



Proposed Plan Change 7 (Water Permits) to the Regional Plan: Water for Otago

A submission to the Otago Regional Council

4 May 2020



Trustpower Limited ("**Trustpower**") welcomes the opportunity to provide a submission to the Otago Regional Council ("**ORC**") on Proposed Plan Change 7 (Water Permits) to the Regional Plan: Water for Otago ("**PC7**").

For any questions relating to the material in this submission, please contact:

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**SUBMISSIONS ON PROPOSED CHANGE 7 TO THE REGIONAL PLAN: WATER FOR OTAGO
UNDER CLAUSE 6 OF THE FIRST SCHEDULE TO THE RESOURCE MANAGEMENT ACT 1991**

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Trustpower Limited (“Trustpower”) makes the following submission to the Otago Regional Council on Proposed Plan Change 7 to the Regional Plan: Water for Otago (“PC7”).

Trustpower’s submission on the individual provisions of PC7 is set out in the attached document.

Trustpower could not gain an advantage in trade competition through this submission.

Trustpower would like to be heard in support of its submission.

If others make a similar submission, Trustpower would be prepared to consider a joint case.

Signature:



Nicola Foran
For, and on behalf of, Trustpower Limited

Dated: 4th May 2020

Executive Summary

Trustpower is a leading hydro-electricity generator and retailer in New Zealand. The company owns and operates 19 hydro-electric power schemes across New Zealand and generates approximately 8% of New Zealand's total hydro-electricity supply on an annual basis. Trustpower's existing hydro-electric power schemes are lifeline utilities under the Resource Management Act 1991 ('RMA') and Civil Defence Emergency Management Act 2002. Electricity generated by Trustpower's hydro-electric power schemes is conveyed to industrial and residential consumers via the National Grid and local distribution networks. The supply of electricity via both networks is critically important to security of electricity supply, and the social and economic wellbeing of a range of different communities throughout New Zealand.

The provision of existing and new renewable electricity generation infrastructure is identified as a matter of national significance under the RMA (as identified in the National Policy Statement for Renewable Electricity Generation ('NPS:REG')). Despite this recognition, the development of plan provisions at regional and local scales does not always recognise or provide for existing or future renewable electricity generation. There is a need to ensure a coordinated policy response to these issues and that includes all regions making provision for this to occur in a way that contributes to the national outcomes.

Trustpower acquired Waipori Power Generation Limited from Dunedin City Council in 1998. Waipori Power Generation Limited owned and operated the Waipori Hydro Electric Power Scheme ('Waipori Scheme') and as part of the authorisations associated with the Waipori Scheme a large number of deemed permits were held and exercised by Waipori Power Generation Limited. Those deemed permits were recognised and protected in perpetuity in the Dunedin City Corporation Empowering Act 1924.

Trustpower recognises the need for PC7 to deal with deemed permits in a consistent and transparent way. However, PC7 is narrowly focused on irrigation and does not adequately recognise and provide for other forms of water takes, including both renewable electricity generation and other activities such as potable water supplies. To give effect to the NPS:REG, and to recognise that hydro-electricity generation is a non-consumptive use of water, PC7 needs to be amended to recognise and provide for existing hydro-electricity generation activities, and to provide a separate framework for such activities.

In essence Trustpower:

- supports the intent of PC7 to deal with deemed permits in a consistent and transparent way, however, has significant concerns with the proposed framework as it relates to deemed permits associated with hydro-electricity generation.
- opposes the lack of consideration of the need for existing hydro-electricity generation schemes and the lack of provision for these within PC7.
- seeks a range of changes that provide explicitly for regionally important infrastructure, including hydro-electricity generation, and provide a separate framework for those activities.
- seeks that PC7 be amended to correct errors and make the provisions more directive and less confusing.

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1.0 Introduction and Overview

- 1.1 Trustpower is a leading hydro-electricity generator and retailer in New Zealand. The company owns and operates 19 hydro-electric power schemes ('HEPS') across New Zealand and generates approximately 8% of New Zealand's total hydro-electricity supply on an annual basis. Trustpower also holds a controlling interest in King Country Energy.
- 1.2 Trustpower's existing hydro-electric power schemes are lifeline utilities under the RMA and Civil Defence Emergency Management Act 2002.
- 1.3 The value of Trustpower's generation assets resides within its resource consents and, in particular, within its water permits, which are required for every dam, diversion, abstraction, use and discharge of water associated with each facility.

Electricity distributed by local distribution networks is critical to New Zealand

- 1.4 Electricity generated by Trustpower's hydro-electric power schemes is conveyed to industrial and residential consumers via the National Grid and local distribution networks. The supply of electricity via both networks is critically important to security of electricity supply, and the social and economic wellbeing of a range of different communities throughout New Zealand.
- 1.5 A number of Trustpower's electricity generation schemes are embedded into the local electricity supply network and form a vital element in sustainable electricity supply within New Zealand. The location and scale of Trustpower schemes, along with a commitment to local supply (so as to ensure that electricity is consumed as close as possible to where it is generated) is a key and somewhat unique feature of Trustpower's generation philosophy and portfolio.

