropriate provisions could be (see Appendix 10, conditions 29 and 30):
- a. Provision of the effectiveness report **no later** than 6 months prior to expiry of the Strategic Plan.
 - b. Provision of the draft strategic plan no later than 2 months **after** provision of the effectiveness report.
 - c. CRC feedback on the draft plan provided 2 months **after receiving the** draft strategic plan.
100. Further, Mr Lange suggests that the provision for CRC to comment on the draft strategic plan be expanded to include an expectation that those comments may be incorporated into the strategic plan where appropriate (Appendix 10, condition 29(b)).
101. I note the Strategic Plan effectiveness review does not include any provision to consider Annual Plans prepared and implemented during the period of the applicable Strategic Plan. This would be beneficial to ensure all available data is considered. As such I include provision for this in condition 30 (e). Further, Drs Jack and Meijer consider that the effectiveness review should also consider resource allocation principles and consider the adequacy of funding and resourcing for achieving the IBEP objectives and associated outcomes (rather than suggested condition 27 a, this is included as condition 30 (f)). I consider requiring the effectiveness review to consider annual plans for the period being reviewed will support this process.
102. Drs Jack and Meijer suggest the inclusion of ' and outcomes' where 'milestones' is drafted into the IBEP conditions. This again, helps ensure the IBEP is outcome focused as discussed by CRC technical experts.
103. With respect to Annual Plans, the link between conditions 32 and 34 in particular could be tightened or clarified. In particular:

- a. condition 32 should be required to incorporate findings of condition 34 (where appropriate noting that there may be some different work streams between years) (Appendix 10, condition 32(c)).
 - b. A minor adjustment to condition 34(b) to clarify the previous Annual plan period is the current Annual Plan period (or if this is not the case, then my interpretation is there would be a year 'gap' or lag between review and incorporating any changes.
104. Mr Lange suggests there is merit in providing a period of one month for CRC to provide comments on the Annual Plan. I agree with Mr Lange that in the absence of inclusion at a governance level, the structured communication that could be exercised, would ensure CRC ability to support the programme as effectively as possible as effectively as possible within our statutory and non-statutory functions.

Independent review

105. With respect to CRC experts' concerns relating to independent experts to review these documents, I understand a panel of experts nominated by parties subject to the IBEP agreement have prepared the draft strategic plan and as such Genesis consider this to be prepared 'independently'.
106. I understand that CRC technical experts consider the effectiveness reviews should be undertaken by a party not representing any of the stakeholders in the IBEP and my amendments to conditions 27 and 30 to refer to independent experts reflects this.

Administrative changes

107. At a more 'administrative' level, I suggest all correspondence relating to provision of IBEP Strategic and Annual Plans are provided to CRC Attention: Director Operations to ensure the documents are then distributed to all relevant Sections at CRC (differs from Attention: Compliance Manager). This has been tracked in relevant conditions in Appendix 10. The reason for this is that CRC staff within the Biodiversity Section, Science Section and Compliance would all have involvement in review of the IBEP documents. These sections all report to Director Operations.

Consistency between generators

108. Lastly, the Genesis compensation proposal is tied to the implementation of the IBEP – a yet to be decided, proposed compensation for effects of the Meridian Energy activities. There are risks associated with the two proposals proceeding through two different decision pathways particularly in relation to the IBEP conditions. While each proposal is to be decided independently of each other, it is important to ensure the condition sets can operate standalone conditions with the applicable generator liable for non compliances with conditions of only their consents. I note given this application will be decided before Meridian, these considerations will be more relevant for the Environment Court in their decision on the applications before them.

Review condition

109. I acknowledge that condition 43 provides for CRC to review the IBEP conditions of consent within six months of receiving the effectiveness report. This essentially provides for a more formal process than the opportunity for feedback discussed above and is supported.

Sections 105 and 107

110. Sections 105 and 107 remain relevant RMA considerations when applying clause 17 of Schedule 5 of the FFTA (although they cannot be used as a reason to decline an application under the FFTA).

Section 105

111. Section 7.4 of the application considers matters relevant to discharge applications. I agree with the applicant's conclusions that there are no other practicable alternatives for the discharges into the Takapō River nor Lake Pūkaki.
112. Section 7.5 of the application considers restrictions on the granting of certain discharge permits. While CRC experts weren't specifically asked to comment on this section of the Application, nor the matters listed in s107(1) RMA, I note Drs Meijer and Bayer agree that the proposed discharges are unlikely to be the cause of any exceedance of LWRP water quality limits (noting this is the requirement for controlled activity status under the LWRP).
113. Further I note the discharge of water, particularly into the Tākapo River is likely to have positive effects on aquatic life.
114. In conclusion, nothing that s107 applies to the discharge of water, rather than the diversion, damming, taking or use of water (which as discussed above are the causes of adverse effects); I agree with the applicant and consider the proposed discharges will not give rise to the effects listed in s107, nor could this application be declined under s107.

Solutions and/or Conditions sought (s108)

115. While acknowledging the FTAA provides opportunity for Council to provide comments on draft conditions, various levels of comments are provided as part of this advice. For ease of understanding and efficiency, I have used the condition set circulated by Genesis dated 25 July and included tracked changes with commentary for such changes in Appendix 10. The legal memorandum accompanying these comments addresses the FTAA tests in relation to conditions in some detail which I have applied in making the following recommendations.
116. Additional conditions sought. Conditions 19-20 of water permit and condition 39 (k) of Schedule One conditions. These have been recommended by technical experts and relate to the collection and sharing of water level and lake water quality data. These conditions I consider should be considered against s83 FTAA to understand if the conditions are 'onerous'.
- a. With respect to condition 39(k), this data is collected routinely by Genesis as part of their dam safety programme. This condition simply asks for that data to be shared with CRC on an annual basis.
 - b. With respect to macrophyte monitoring, condition 19, Dr Bayer has considered the interval for frequency of monitoring and acknowledges while more frequent would be useful, aligning with the frequency used by CRC for similar monitoring is appropriate.