Trustpower's Otago interests

- 1.6 Trustpower has a particular interest in the Otago Region as Trustpower owns and operates the Waipori Hydro-Electric Power Scheme (see **Figure 1** below). The Waipori scheme is comprised of Lake Mahinerangi, which provides water storage, and four hydro power stations located downstream of the Lake within the Lower Waipori River gorge. The Waipori HEPS also includes the smaller scale Deep Stream HEPS, which diverts water from Deep Stream via a canal constructed in 2008, through two power stations that subsequently discharges the water via a water race system into Lake Mahinerangi via North West Creek for further generation, through the Waipori Scheme.

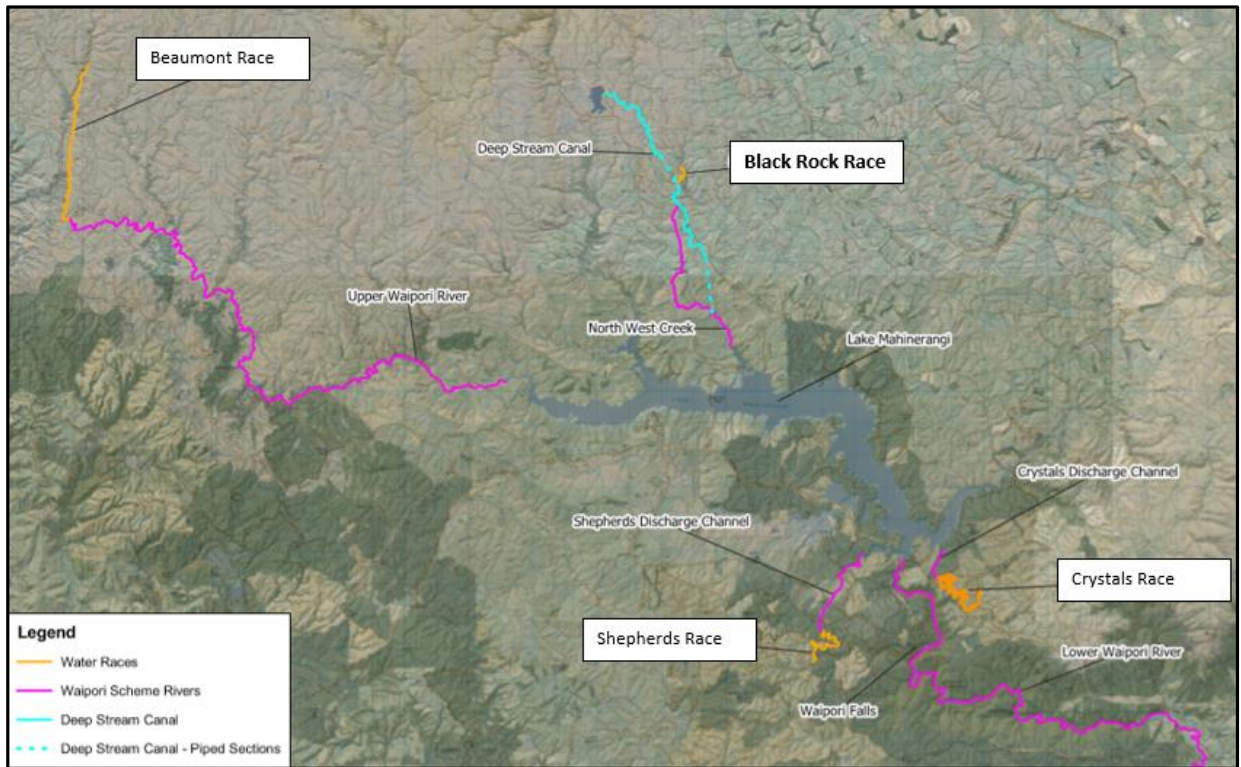


Figure 1: Waipori HEPS

- 1.7 The formation of Lake Mahinerangi for hydro-electric power generation in 1907 essentially brought an end to gold mining in the Waipori area. A number of historic water or mining races, constructed to divert water (in some cases from one catchment to another) for sluicing and sifting purposes as part of the gold mining process in the area, were incorporated into the hydro-electric power scheme to divert additional water into Lake Mahinerangi for electricity generation. The water and mining races subsequently recognised and protected in perpetuity in the Dunedin City Corporation Empowering Act 1924.
- 1.8 When the RMA was enacted, it made the mining privileges ‘Deemed Permits’ and established a common expiry date of the 1st of October 2021 for them. The water used by Trustpower from the historic water races is authorised under the Deemed Permits and in order to continue to benefit from the water that is diverted to and discharged from the Races to Lake Mahinerangi, Trustpower must seek replacement resource consents prior to their expiry. Trustpower is seeking new resource consents to continue activities associated with four water races: Beaumont; Shepherds; Crystal; and Black Rock (see Figure 1).

Exposure to statutory planning processes

- 1.9 Trustpower’s hydro-electric power schemes are located across ten regions and 17 districts in New Zealand. As such, Trustpower has a high degree of exposure to the planning frameworks that apply in different local authority jurisdictions. The company also expends significant resource participating in statutory planning processes to ensure that (i) suitable provision is made for the protection, maintenance and upgrade of its existing hydro-electric power schemes, and (ii) opportunities for the development of new renewable electricity infrastructure are provided for as a matter of national significance in accordance with the NPS:REG.