- c. With respect to turbidity monitoring condition 20, while there is an initial set up cost and process, expert discussions indicated the ongoing provision of this data should not be onerous given the ability to use telemetry to provide data to CRC.
117. I have also recommended the inclusion of an additional clause into the FSMP conditions to reflect Dr Meijer's recommendations.
118. Comments on IBEP conditions. While acknowledging these conditions have been proffered by Genesis as compensation, I have collated feedback from technical experts and my own opinions as a Planner to make suggested changes and/or comments on the proffered IBEP to ensure the conditions are workable and achieve the outcomes intended as discussed in compensation section of this report. I understand that these conditions have been agreed with Waitaki Rūnaka and the Department of Conservation with quite deliberate provisions around 'involvement' of CRC; however, have raised these comments should the Panel wish to explore these further with Genesis or Waitaki Rūnaka. I will not repeat those changes again here, rather refer you to the discussion above, and Appendix 10 which tracks these suggested changes in the proffered set of conditions.
119. Minor changes. These are unlikely to change the intent of the condition but should assist in ensuring the condition is clear to understand and enforceable.
120. Further in relation to HFMP and hydrological monitoring, I consider some ongoing discussions as the application progresses with Genesis will allow final refinements to those conditions to be made. CRC will endeavour to have these conversations over the coming days/weeks.

Duration (s123)

- 116.
 - 117.
 - 118.
 - 119.
 - 120.
121. Genesis seek a 35 year duration at section 3.5 of their application.
122. Section 123B of the RMA was recently inserted into the RMA by the Resource Management (Consenting and Other System Changes) Amendment Act 2025 (Amendment Act) and specifically addresses the duration of consent for renewable energy or long-lived infrastructure.
123. Section 123B requires that a resource consent authorising a renewable energy or long-lived infrastructure activity must specify that it is granted for a period of 35 years after the date of commencement of the consent, unless one of the exceptions applies. A period of less than 35 years can only be specified if:²

² RMA, s 123B(2)(a)-(c).

- a. the applicant requests a shorter period; or
- b. a national environmental standard, a national policy statement, or a national planning standard expressly allows a shorter period; or
- c. the consent authority decides to specify a shorter period after considering a request from a relevant group³ for a shorter period for the purpose of managing any adverse effects on the environment.

124. None of these exceptions apply in the circumstances.

125. Section 123B of the RMA applies to an application that is lodged before commencement of the Amendment Act if the consent authority has not, before commencement, served notice of its decision on the application (and any hearing held in relation to the application has not yet concluded).⁴ An application includes an application for a resource consent made under the RMA for the purpose of the FTAA.

126. On that basis, I consider that s 123B of the RMA applies to the application and the resource consents sought must be granted for 35 years.

³ Relevant group is defined as a group who may be or is required to be involved in processes under this Act that relate to planning documents or resource consents by virtue of any Treaty settlement, the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019, or the Marine and Coastal Area (Takutai Moana) Act 2011.

⁴ RMA, sch 12 cl 50(3) and (4).

Appendix 2: Summary of potential effects					
Potential effect	Application reference	CRC expert (including reference to technical appendix to this memo where appropriate)	Discussion	Planner consideration against FTAA	Solutions
Decarbonisation and economic effects	Section 5.2, Appendix G	Mr Simon Harris, LWP.	Mr Harris notes that the only alternatives considered in this assessment is whether the scheme is present or not and considers for the Panel understand the impact of change flow in the Takapō River then understanding the marginal cost/value (in terms of lost electricity generation) of releasing those flows at different times of the year would be beneficial. Mr Harris acknowledges the considerable uncertainty around climate and changes to the electricity sector and as such considers a shorter duration could be considered. He also notes a periodic review of specific condition in the consent would be beneficial providing for consideration if flows in Takapō River would be beneficial.	The application clearly demonstrates the need for continual provision of renewable energy by the TPS with no restrictions beyond the status quo. Mr Harris' comments are useful when considering the balance of potential adverse and positive effects of the scheme with respect to proffered compensation. With respect to duration, I acknowledge Mr Harris's concerns, but also note that the recent passing of the Resource Management Consenting and Other System Changes Amendment Act 2025 requires a 35 year duration. With respect to Mr Harris' suggestion regarding including a periodic review, I note a number of review clauses already exist in response to unanticipated adverse effects. Further I note there are provisions within the RMA⁵ which would allow CRC to review conditions of consent to impost an environmental flow regime AFTER the a flow regime has been incorporated into the WAP.	
Cultural	Section 5.3, Appendix A	-	Runaga	I have used the term 'Waitaki Runaka' as used in the application to describe Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki collectively. CRC has not engaged experts to review the Treaty Impact Assessment (TIA) as it is considered the TIA has been prepared on behalf of Waitaki Rūnaka. CRC has confirmed with agencies who provide cultural advice on consent matters that Rūnaka do not consider it necessary to provide additional comments through those agencies.	

⁵ Section 128(1)(b)

				The key take home messages I note from the TIA are that the TPS (and indeed the CWPS) have had and continue to have adverse effects on cultural values. My interpretation from reading the TIA is that these are significant adverse effects. Regardless of the effects, Waitaki Rūnaka support the application as lodged, because they consider addressing these effects are an inter-generational process and not something which can be entirely mitigated through this consent process. Of particular importance, Waitaki Rūnaka consider the provision of flows in the Takapō River alone will not mitigate cultural effects, nor solely provide for ki uta ki tai given the presence of dams along the Waitaki catchment. Waitaki Rūnaka consider Ki uta ki tai is expressed through having equivocal relationships, agreements, programmes and where relevant consent conditions with both Generators, and having the one TIA for both applicants and across all applications. These agreements together with aspirations for the Waitaki catchment represent an inter-generational approach applied to Te Mana o te Wai.	
Landscape, natural character and visual amenity	Section 5.12 and Appendix J	Mr Chris Glasson, Glasson Huxtable Landscape Architects	The application refers to Appendix J when describing the affected environment and provides brief consideration of potential effects on landscape values. Genesis note that the Mackenzie District Plan provides for works associated with the maintenance, operation, upgrading and refurbishment of the existing generation facilities within the Rural Zone as permitted activities. Genesis notes the natural elements, patterns and processes of the river and lakes will not be further modified, other than what the current operation of the power scheme permits. The area is considered an area of outstanding natural landscape (ONL) with the presence of the TPS. In Section 7.0 of Appendix J, the author notes the proposal against the 'status quo', however continues to note the natural character (and landscape and amenity values) of the Takapō River would be enhanced with the addition of a consistent minimum flow. They continue to explain a median flow of 2.5m³ is currently recorded below Fork Stream, and that a similar flow for the first 7km of the river would assist in enhancing natural character to levels around 'moderate'	I note that Appendix J acknowledges the TPS does contribute to lower natural character values of some aspects of the Scheme (including the Takapō River); although notes when comparing this proposal with values present today, no changes are proposed. Both the author of Appendix J and Mr Glasson consider there are measures available to improve these values, however different approaches are taken when considering if these measures (mitigations should be applied). When considering this proposal against the FTAA, I note the fact that the scheme is located within an ONL suggests the scheme does not have significant adverse effects on landscape values. Indeed, there are mitigations which could be undertaken to improve the impact the scheme has on this landscape. I note a number of the mitigations suggested by Mr Glasson I consider are beyond the scope of consideration for this proposal (matters such as colour schemes would fall within	

			natural character. A consistent minimum flow, coupled with other initiatives, such as weed and pest control in the river may (noting also that CRC actively manages the river) enable the natural elements, patterns and processes to be evident, to some degree, enhancing the natural character and amenity values of the river. Mr Glasson agrees the TPS is located within an ONL. It is a highly acclaimed landscape of mountains, lakes, rivers and uplands, providing a truly dramatic ensemble of landscape forms for travelers and users. Mr Glasson considers the assessment in Appendix J needed to highlight the fact that this is a utilitarian power scheme located in a significant place, and therefore should provide measures to improve and enhance the scheme's components. Further, he considers that because there are no changes to the scheme, this does not equate with no future adverse effects. Rather the TPS should be considered against today's environmental standards. Mr Glasson considers measures could be made by Genesis to improved to enhance the natural character, landscape or visual amenity of the scheme that is located in an ONL. Such measures could include: i. Removal of wilding pine and birch near Takapō spillway and riverbed ii. Pest and weed control in riverbed iii. Appropriate colour schemes for Takapō A power station, tanks, and buildings iv. Improvement to the signage undertaken at the scheme's inception v. Improvement and maintenance to planting undertaken at the scheme's inception vi. Improvement to the utilitarian concrete panels adjacent to the canal near SH8 vii. Appropriate planting and revegetation schemes viii. Removal of tree stumps at Lake Takapō foreshore ix. Lake Takapō lakeshore management plan.	the jurisdiction of MDC). MDC have confirmed no consents are required under their planning documents for the continued operation of the WPS. Despite this, where there are clear effects on landscape values arising from the damming, diverting, discharge, taking and using of water; these should be acknowledged. Both the author of Appendix J and Mr Glasson acknowledge that weed and pest control would have beneficial impacts. I acknowledge that management of weed growth within the affected areas may be a project driven through the IBEP.	
Recreation	Section 5.14, Appendix S	Mr Paul Wilson, Xyst	Mr Wilson refers to the landscape discussion provided by Mr Glasson and considers that improvements to the appearance of the landscape and energy generation infrastructure are likely to enhance the quality of the	The recreational benefits of the proposal are described in the application, further the application is supported by Fish and Game Council (Central South Island Region),	

			recreational experience of the public travelling through or using the landscape for activities. Mr Wilson supports the inclusion of proffered conditions 17 - to 25 and notes proposed conditions 17 to 23 relating to Sports Fish Salvage Measures are supported by the Fish and Game Council (Central South Island Region), while proposed conditions 24 to 25 relating to Recreational Releases are supported by Whitewater New Zealand Incorporated and the Tekapo Whitewater Trust.	Whitewater New Zealand Incorporated and the Tekapo Whitewater Trust. Further, please see comments above in relation to Mr Glasson's advice.	
Shoreline geomorphology	Section 5.5.5, Appendix N	Mr Justin Cope	Mr Cope agrees with the assessments undertaken and notes the proposed monitoring and reporting programme looks adequate to address the proposed condition.	While Mr Cope agrees proposed mitigation is appropriate, I recommend some minor changes to proffered conditions to ensure they are certain and enforceable.	Refer to tracked changes on conditions 36 to 38 in Appendix 10.
Groundwater	Section 5.4.2, 5.5.2, 5.10 Appendix K	Mr Ben Wilkins Appendix 9	Genesis' application concludes that the hydrological operation of the TPS will remain unchanged and as such effects of the TPS on groundwater will remain unchanged. Mr Wilkins has provided technical advice which notes that without long term water level data and understanding of long term effects of the TPS, it is difficult to agree with Genesis's conclusions. Mr Wilkins notes the TPS dominates the landscape of the Mackenzie Basin and significantly alters the flow of water. Groundwater is also affected by the TPS with water from operation decisions (e.g., spills) and infrastructure affecting the groundwater resource, both in terms of quantity and quality. Through expert discussions Genesis have offered to provide water level monitoring undertaken as part of their dam safety procedures to CRC upon request.	While Mr Wilkins has indicated a more thorough set of water level monitoring to be provided, I acknowledge Genesis' willingness to supply the datasets that they routinely collect. The use of this information to understand changes in water level in response to scheme operation together with CRC routine groundwater monitoring further through the Takapō catchment will assist in understanding long term changes in water levels. To ensure agreement with Genesis is not lost through staff turnover etc, I recommend a condition is included to ensure provision of routine water level data to CRC.	See recommended condition 39(k) in Appendix 10.
Hydrology	Section 5.4.2, 5.5.2, Appendix K	Mr Hamish Graham Appendix 5	Genesis' application concludes that the hydrological operation of the TPS will remain unchanged and as such effects of the TPS on hydrological values will remain unchanged. Further through expert discussions, Genesis suggested that any changes to inflows into Lake Takapō will be consumed by power generation, with Genesis continuing to be able to manage lake levels within their existing operating ranges.	I acknowledge Mr Grahams concerns relating to uncertainty's when predicting climate change and how the lake level may fluctuate within its operating range in response to changes in inflows. Mr Graham has been involved in discussions with myself and Mr Stephan Hay (Environment Canterbury Resource Management Technical Lead) with respect to conditions relating to measuring and monitoring of flows, volumes and	Minor changes to conditions suggested by Mr Hay. I note due to timing these haven't been discussed in detail with Genesis however I am committed to doing so following lodgement of this advice.