'Re-consenting' and consenting projects reduce generation capacity

- 1.10 Trustpower has significant experience in the consenting of existing and new hydro-electricity and water conveyance infrastructure under the RMA. Most of Trustpower's hydro-electric power schemes have been 're-consented' over the past 25 years, which has resulted in a range of additional operational constraints and environmental mitigation being imposed on the resource consents for these schemes. The reality is that re-consenting processes, and the requirement for the operation of existing hydro-electric power schemes to be recast to conform with an ever-increasing regulatory framework, typically results in the loss of annual electricity generation capacity and the loss of operational and water storage flexibility. In this respect, Trustpower's hydro-electric power schemes have had their generation output reduced by an average of 5% through each re-consenting processes.

2.0 Context to Trustpower's Submission

- 2.1 The provision of existing and new renewable electricity generation infrastructure is identified as a matter of national significance under the RMA (as identified in the NPS:REG). Despite this recognition, the development of provisions at regional and local scales does not always recognise or provide for existing or future renewable electricity generation. This means that the operation, upgrade and development of renewable electricity generation infrastructure is increasingly at risk of further constraints.
- 2.2 The Government has committed to New Zealand transitioning to 100% renewable electricity generation by 2035 and is developing policy packages which aim to accelerate the deployment of renewable electricity generation and reduce carbon emissions. Given that climate change is one of the most significant issues facing New Zealand, there is a need to ensure a coordinated policy response to these issues and that includes all regions making provision for this to occur in a way that contributes to the national outcomes.
- 2.3 Before proposed PC7 was notified, Trustpower took the opportunity afforded to the public to provide comprehensive feedback to Otago Regional Council on the proposed plan change, including regarding the above matters. However, the notified version of PC7 was not amended to address any of the concerns Trustpower raised in its feedback.

3.0 Summary of Key Submission Points

- 3.1 The key aspects of Trustpower's submission on proposed PC7, which are discussed in more detail in the sections below, are:
- a) **Intent of PC7** – Trustpower supports the intent of PC7 to deal with deemed permits in a consistent and transparent way, however, has significant concerns with the proposed framework as it relates to deemed permits associated with hydro-electricity generation.
 - b) **Approach to renewable electricity generation** – Trustpower opposes the lack of consideration of the need for existing hydro-electric power schemes and the lack of provision for these within PC7.
 - c) **Recognition of renewables** – Trustpower seeks a range of changes that provide explicitly for regionally important infrastructure including hydro-electricity generation, and provide a separate framework for those activities.
 - d) **Corrections** – Trustpower seeks that PC7 be amended to correct errors and make the provisions more directive and less confusing.

4.0 Intent of the Plan Change

- 4.1 Trustpower recognises the need for PC7 to deal with deemed permits in accordance with the Minister for the Environment’s November 2019 recommendations and to do so in a transparent way. The issue that PC7 is primarily seeking to resolve is the large number of irrigation and water take permits that have been in existence for many years and which need to be brought into the modern regional planning framework. Dealing with this issue openly is supported.
- 4.2 However, PC7 is narrowly focussed, as acknowledged in the section 32 analysis, and is primarily drafted with a view to managing irrigation activities¹. As such, it does not recognise and provide for other forms of water takes, including for renewable electricity generation and other activities such as potable water supplies. While Trustpower understands the intention to keep the scope of PC7 narrow, it should not be so narrow as to leave some types of activities that hold deemed permits “in limbo” with no clear policy direction. Similarly, while consistent administration of planning documents is important, recognising and providing for other non-irrigation activities (for example renewable electricity generation) is essential. Of significant concern to Trustpower, PC7 in fact implies that the provisions in the plan change apply to deemed permits for the full range of activities (including hydro-electricity generation) when they are inappropriate or unnecessary for such other activities
- 4.3 Trustpower understands that there are 23 resource consents for electricity generation within the region that will expire between March 2020 and 31 December 2025². It is not clear in the PC7 section 32 analysis how many other permits relate to other essential activities such as domestic potable purposes or stock water supply which may be similarly affected. While this number of power generation permits may make up a small proportion of the number of deemed permits, it is sufficient to be recognised and provided for in the plan change, especially given the national direction to provide for such activity.
- 4.4 It needs to be recognised that irrigation water is a consumptive use of water whereas water taken for hydro-electric power generation is non-consumptive, as it is returned to the river at a downstream location, in most cases, within the same catchment. PC7’s narrow focus is reflected in the proposed Plan chapter with numerous references to 'abstracted water used for irrigation' and 'area under irrigation', and no references to hydro-electricity or power generation uses.
- 4.5 Similarly, the section 32 report for PC7 is largely focussed on irrigation and barely mentions renewable electricity generation. There is reference in section 4.2.2 of the section 32 report to the NPS:REG stating that “None of the PC7 provisions provide for power generation specifically, but PC7 provides the framework to renew those expiring resource consents used for hydroelectricity generation”. This statement is not entirely correct as while a framework is provided for in PC7, that framework is largely inappropriate and unsuitable for renewable electricity generation given the singular focus on irrigation activities. As such it does not provide a suitable framework for considering electricity generation activities which are fundamentally different from irrigation.

¹ For example Schedule 10A.4 ‘Methodology for calculating assessed usage for surface-water takes for irrigation purposes’ is intended to apply to irrigation takes and is not appropriate for dealing with takes associated with hydro-electric power schemes notwithstanding the rules framework requires calculations to be in accordance with the method in Schedule 10A.4 (see rule 10A.3.1.1.)

² Section 32 Evaluation Report – Proposed Plan Change 7, 18 March 2020, Page 30, section 4.2.2.

- 4.6 Further, PC7 does not give effect to the partially operative Regional Policy Statement³ ('RPS') which includes specific provisions which state:

Policy 4.3.2 Nationally and regionally significant infrastructure

Recognise the national and regional significance of all of the following infrastructure:

- a) Renewable electricity generation activities, where they supply National Grid or local distribution network ...*

Policy 4.4.1 Renewable electricity generation

Provide for renewable electricity generation activities, by all of the following:

- a) Recognising the benefits associated with those activities;*
- b) Recognising the functional needs of those activities;*
- c) Recognising the importance of the resource needs of those activities;*
- d) Promoting the efficient use of existing structures or facilities; and*
- e) Providing for activities associated with the investigation, and identification, and development of potential renewable electricity generation sites and sources.*

Policy 4.4.2 Small and community scale renewable electricity generation

Promote small and community scale renewable electricity generation activities that both:

- a) Increase the local community's resilience and security of energy supply; and*
- b) Avoid, remedy or mitigate adverse effects from that activity.*

Policy 4.4.3 Protecting existing renewable electricity generation

Protect the generation output of existing nationally or regionally significant renewable electricity generation activities, by all of the following:

- a) Recognising their functional needs including resource needs;*
- b) Avoiding, to the extent reasonably practicable, reverse sensitivity effects on their functional needs;*
- c) Avoiding, remedying or mitigating adverse effects from other activities on them; except when sub-clause d) applies;*
- d) Having particular regard to avoiding, remedying or mitigating adverse effects from new water takes on those which do not have a specified water allocation volume.*

- 4.7 In order to give effect to the RPS, as well as the NPS:REG it is necessary to specifically recognise and provide for renewable electricity generation within PC7.

5.0 Objective and Policies

Objective 10A.1.1

- 5.1 The one proposed objective (10A.1.1) is considered clear and appropriate to this plan change setting a direction for transition from the current regime for deemed permits to a new approach under a future Regional Plan. However, objectives need to be clearly outcome focussed and clear about why that outcome is necessary. In this regard, the objective could be improved by clearly stating the outcome sought at the start of the

³ Partially Operative Otago Regional Policy Statement, 14 January 2019.

objective and simplifying the wording used (with the ability to utilise more complex wording in the policies that follow).

- 5.2 In addition, the objective fails to recognise the existence of regionally important infrastructure and thus sets a scene for the policy and method approach which is currently too narrow.
- 5.3 It is sought that the objective be amended to specifically include recognition for the importance of hydro-electricity generation. Please refer to Appendix One for the specific changes sought.
- 5.4 Additionally, the objective (and associated policy 10A.2.2) purport to also apply to any new water take consent irrespective of the use of the water. This is inappropriate as discussed further below and is not supported by any analysis within the section 32 report.

Policies generally

- 5.5 In relation to the policies themselves, Trustpower have identified a range of concerns as set out below. The main issue of concern however is the lack of recognition of renewable electricity generation as an essential activity and it is sought that this be provided for explicitly within the policy framework. This recognition is sought to be included through the integration of hydro-electricity generation into policy 10A.2.1 as a distinctly separate activity from irrigation and the introduction of a new policy specific to hydro-electricity generation (along with a separate rules framework). Please refer to Appendix One for the specific changes sought.
- 5.6 Trustpower has a particular concern over the initial statement at the start of the policies 10A.2.1 and 10A.2.3 which says: *“Irrespective of any other policies in this Plan...”*. This approach disregards all other policy consideration in the wider Regional Plan: Water for Otago and thus overrides other relevant policy which should be considered when making decisions under this plan change. This is not appropriate and inconsistent the Regional Policy Statement, the NPS:REG, or Part 2 of the RMA. Trustpower seeks that this wording be removed to enable full consideration of the relevant matters for a resource consent application to be recognise and provided for rather than narrow considerations being applied in the PC7 as notified.
- 5.7 The wording in the policies does not follow best practice approaches to clearly identify the links between policies and rules and use clear terminology. The use of the term ‘avoid’ within policy 10A.2.1 is inappropriate in the context of the controlled activity rule 10A.3.1.1 that it relates to. A controlled activity rule by its very nature is an enabling rule (and consent must be granted) and thus the wording of policy 10A.2.1 must reflect this enablement. In contrast the terminology ‘only grant... where’ as used in policy 10A.2.3 normally reflects a discretionary activity status but in this case relates to the non-complying activity rule 10A.3.2.1. Likewise, the terminology in policy 10A.2.3 needs to reflect the constraint of the non-complying rule status that it leads to. This inappropriate use of terminology needs to be corrected throughout the policies. Please refer to Appendix One for the specific changes sought.