			Mr Graham acknowledges that Genesis have advised it will continue to operate within their operating range (maximum and minimum lake levels), however does not consider sufficient information has been provided to support this conclusion particularly with respect to changes to inflows driven by climate change over the 35 year duration sought. Mr Graham considers flows into Lake Takapō will change with respect to climate change and acknowledges there is a large degree of uncertainty when modeling these changes. Mr Graham notes the hydrological values of the Takapō River are lost through the lack of flow and flow variability. Further, the continued diversion of flows from the Takapō River will continue to have detrimental effects on values of the Takapō River.	levels which have been incorporated into the conditions. Mr Hay notes there are some further refinements required	
High Flow Management Plan	Appendix D – conditions dated 25 July, Appendix E – HFMP.	Mr Lennie Palmer, Riley	Mr Palmer has reviewed the HFMP with the primary purpose of ensuring the integrity of the Tekapo Scheme structures during floods and notes while some improvements could be made, he has no major concerns with respect to the HFMP being fit for purpose. Suggested areas of improvement: HFMP and proposed conditions (GDCC – Genesis Draft Consent Conditions) could be improved with consistent wording/definition within and between documents. Examples in Table 1 (inserted at the end of this appendix). The proposed conditions have direct reference to gate operation (i.e. Gate 16, Gate 17) which is more generically covered in the HFMP such as by “flow over” or “flow below” the Lake George Scott Weir. Examples in Table 2 (inserted at the end of this appendix). Schedule One condition 4, requires that as a minimum, the HFMP must include or address 4(d) “The circumstances in which Gate 16 may be required to operate in advance of the MCL being reached to ensure that the combined total discharge flow rates identified in (b) and (c) can be achieved when the lake level is rising rapidly and/or if there are significant inflows forecast. The HFMP does not provide a definition of “the circumstances”.	I note that Genesis have proposed the HFMP be certified within 6 months of commencement of this consent. CRC initiated review of the HFMP to ensure there were no significant concerns with the document that were unlikely to have been resolved easily through ‘certification’. Further in conversations with Genesis, they have indicated that if the HFMP can be certified before commencement then this would be useful. I am satisfied that the areas of improvement identified by Mr Palmer could continue to be addressed by Genesis while this application progresses through to decision. Given the technical nature of the HFMP and the associated consent conditions, I have not attempted to suggest changes to conditions based on my interpretation of Mr Palmers’ advice. CRC is happy to work with Genesis on any refinements required to the HFMP and any changes to the HFMP.	Genesis to continue discussions with Mr Palmer to address identified areas.

			Both the HFMP and proposed conditions reference “to use” or “operate” LGSW. Flows at and over LGSW are managed by the operation of Gate 16 and Gate 17. There are several words or terms more so in the draft conditions could be either unclear or require definition. However, these do not affect the HFMP intended purpose.		
Aquatic environmental effects (rivers and canals)	Section 5.4.3, 5.4.4, 5.5.3, 5.6.3, 5.9, Appendices L and M	Dr Chris Meijer Appendix 8	Dr Meijer understands from expert discussions in relation to potential effects of fish passage/loss through the dam and turbines, Genesis advise this is best managed through consents proffered by Meridian through their consent process relating to tuna trap and transfer. Through expert discussions, Dr Meijer raised his concern relating to the management of native fish during stranding events. While the Fish Salvage Management Plan is an outcome of Genesis agreement with Fish and Game Central South Island with the intent of managing stranding of sports fish; Dr Meijer questioned how any native fish found in these strandings would be managed. Genesis have proposed an advisory note to explain native fish should also be relocated where appropriate. Dr Meijer does not consider an advisory note provides sufficient legal weight and suggests changes to remove ‘sports’ from much of the condition set. Dr Meijer reiterates the benefits flow within the Takapō River would have for instream values. Dr Meijer provides discussion relating to the inclusion of particular native fish as species to be managed under the IBEP.	I agree that Meridian have conditions proffered in their consent renewal process relating to tuna trap and transfer (elvers and migrant tuna). However those conditions are subject to discussion through the Environment Court direct referral process, have not been issued on a consent document and are unlikely to be so prior to decision on this application by the Panel. With respect to changes to the FSMP conditions, I suggest an alternative to Dr Meijer’s recommendations is instead to include an additional clause to matters the FSMP should include. I do not consider the inclusion of this clause to be onerous because as discussed at expert discussions as this likely already happens as best practise. Dr Meijer’s comments relating to IBEP echo that of other experts. With respect to IBEP and compensation, please refer to section in my memorandum.	Suggest inclusion of the following text as (h) to condition 15: Provision for native fish which may be identified when undertaking any of the activities described above, including wherever practicable their relocation to an appropriate area. Refer to IBEP conditions discussion in report and changes tracked in Appendix 10
Aquatic environmental effects (lakes)	5.43, 5.7.1, 5.8, Appendices L and M	Dr Tina Bayer Appendix 4	Genesis note that no changes to operating levels of Lake Takapō are proposed, as such there will no change in effects on water clarity nor macrophyte growth. Dr Bayer notes the uncertainty Mr Graham has raised when it comes to predicting changes to lake levels (albeit within operating levels), she also notes concerns with lack of understanding of potential effects of changes to electricity demand and implications of this on the lake aquatic environment.	I note that expert discussions concluded that ongoing monitoring of macrophytes and turbidity would be beneficial to assist with addressing the uncertainty posed by climate change and potential impacts this may have on how Genesis operate Lake Takapō within its operating range. Experts agree the current operation has had an impact on lake aquatic values, so it could reasonably be concluded that further changes have the potential to have further adverse effects.	See recommended conditions 19 and 20 (water permit) in Appendix 10 and associated review provisions in Schedule 1, condition 41(b)