Policy 10A.2.1

- 5.8 Subsection (a) to policy 10A.2.1 is unclear in its application – specifically it is uncertain as to what constitutes a ‘valid permit’? This is not explained within the section 32 report and it is difficult to determine how it is to be applied at a policy (or rule) level. Policies need to be clear in their interpretation and directive in terms of outcomes to be achieved. Is a ‘valid permit’ intended to be one that has been given effect to at some point in time? One that has been exercised consistently or recently? Or one issued pursuant to particular

legislation? Trustpower seeks that this be clarified within the policy and that this should link to the deemed permit or water permit that is being replaced having been legally authorised and having been exercised over the previous 5 years.

- 5.9 Subsection (d) to policy 10A.2.1 refers to existing conditions on permits transferring across to the new consent. However, many of the deemed permits are so old that they have no conditions that apply. The section 32 analysis states that if the existing conditions are carried across this will contribute to preventing further degradation of water quality but if there are no existing conditions that apply this will not be the case. In addition, this is further confused by the matters of control for the applicable rule implying that the application of conditions on minimum flows, residual flows or cessation are able to be considered but the policy limits this to only cases where those conditions already apply. If PC7 is to be effective it is recommended that residual flow, minimum flow or take cessation conditions be considered whether they are applied to the existing permit or not and that can only be done on a case by case basis where the particular benefit or practicality of doing so can be thoroughly considered. Trustpower considers there are instances where not providing a residual flow for example will promote the RMA's sustainable management purpose and this needs to be considered by the decision maker. Please refer to Appendix One for the specific change sought.
- 5.10 Subsection (e) to policy 10A.2.1 requires replacement consents to only be granted where there is a reduction in the volume of water abstracted. This may be appropriate for consumptive takes such as irrigation and certainly is an appropriate consideration for over allocated catchments. However, it is not applicable to non-consumptive takes such as hydro-electricity generation and may not be relevant to all water takes. This should not be the approach taken to hydro-electricity generation activities where the maximum rate and volume of take needs to be maintained to ensure reliability of supply and recognise the continued operation of these important facilities.

Policy 10A.2.2

- 5.11 Policy 10A.2.2 as presently worded has the effect of capturing any new resource consents for the take and use of water not just those more appropriately being considered as part of this plan change to deal with replacement consents for deemed permits. This has the effect that any new consent for water take for any purpose would now be limited to a maximum of 6 years (unless policy 3 applies) and many members of the public would not be aware of this implication as the plan change has been promulgated on the basis of only relating to deemed permits and replacement permits. This impact is further confused by clear statements that PC7 is as only intended to relate to replacements for deemed permits or to replace water permits that expire before 31 December 2025. The advice note within the rules section⁴ is clear in this regard. However, the explanation at the start of PC7⁵ further reinforces the wide-ranging nature of this plan change.
- 5.12 This approach is inappropriate without extensive analysis of the implications of this on all types of water takes, and especially on non-consumptive takes, essential takes such as potable supply and nationally important takes such as hydro-electricity generation. This level of analysis does not appear to have been undertaken and is not supported by the

⁴ PC7, page 4, between rules 1 and 2: "Advice Note: If the application is for a new water permit (and not the replacement of a deemed permit or replacement of an expiring water permit) refer to the rules in Chapter 12 of this Plan."

⁵ PC7, page iv, addition to 'How to use the Regional Plan: Water': "Applications for new water permits that are not replacing either a deemed permit or an existing water permit will be assessed in accordance with the provisions in Chapters 6, 12 and 20, except that the duration of any water permit will be determined in accordance with the policies in Chapter 10A."

section 32 assessment report. This issue needs to be corrected in the policy to only apply to consents for irrigation (if this can be proven to be necessary) or to relate to only those consents that are replacements for deemed permits or replacements for water permits that expire before 31 December 2025 (subject to the relief sought by Trustpower below being accepted).

Additional policy recognition - proposed new policy

- 5.13 To fully reflect the importance of hydro-electricity generation activities and their role as non-consumptive water takes, it is sought that there be an additional policy inserted to reflect that these activities are different and to support an additional rule (discussed below). It is sought that this be inserted between policies 10A.2.2 and 10A.2.3 and that such a policy reflects the ability for these replacement consents to enable a longer-term duration for regionally significant infrastructure or hydro-electricity generation. Please refer to Appendix One for the specific change sought.

Policy 10A.2.3

- 5.14 Policy 10A.2.3 is not framed in an easy to understand manner and it is unclear that it is the policy basis for the non-complying activity rule. Not only does it not use clear non-complying activity wording (as set out above), it also has a number of additional flaws:
- a) Subsection (a) of the policy unnecessarily repeats one of the two threshold tests for a non-complying activity under the Resource Management Act (RMA). Section 104D of the RMA requires that a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either the adverse effects of the activity on the environment will be minor or the activity will not be contrary to objectives and policies. It is not necessary or appropriate for the effects aspect of this to be repeated within the policy, which confuses the statutory consent process and does not reflect the full scope of section 104D.
 - b) Subsection (a) of the policy also unnecessarily reframes the RMA definition of 'effect' which is set out in Section 3 of the RMA and which explicitly includes "(d) any cumulative effect which arises over time or in combination with other effects". Any assessment of effects should include consideration of cumulative effects where this is relevant. While the section 32 report does not address this issue, it is assumed that this is highlighted to seek to ensure appropriate consideration of cumulative effects in over allocated catchments and Trustpower suggests that this needs to be explicit within the policy
 - c) In addition, subsection (a) of the policy only relates the consideration of effects on the ecology and hydrology of the surface water body and this is too narrow an application of consideration for a non-complying activity. Depending on the nature and location of the water take it is possible that it could have adverse effects on a wide range of values e.g. landscape values or recreational values. To appropriately address all potential adverse effects of a non-complying activity it is essential that the consideration is not unnecessarily constrained by the policy. Additionally, the policy purports to preclude consideration of positive effects of an application which is relevant under section 104.
 - d) Subsection (b) relates this policy to a maximum period of 15 years through the reference to 31 December 2035 without being clear that this is actually intended to be a maximum consent duration. Trustpower considers that it may be appropriate to grant a longer term consent beyond 15 years and the policy direction should not

purport to constrain the decision maker from doing so in appropriate circumstances.

6.0 Rules

- 6.1 For the same reasons as those set out above, Trustpower seeks that the proposed rules be amended to explicitly recognise the importance of regionally important infrastructure including hydro-electricity generation and to create a separate framework for those activities. To achieve this, Trustpower seeks that the proposed controlled activity rule 10A.3.1.1 be clearly framed to relate only to irrigation consents, and that there be an additional controlled activity rule inserted that relates to regionally significant infrastructure and hydro-electricity generation.
- 6.2 In relation to the additional rule sought to recognise regionally significant infrastructure and hydro-electricity generation, Trustpower considers that duration is a key issue. Trustpower understands the intent of the plan change to enable a reduction from the historical 30-35 year durations that were granted for consents for irrigation activities, but considers that for regionally significant infrastructure, including hydro-electricity generation, a period of six years is unnecessarily restrictive in recognising the important function that such activities play and the significant infrastructure investment over many years to establish and maintain such facilities. Trustpower considers that a period of up to 35 years (as provided in the RMA) remains appropriate for such significant infrastructure and that such a period should remain available. However, it is considered that the specific duration of a consent should be determined through the consent process to best recognise the site-specific issues e.g. the nature of the facility, any other related consents and their duration, and that other conditions may also be appropriate e.g. A review clause. A proposed additional rule is provided in Appendix One.
- 6.3 In terms of specific comments on the proposed rule 10A.3.1.1 Trustpower points out that there are a range of inconsistencies that are the same as those noted in discussion above on policy 10A.2.1 particularly the question of what is a 'valid permit'? These matters should be corrected in the same manner as set out for the policy.
- 6.4 In addition, it is noted that clauses (iv) and (vi) of rule 10A.3.1.1 require the rate of take and volume of take to be calculated using the period 1 July 2012 to 30 June 2017. There are a number of uncertainties associated with choosing such a short period because five years is a relatively short period in hydrological terms. In particular, it is unclear whether the chosen period is representative of the long-term average hydrology for any catchment. In addition, and specifically in relation to hydro-electricity generation activities, there may have been significant operating outages over this five-year period, which are given no consideration in the calculation, and which might negatively weigh on the average maximum rate of take or the average maximum volumes. As discussed above, it is understood that there is a need to manage consumptive water takes and reduce these where possible and particularly in over allocated catchments. This approach is not necessary in relation to hydro-electricity generation activities however, and the averaging approach within the rules and schedules as currently proposed, as a tool to reduce takes, is not appropriate or necessary for non-consumptive takes.
- 6.5 Trustpower does not accept that where a replacement consent is sought for an existing hydro-electricity generation activity, that does not meet the parameters of the controlled activity rules, it should be considered as a non-complying activity. This does not recognise the importance of such facilities to the community or the investment in the assets. Instead it is sought that an additional rule be included to ensure that such situations are assessed as a discretionary activity as set out in Appendix One.

7.0 Schedules

- 7.1 The schedules have clearly been developed with a view to managing irrigation activities and this is reiterated in the title to the schedule that states “*10A.4 Schedule: Methodology for calculating assessed actual usage for surface-water takes for irrigation purposes*” (emphasis added). As such these do not apply to or align well with hydro-electricity generation activities.
- 7.2 Notwithstanding the foregoing, Rules 10A.3.1.1(iv) and (vi) require the rate of take and the volume of water respectively to be calculated in accordance with the method in Schedule 10A.4 as a condition for a controlled activity status. Failure to meet one or more of the conditions results in the activity being treated as a non-complying activity. This is inappropriate and unreasonable given that the Schedule’s application to hydro-electricity generation activities is misplaced and as a result it is likely a non-complying activity status will by default apply to hydro-electricity generation activities.
- 7.3 As set out above in relation to comments on reductions in water abstraction and averaging of takes, the schedules apply an approach which is not appropriate to hydro-electricity generation activities which require a maximum take to continue to apply to ensure reliability of supply. For hydro-electricity generation activities, the approach should be to limit the replacement consent to the maximum consented rate and volume rather than seek to reduce the volume or rate of take from the existing situation.
- 7.4 In addition, Schedule 10A.4 is inappropriate in its application to hydro-electricity generation because:
- a) 10A.4.1(4)(a)-(c) – require the exclusion from rate of take limit calculations of abstracting above the consented rate of take (10A.4(4)(a)), errors caused by faulty equipment (10A.4(4)(b)), and abstraction rates that are high due to natural events such as floods (10A.4(4)(c)). However, flood events are natural events and should not be removed from the calculations, and 10A.4(4)(a) and 10A.4(4)(c) would likely be triggered during flood events because of the high hydraulic head conditions and without the equipment being faulty. From a hydrological perspective, these events should be rounded down to the maximum consented rate and included in the calculations.
 - b) The calculations in 10A.4.1 – 10A.4.4 do not consider:
 - i. Original design parameters and capacities considered when initially developing the hydro-electricity power scheme;
 - ii. Potential climate change effects including predicted changes in seasonality and increased frequency of hydrological extremes; or
 - iii. Opportunity cost of reduced generation as a result of potential reduction in the maximum consented take.
- 7.5 These issues can be resolved by continuing to limit schedules 1-4 to apply to irrigation takes only and having no schedule applied to hydro-electricity generation activities. Should the decision makers be of the view that a schedule is necessary, a separate schedule has been prepared which would appropriately apply to hydro-electricity generation activities and is included in Appendix One.