			Dr Bayer further considers restricting the operating range of the lake to that which is currently occurring rather than which is consented (ie the levels are not being fully utilised) would prevent further impacts on macrophyte habitat. Expert discussions concluded that the lake level variability affects macrophyte growth, and that while it is difficult to separate changes in clarity/turbidity due to scheme operation or climate change; ongoing monitoring would assist with understanding causes of these changes and any role the TPS may have in these. Conditions were drafted to reflect an appropriate monitoring regime.	When imposing conditions, the Panel need to be certain that the conditions are not onerous. Neither expert (Genesis nor CRC) have indicated that the monitoring condition I have drafted is onerous. However with respect to restricting lake operating levels to a smaller range, I note this has not been proposed by Genesis and in my mind has implications on power production abilities of the scheme. Further, Rule 15A of the WAP, specifically matter of control (b), excludes consideration of minimum lake levels.	
Vegetation	Section 5.11.4, Appendix R	Dr Philip Grove	The application includes conclusions such as: communities have developed since the TPS was commissioned and given no change in operating parameters is proposed, communities are expected to continue in current form; no change to flow regime in the Takapō River and vegetation around the river has remained similar since 1991, no changes to vegetation are expected; low levels of change may be expected in wetlands. Dr Grove considers a more comprehensive description of the affected/potentially affected environment with respect to terrestrial and wetland vegetation/habitats would have been beneficial and would give effect to CRPS Policy 9.3.1 – protecting significant natural areas. Dr Grove notes central to assessing the adequacy of the effects management package proposed by Genesis is determining whether effects should be addressed sequentially in accordance with the effects management hierarchy, and whether any compensation package should incorporate offsetting principles such as equivalency and commensurateness. While such considerations may ultimately result in conditions and compensation similar to those currently proposed, they would be reached with greater transparency for the decision-maker. Because Genesis has not clearly or quantitatively assessed effects of scheme operation on wetland habitats and terrestrial vegetation, there is a lack of information on which to base impact management, either mitigation or 'compensation', as offered.	Dr Grove raises a valid consideration in that to determine success of programmes implemented under the IBEP, baseline monitoring and understanding of existing values to be enhanced first needs to be established. The level of assessment of scheme operation that Dr Grove questions, I consider primarily relates to Genesis' consideration of existing environment. In relation to Dr Grove's recognition of the importance of the values of the Takapō outwash plain; I note that condition 31(a) does provide for some work within this area. The concept of compensation and how that can be applied to an application for a controlled activity is a matter raised by many CRC ecologists. This is discussed further in my memorandum and in legal submissions in Appendix 1.	Refer to discussion in memorandum in relation to IBEP conditions.

			In relation to compensation, Dr Grove considers in the first instance restoration of natural flows to the Takapō River and operation of lake levels within natural hydrological regime is preferable. Where this is not possible, he suggests: - Contribution to catchment – wide wilding conifer and other weed control programme. - Compensation through protection of similar vegetation nearby. The most important remaining undeveloped dryland ecosystem in the Waitaki Basin is the outwash plain of the Takapō River. A contribution to formal protection and long-term management of the Takapō outwash system In relation to the proffered IBEP Dr Grove notes given the limited description of affected environment, it is difficult to base any notion of ‘environmental compensation’ and no way of assessing whether the proffered compensation will provide any ecologically meaningful ‘improvement’ to the habitats listed in proffered conditions. Condition specific comments: - The IBEP conditions remain very high level and ‘draft’. There is also no detail on what the ‘compensation’ may involve and therefore no way of assessing whether the proffered compensation will provide any meaningful improvement to the habitats listed in Conditions 23, 25. - Dr Grove acknowledges, as stated in proposed condition 31, the IBEP Strategic Plan intention to focus compensation for impacts of TPS on wetlands and terrestrial vegetation within affected lakeshore and braided river areas. However, while the scale and detail of compensation actions remain unclear, they obviously do not come close to matching the affected area extent. Further he notes these ‘key representative sites’ are not identified in the conditions. - If the IBEP is proposing actions for specific adverse effects, as suggested in proposed condition 31, this seems to be back to an effects management approach (therefore a proper assessment of effects is required to guide that, and proper monitoring		
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			programmes to demonstrate that the effects management is working). Dr Grove concluded, the best in-kind compensation for effects of TPS would be restoration of natural lake level regimes and river flows. But if Genesis is intending to instead apply out-of-kind compensation, then the proffered compensation should clearly and unarguably deliver ecologically meaningful, sustainable biodiversity benefits.		
Terrestrial Invertebrates	Section 5.11.1, Appendix O	Dr Barbara Barratt, Emeritus Scientist, AgResearch	Genesis notes that invertebrate communities have had several decades to adjust to managed flow regimes and these are not proposed to change. Also, it is noted that other threats such as exotic species invasion are present, and there is the possibility of catastrophic events that can alter river flows. Dr Barratt agrees with these statements but does not necessarily concur with the view that monitoring, at least some of the more fragile species/communities would not provide useful information which would benefit their on-going management in this dynamic and modified environment. Dr Barratt agrees linking variable river flow events to impacts on invertebrates is an extremely challenging and complex issue, and that attributing any changes specifically caused by the TPS is generally unlikely to be possible. Dr Barratt also provides some useful consideration in relation to the IBEP: The objectives of the IBEP to “improve the condition, resilience, indigenous biodiversity, ecological and other values of the braided rivers...” are supported. The section (in Kahu Ora) on invertebrates acknowledges the high value of invertebrate communities and the high levels of endemism, the enormous diversity of species, but it also notes the large knowledge gaps. However, rather than focus on individual species it is noteworthy that the plan emphasises biodiversity in general which is crucial to the integrity of the catchment ecosystems. She does however note that a recent paper⁶ undertaken for Genesis list	Dr Barratt acknowledges the merits of a holistic approach to the IBEP however in light of recent research identifying potential species of ‘conservation significance’ as a set of monitoring conditions. I consider in light of the existing environment considerations, and the proffered compensation that it would be preferable that species of ‘conservation significance’ be specifically included in the IBEP conditions. I consider the inclusion of a standalone condition could be considered to be onerous for the effects discussed (particularly when applying existing environment). Ms Barratt’s advice supports the comments by Dr Jack in relation to being outcome focused. In relation to Dr Barratt’s suggestion of independent reviews, this is echoed by CRC experts. I do not consider independent review to be considered onerous when considered in the context of a complex project such as Kahu Ora.	Refer to discussion in memorandum in relation to IBEP conditions. Inclusion of (g) to condition 28.