8.0 Conclusion

- 8.1 Trustpower seeks the relief sought above and as detailed in Appendix One, and/or alternative or consequential relief giving effect to the concerns raised in this submission.
- 8.2 Trustpower could not gain an advantage in trade competition through this submission. Trustpower wishes to be heard in support of its submission.
- 8.3 If others make a similar submission, Trustpower may consider presenting a joint case with them at any hearing.

Appendix One: Summary of changes sought

Section of PC7	Relief sought (additions underlined and deletions strikethrough)
Objective	<p>10A.1.1 Transition toward the long-term sustainable management of surface water resources in the Otago region by establishing an interim planning framework to manage new water permits, and the replacement of deemed permits and water permits to take and use surface water (including groundwater considered as surface water) where those water permits expire prior to 31 December 2025, until the new Land and Water Regional Plan is made operative.</p> <p><u>Surface water resources in the Otago region are managed and long-term sustainable management of these resources is enabled, by establishing an interim planning framework to manage the replacement of deemed permits, and water permits to take and use surface water that expire prior to 31 December 2025, in the period until the new Land and Water Regional Plan is made operative, while recognising the importance of hydro-electricity generation within the Region.</u></p>
Policies	<p>10A.2.1 Irrespective of any other policies in this Plan, avoid granting <u>Enable</u> resource consents that replace deemed permits, or water permits to take and use surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) where those water permits expire prior to 31 December 2025, except where:</p> <p>(a) The deemed permit or water permit that is being replaced is a valid permit <u>was legally authorised and has been exercised over the previous 5 years; and</u></p> <p>(b) For consents to take and use water for irrigation:</p> <p style="padding-left: 40px;">(i) <u>(i)</u> There is no increase in the area under irrigation, if the abstracted water is used for irrigation; and</p> <p style="padding-left: 40px;">(e) <u>(ii)</u> There is no increase in the instantaneous rate of abstraction; and</p> <p style="padding-left: 40px;">(d) <u>(iii)</u> Any existing residual flow, minimum flow or take cessation condition is applied to the new permit or where no residual / minimum flow condition is currently applied, one is set in the replacement consent; and</p> <p style="padding-left: 40px;">(e) <u>(iv)</u> There is a reduction in the volume of water allocated for abstraction; <u>or</u></p> <p><u>(c) The consents relate to the take and use water for the purpose of hydro-electricity generation.</u></p> <p>10A.2.2 Irrespective of any other policies in this Plan concerning consent duration, only grant new resource consents for the take and use of water <u>for irrigation</u> for a duration of no more than six years.</p> <p><u>10A.2.3 Enable new resource consents that replace deemed permits, or water permits to take and use surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) where those water</u></p>

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	<p><u>permits expire prior to 31 December 2025, for regionally significant infrastructure or hydro-electricity generation.</u></p> <p>10A.2.34 Irrespective of any other policies in this Plan concerning consent duration, only grant <u>Avoid granting any</u> new resource consents that replace deemed permits, or resource consents that replace water permits to take and use surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) <u>for the purpose of irrigation</u>, where those water permits expire prior to 31 December 2025, for a duration of no more than six years, except where Rule 10A.3.2.1 applies and:</p> <p>(a) The activity will have no more than minor adverse effects (including no more than minor cumulative effects) on the ecology and the hydrology of the surface water body (and any connected water body) from which the abstraction is to occur; and</p> <p>(b) The resource consent granted will expire before 31 December 2035.</p>
Rules	<p><u>Irrigation Activities</u></p> <p>10A.3.1.1 Despite any other rule or rules in this Plan; <u>the take and use of surface water for the purpose of irrigation where:</u></p> <p style="padding-left: 40px;">a) any activity that is currently authorised under a Deemed Permit; or</p> <p style="padding-left: 40px;">b) the take and use of surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) that is currently authorised by an existing water permit where that water permit expires prior to 31 December 2025;</p> <p>is a <i>controlled</i> activity provided the following conditions are met: ...</p> <p><u>Hydro- electricity generation activities /regionally significant infrastructure</u></p> <p>10A.3.1.2 Despite any other rule or rules in this Plan, <u>the take and use of surface water for the purpose of hydro-electricity generation or regionally significant infrastructure where:</u></p> <p style="padding-left: 40px;">a) <u>any activity that is currently authorised under a Deemed Permit; or</u></p> <p style="padding-left: 40px;">b) <u>the take and use of surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) that is currently authorised by an existing water permit where that water permit expires prior to 31 December 2025; and</u></p> <p><u>is a controlled activity provided the following conditions are met:</u></p> <p style="padding-left: 40px;">(i) <u>The deemed permit or water permit was legally authorised and has been exercised over the previous 5 years; and</u></p> <p style="padding-left: 40px;">(ii) <u>The rate of take and volume of water sought shall be no more than the existing authorized rate of take; and</u></p>