⁶ Ong, C.P. and Toft, R.J., 2025. A review of terrestrial invertebrate information for the Tekapo Power Scheme Resource Consents. Genesis Energy Ltd., Client Report No.ENT-063, Nelson, New Zealand.

			invertebrate species of “conservation significance” that are “potentially present within the areas affected by TPS”. As such she would consider it appropriate that an additional condition that monitoring and reporting on those species listed which are classified as Nationally Critical, Nationally Endangered and Nationally Vulnerable and Declining (12 species) is carried out using standardised and robust monitoring and survey methods⁷ (e.g. Wildlands, 2025). It is recommended that annual reports of such monitoring are peer-reviewed by appropriate independent invertebrate ecologists. Since one of the key objectives of <u>the</u> IBEP is to enhance indigenous biodiversity, then characterising the existing biodiversity and developing baseline data against which successive surveys/monitoring can be assessed is essential. The Simons Pass Dryland Reserve Invertebrate Baseline Assessment is a good example of such a repeatable survey (Tocher et al. 2019).⁸ The proposed split in investment outlined in Tables 2 and 3 seems appropriate except for the rather small proportion allocated to filling knowledge gaps and research. Weed and predator control are understandably allocated the largest proportion of the resources available, but without research and monitoring it will be difficult to evaluate the benefit of these activities. It is good to see monitoring proposed to assess the benefit of predator control on invertebrates.		
Herpetofauna/Lizards	Section 5.11.2, Appendix P	Dr Mandy Tocher, LizardExpertNZ	Dr Tocher notes not all affected habitats surveyed, e.g., wetlands, deltas and no trapping done for cryptic species. Note: grass skinks in Mackenzie Basin genetically confirmed to be southern grass skinks not Canterbury grass skinks. She considers that effects on lizards and their habitat are understated in the application, primarily due to application of existing environment. Dr Tocher considers no attempt to apply mitigation hierarchy jump straight to compensation with limited evidence of adherence to compensation best practice principles under	Many of Dr Tocher’s comments echo those raised by other technical staff. I note that Dr Jack and Dr Meijer both recommend inclusion of a condition into the IPEB which specifies lizards among other taxa. While I acknowledge there is merit in including taxa specific conditions in the IPEB, given the significant biodiversity values of the area this would then require a substantial list of conditions for all taxa. I agree with Genesis that a holistic approach to the IBEP is appropriate.	Refer to discussion in memorandum in relation to IBEP conditions.

⁷ Wildland Consultants, 2025. Standard protocols for terrestrial invertebrate ecology surveys as part of resource consenting applications. Environment Canterbury, Client Report No. Report No. 7518, 63p

⁸ Tocher, M.D., Wakelin, M. and Tweed, J., 2019. Simons Pass Dryland Reserve Area: Invertebrate Baseline Assessment 2018-2019. Ryder Environmental Limited, Client Report Dunedin.

			NPS- FM. She also disagrees that PRR has been good for lizards, with no data supporting Genesis conclusions. She considers that IBEP revised draft Kahu Ora seems to be 'business as usual' in terms of predators and this level of predator control will not help lizards, e.g., predators and mice need suppressed for lizards to respond based on current knowledge. With respect to IBEP Conditions, she notes the IBEP is only partially additional (needs to be fully additional to meet compensation best practice); and no information given on which parts are additional to determine sufficiency. She also concludes that there is no way of knowing if compensation is sufficient. She recommends that the IBEP Strategic Plan be reviewed by independent experts and written by independent experts and reports written by independent experts (not GEL, MEL or DOC experts). She also recommends lizard specific conditions – to include a specific 'Lizard Mangement' objective – reviewed by herpetologist; and a suite monitoring to include two levels – monitoring of lizards on-the-ground and monitoring of achievements to achieved SMART objectives in the Kahu Ora.		
Avifauna	Section 5.11.3, Appendix Q	Dr Jean Jack Appendix 6	Dr Jack acknowledges the benefit that the IBEP will have for populations of freshwater avifauna which utilize habitats of the Waitaki catchment. The IBEP will operate at a scale approximately three times greater than existing Project River Recovery. Expert discussions emphasized that many of the operational spills will be collected at Lake George-Scott and directed into the Takapō Canal. This essentially limits the frequency of spills down the Takapō river and therefore reduces risk to nesting birds. As with other ecologists, Dr Jack questions how the RMA effects management hierarchy is applied. Rather than repeating her consideration, I refer you to Appendix 6. Dr Jack notes with regards to the level of conservation effort offered by Kahu Ora, the declines of several populations of	Dr Jack's advice provides useful consideration demonstrating how while the IBEP is proffered as compensation; for avifauna in particular aspects have the potential to 'double' as mitigation. I agree with Dr Jack's comment: <i>"ensuring that effects management measures, including compensatory provisions, are effective is fundamental to successful effects management. Well defined outcomes and provisions to enable adaptive management, including review of resourcing, are likely to be critical to achieving the IBEP objectives."</i> With respect to compensation, please refer to section in my memorandum.	Refer to IBEP conditions discussion in report and changes tracked in Appendix 10