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	<p><u>(iii) Any existing residual flow, minimum flow, or take cessation condition (whichever is applicable) is included in the application for resource consent.</u></p> <p><u>The Council reserves control over the following matters:</u></p> <p><u>(a) Intake method and flow rate controls to avoid or mitigate fish entrainment and provision for fish passage; and</u></p> <p><u>(b) The volume and rate of water taken, dammed, discharged or diverted, and the timing and frequency of the take or damming or diversion or discharge; and</u></p> <p><u>(c) The rules or operating procedures of any relevant water allocation committee that exists for the catchment; and</u></p> <p><u>(d) Minimum flow, residual flow or take cessation conditions; and</u></p> <p><u>(e) Review conditions; and</u></p> <p><u>(f) Compliance monitoring; and</u></p> <p><u>(g) The point and method of measurement and the method for transmitting recorded data to Council.</u></p> <p><u>Pursuant to sections 95A and 95B of the RMA, an application for resource consent under this rule will be processed and considered without public or limited notification. Limited notification to affected order holders in terms of section 95F of the RMA will be necessary, where relevant, under Section 95B(3) of the RMA.</u></p>
	<p><u>10A.3.2 Discretionary activity: Resource consent required</u></p> <p><u>10A.3.2.1 Despite any other rule or rules in this Plan:</u></p> <p><u>a) any activity that is the replacement of an activity authorised under a Deemed Permit; or</u></p> <p><u>b) the take and use of surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) that is the replacement of a take and use authorised by an existing water permit where that water permit expires prior to 31 December 2025;</u></p> <p><u>that does not meet any one or more of the conditions of or Rule 10A.3.1.2 is a discretionary activity.</u></p>
	<p><u>10A.3.23 Non-complying activity: Resource consent required</u></p> <p><u>10A.3.23.1 Despite any other rule or rules in this Plan:</u></p> <p>a) any activity that is the replacement of an activity authorised under a Deemed Permit; or</p> <p>b) the take and use of surface water (including groundwater considered as surface water under policy 6.4.1A (a), (b) and (c) of this Plan) that is the replacement of a take and use authorised by an existing water permit where that water permit expires prior to 31 December 2025;</p>

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	that does not meet any one or more of the conditions of Rule 10A.3.1.1 is a non-complying activity.
Schedules	<p>The primary relief sought is that there be no schedule that applies to hydro-electricity generation activities.</p> <p>The alternative relief sought is that an additional schedule be inserted as follows:</p> <p><u>10A.5 Schedule: Methodology for calculating assessed actual usage for surface-water takes for hydro-electricity generation purposes</u></p> <p><u>10A.5.1 Methodology for calculating ‘Rate of Take Limit’</u></p> <p><u>The ‘Rate of Take Limit’ (litres per second – L/s) shall be determined by calculating the Average Maximum of the actual rate taken. In order to achieve this, the actual rate taken across the hydrological year (1 July to 30 June) will be analysed to determine the maximum rate taken at any time during that year. The maximum rate taken in each hydrological year will then be summed and divided by the number of years analysed.</u></p> <p><u>Methodology</u></p> <p><u>(1) Where a water meter records the volume of water taken over a fixed period of time, the rate of take will be calculated by converting the volume taken in litres by the interval recorded by the meter. For example, 10 m³ taken over a 15-minute period will equate to a rate of take of 11.11 L/s.</u></p> <p><u>(2) Any measurement that is at or below 0 L/s will be removed.</u></p> <p><u>(3) Any measurement that exceeds the authorised (consented) rate is rounded down to the authorised rate.</u></p> <p><u>(4) Hydrological years for inclusion in the 'maximum rate of take' calculation must:</u></p> <ul style="list-style-type: none"> <u>i) Be no drier than 75% probability of exceedance (i.e. P75 or wetter); or</u> <u>ii) Contain no greater than 10% cumulative scheme outages.</u> <p><u>(5) Errors caused by faulty equipment shall be removed from the data and not considered further.</u></p> <p><u>(6) The margin of error to be applied to any calculation will be either 5% or 10% depending on:</u></p> <ul style="list-style-type: none"> <u>a) the margin of error specified in any consent or permit being replaced, or</u> <u>b) the results of the last verification presented to the Otago Regional Council, or</u> <u>c) the margin of error specified by the meter’s manufacturer.</u>

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	<u>(7) The maximum rate taken in each water year will be summed across the hydrological years analysed and divided by the number of hydrological years analysed.</u>
General	In addition, Trustpower seeks any such other relief that addresses Trustpower's submission and/or is consequential to making the above amendments.