			river bird species within the Waitaki catchment indicates that additional management effort to what is currently occurring is needed to reverse these trends. The decreasing population trend for shallow water waders (banded dotterel and wrybill) as inferred by Upper Waitaki river bird counts is particularly concerning. Regardless of whether the effects management approach involves mitigation or compensation, Dr Jack considers it should be held accountable for delivering its intended outcomes.		
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Lennie Palmer Table 1:

Numbering	Reference	Comment
4f	How <u>Gate 17 will be operated</u> during events where the water level in Lake Takapō / Tekapo exceeds the maximum lake level specified in condition 1(a);	HFMP typically refers to flows over the LGSW
11d	If Gate 16 is in use when Lake Takapō / Tekapo is below the maximum control level specified in condition 1, the discharge below the Lake George Scott Weir must be reduced at a maximum rate of 20 m ³ /s per hour.	HFMP clause 12 refers to "to use the LGSW" and "LGSW must be operated"
11e	When Gate 16 is being progressively closed, and discharge is occurring over the Lake George Scott Weir at a rate at or below 20 m ³ /s, the following minimum flows over the Lake George Scott Weir must be maintained to simulate natural recession of the Takapō / Tekapo River:	HFMP Clause 11. When the discharge over the LGSW....

*note LGSW = Lake George Scott weir

Lennie Palmer Table 2:

Numbering	Reference	Comment
4f	How <u>Gate 17 will be operated</u> during events where the water level in Lake Takapō / Tekapo exceeds the maximum lake level specified in condition 1(a);	HFMP typically refers to flows over the LGSW
11d	If Gate 16 is in use when Lake Takapō / Tekapo is below the maximum control level specified in condition 1, the discharge below the Lake George Scott Weir must be reduced at a maximum rate of 20 m ³ /s per hour.	HFMP clause 12 refers to "to use the LGSW" and "LGSW must be operated"
11e	When Gate 16 is being progressively closed, and discharge is occurring over the Lake George Scott Weir at a rate at or below 20 m ³ /s, the following minimum flows over the Lake George Scott Weir must be maintained to simulate natural recession of the Takapō / Tekapo River:	HFMP Clause 11. When the discharge over the LGSW....

Appendix 3: Summary of technical experts qualifications													
CRC Expert	Qualifications Summary (where not included in technical appendix)												
Simon Harris, LWP	Gained a B.Agr.Sc (Hons) in Farm Management from Lincoln University in 1990, and had 30 years of experience as an economist, including periods with Brown Copeland and Co. and Lincoln University as a research assistant. Has undertaken numerous economic impact and cost benefit analyses for a wide range of industries and in a large number of regions, including work on primary sector environmental policies for CRC, Southland Regional Council, Horizons Regional Council, Otago Regional Council, Greater Wellington Regional Council, Taranaki Regional Council, Tasman District Council, Marlborough District Council, Hawke’s Bay Regional Council, Environment Bay of Plenty, and Christchurch City Council. Has also provided evidence on economic impacts related to the energy infrastructure network and provided evidence to the Waitaki Water Allocation Board in relation to the regional economic impacts of the Waitaki hydro scheme and allocation of water to different sectors. Has appeared as an expert witness on economic impacts and economic efficiency in numerous hearings before councils, commissioners and the Environment Court on Resource Management Act related matters.												
Chris Glasson, Glasson Huxtable Landscape Architects	Has the qualifications of a BA, Dip. LA and is a Fellow and a Registered member of the New Zealand Institute of Landscape Architects (NZILA). Is also a member of the New Zealand Middle East Business Council, a past chairperson of the NZILA (Canterbury Branch), a member of the Orton Bradley Park Board, and a member of the Te Ahu Patiki (Mt Herbert Park) Board. Has practiced as a Landscape Architect since 1979. For the past 2 years he has been a consultant to Glasson Huxtable Ltd, but prior to that and for the previous 35 years was Managing Director of Glasson Huxtable Limited and Chris Glasson Landscape Architects Limited. During those years the practice undertook many land-based projects throughout New Zealand and overseas.												
Paul Wilson, Xyst	Is a Director of Xyst Limited, a parks and recreation planning consultancy. Holds a Diploma in Parks and Recreation Management obtained from Lincoln University in 1987 and a Post Graduate Certificate in Applied Science (Lighting) obtained from Massey University Has 37 years experience in recreation planning and management of public open space including roles with the Department of Conservation, Auckland City Council, Queenstown Lakes District Council and Xyst Limited. Is an Accredited Recreation Professional of Recreation Aotearoa (the New Zealand Recreation Association) and Certified International Parks Professional (World Urban Parks).												
Justin Cope	Is a Principal Science Advisor – Natural Hazards, at Environment Canterbury. Holds a M.Sc. in Physical Geography and a Post Graduate Diploma in Natural Resources. Has 30 years of experience undertaking investigations and monitoring of coastal processes and coastal hazards along the Canterbury coastline, including the Waitaki coast. Throughout his 30-years at Environment Canterbury, has conducted shoreline monitoring programmes and participated in geomorphic investigations on the mixed-sand gravel beaches and river mouth hāpua of Canterbury, including the Waitaki river mouth and the shoreline north of the Waitaki river. Is regularly called upon to provide expert advice on consent applications related to coastal and shoreline processes, hazards and geomorphology.												
Philip Grove	Qualifications are MSc and PhD (Botany) from the University of Otago, graduating in 1993 and 1998 respectively. Current role at CRC is Principal Scientist within the Science Group working in terrestrial and wetland ecology, and has been working as an ecologist in the Science Group since 2001. Braided river and wetland survey and monitoring have been focus areas of his work at CRC. This has included providing advice to CRC staff and external customers regarding ecological monitoring, ecological significance assessment, ecological impact assessment and effects management.												
Barbara Barratt, Emeritus Scientist: AgResearch	Has the following qualifications and experience: <table> <tr> <td>1972</td><td>BSc (Zoology), University of Durham, UK</td></tr> <tr> <td>1975</td><td>PhD (Entomology), University of Durham, UK</td></tr> <tr> <td>2011</td><td>Elected as a Fellow of the Entomological Society of New Zealand</td></tr> <tr> <td>2022</td><td>Elected as a Fellow of the Royal Society of New Zealand</td></tr> <tr> <td>2007-2024</td><td>Principal Scientist, AgResearch</td></tr> <tr> <td>2024-</td><td>Principal Scientist (Emeritus), AgResearch</td></tr> </table>	1972	BSc (Zoology), University of Durham, UK	1975	PhD (Entomology), University of Durham, UK	2011	Elected as a Fellow of the Entomological Society of New Zealand	2022	Elected as a Fellow of the Royal Society of New Zealand	2007-2024	Principal Scientist, AgResearch	2024-	Principal Scientist (Emeritus), AgResearch
1972	BSc (Zoology), University of Durham, UK												
1975	PhD (Entomology), University of Durham, UK												
2011	Elected as a Fellow of the Entomological Society of New Zealand												
2022	Elected as a Fellow of the Royal Society of New Zealand												
2007-2024	Principal Scientist, AgResearch												
2024-	Principal Scientist (Emeritus), AgResearch												

	2012-present Honorary Professor, Department of Botany, University of Otago <u>Biosecurity</u>: Research in the 'Better Border Biosecurity (B3)' research collaboration includes investigation of exotic invertebrate species incursion into native grassland, and prediction of impacts of established invasive species (AgResearch SSIF/MBIE funded). <u>Biodiversity and Conservation</u>: Impacts of disturbance by fire and agricultural development on tussock grassland invertebrate diversity and functional composition (DOC funded); research for threatened species conservation management in the Cromwell Chafer Nature Reserve, Central Otago (DOC funded); endangered weevil conservation (laboratory rearing methods) population monitoring; ecology; laboratory rearing; translocation; impacts of invasive species research (DOC funded).
Lennie Palmer, Riley	(taken from Riley webpage – https://www.riley.co.nz/our-people/water-resources/lennie-palmer) Lennie has over 30 years' experience in hydrology, water resource engineering and project delivery with New Zealand and Australian power industries and consultancies. He is involved with technical hydrological and operational investigations and studies, which also include consent investigations and hearings. He has previously carried out rainfall and flood design and review. Recent investigations using HEC-HMS catchment modelling include: • design flood / reservoir levels and discharges (e.g. Dillmans, Mangahao, Donalds Creek) • tile drainage effects on flood hydrology • wetland design. Other recent projects include infrastructure enhancement investigations, sediment analysis, rainfall analysis and design, and other catchment modelling. Lennie is currently involved with field hydrology and is proficient with a range of measurement methodologies. He also undertakes due diligence investigations and peer review of technical hydrological reports.
Mandy Tocher, LizardExpertNZ	Currently holds the position of Principal Herpetologist at LizardExpertNZ, her own business that she initiated April 2021. Obtained a Master of Science with first class honours in 1992 and a Ph. D in Zoology in 1997. These were both awarded by the University of Canterbury. Also holds a master's degree in planning (Distinction), awarded from the University of Otago in 2017. Is a member of the New Zealand Amphibian Specialist Group for the IUCN, the New Zealand Reintroduction Specialist Group. Is a past member of the Department of Conservation (DOC) lizard Technical Advisory Group (TAG), the Native Frog Recovery group, grand and Otago skink Recovery group and the Resource Management Law Association. I am an Associate Editor for the New Zealand Journal of Zoology. From 2011-2016 was employed as Senior Ecologist by Wildland Consultants Ltd, and then as Principal Ecologist/Herpetologist by Ryder Environmental until April 2021. Before taking up the position with Wildland Consultants she was employed by the DOC as the South Island Herpetologist for 16 years, specialising in research and management of South Island lizards and frogs. As a consultant herpetologist she routinely carries out lizard surveys, provide technical advice, and prepare LMPs and expert evidence for clients that include Manawa Energy Ltd, Pioneer Energy Ltd, Waitaki District Council, MacKenzie District Council and Roundhill Ski field.

Appendices included as separate attachments

Appendix 1: Memorandum of Legal Comments of Counsel

Appendix 4: Technical Advice – Lake Values by Tina Bayer

Appendix 5: Technical Advice – Hydrology by Hamish Graham

Appendix 6: Technical Advice – Avifauna by Jean Jack

Appendix 7: Technical Advice – Biodiversity by Kennedy Lange

Appendix 8: Technical Advice – River Values by Chris Meijer

Appendix 9: Technical Advice – Groundwater by Ben Wilkins

Appendix 10: Conditions