BEFORE A PANEL APPOINTED BY THE MINISTER FOR THE ENVIRONMENT

UNDER The Resource Management Act 1991 (RMA)

IN THE MATTER of a draft national policy statement for freshwater management and proposed national environmental standards for freshwater

LEGAL SUBMISSIONS ON BEHALF OF

MERIDIAN ENERGY LIMITED

31 OCTOBER 2019

Solicitor acting:

Counsel acting:

Personal details

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In-house counsel

Project Barrister
MAY IT PLEASE THE PANEL

Introduction

1 Meridian Energy Limited (Meridian) is a publicly listed mixed ownership model company majority-owned by the New Zealand Government, and is the country’s largest producer of electricity. 100% of the electricity generated by Meridian in New Zealand is from renewable resources – hydro and wind. Meridian welcomes the opportunity to make a submission on the Government’s “Action for Healthy Waterways” programme and its accompanying Draft National Policy Statement for Freshwater Management (DNPS) and Proposed National Environmental Standards for Freshwater (PNES), both dated September 2019.

2 While it is clear that the primary drivers behind the Government’s desire to strengthen national direction around the management of freshwater are concerns with the effects that land use changes and urbanisation are having on water quality, the Government’s proposal also seeks to provide direction on the importance of protecting the generation output and flexibility of New Zealand’s largest nationally important hydro electricity generation assets in order to assist in meeting national climate change objectives. I submit this is a proper matter for inclusion in a national policy statement.

3 Meridian considers it essential that provision be made to protect the renewable electricity contribution of large hydro, and the main focus of this submission is on ensuring that provision is clear and effective.

4 The need to protect large hydro is driven by its importance as both our largest source of renewable electricity and as our principal means of fuel storage and flexibility in the electricity system.

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1 Approximately 90% of Meridian’s electricity generation comes from its two hydro schemes - Waitaki and Manapouri, with the remaining 10% from its 5 wind farms – Te Uku (Raglan); Te Apiti (Manawatu); Mill Creek and West Wind (Wellington) and White Hill (Southland)

2 Section 45(2) of the RMA identifies a range of matters the Minister may have regard to when considering whether it is desirable to prepare a national policy statement. The list includes "(b) New Zealand’s interests and obligations in maintaining or enhancing aspects of the national or global environment”, and "(g) anything which, because of its uniqueness, or the irreversibility or potential magnitude or risk of its actual or potential effects, is of significance to the environment of New Zealand."

3 The ability to store water in lakes provides essential flexibility and security in the electricity system, allowing generation to be matched to demand across different timescales; ensuring the electricity system remains stable; and providing the means to balance growth in intermittent renewable generation sources – especially wind and hydro.
5 In addition to submitting on the specific provision made for large hydro, Meridian also wishes to address other aspects of the DNPS and PNES that impact on the operation, maintenance and enhancement of large hydro.

6 This submission is supported by affidavit evidence from the following deponents:

   a. Mr Personal – Meridian’s Chief Executive
   b. Mr Personal details – Meridian’s Head of Environment
   c. Dr Personal – an ecologist with expertise in freshwater and water quality issues with experience in both the Waitaki and Manapouri/Waiau catchments
   d. Ms Personal – a resource management planner with experience in both the Waitaki and Manapouri/Waiau catchments

**Climate change and the importance of hydro generation**

7 Climate change represents an increasingly clear threat to our individual and collective wellbeing, with potentially far-reaching consequences that will impact present and future generations in myriad ways. It demands action both now and into the future, and in my submission is clearly a matter of national significance.

8 Responding to climate change by decarbonising our economy is a key national policy objective, and one which reaches across the spectrum of New Zealand politics. There is broad agreement on the need to take action now, and in the future, to significantly reduce New Zealand’s contribution to human-induced climate change.

9 Numerous examples of a national commitment to positive actions to address climate change exist. They include the current government target to have 100% of electricity generated from renewable resources in an average hydrological year by 2035; the establishment of the Climate Change Commission; the enactment of the Climate Change Act 2002; and the introduction and passage of the Climate Change Response (Zero Carbon) Bill to implement New Zealand’s international commitment under the Paris Agreement to net zero carbon emissions by 2050.

10 The generation of increasing amounts of electricity from renewable sources (both in proportional and absolute terms) is an important aspect of our response to climate change, and to an extent this is already reflected in another national instrument under the RMA, the National Policy Statement for Renewable

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4 For example, increased natural hazard risks as a consequence of more extreme weather and rising sea level. The management of significant risks from natural hazards is a matter of national importance that must be recognised and provided for in decision-making under the RMA pursuant to section 6(h)
Electricity Generation 2011 (NPS-REG)\(^5\), although in my submission there is a need to be more explicit in how the importance of renewable energy is to be reflected in the freshwater environment – something the DNPS seeks to address.

11 The current makeup of New Zealand’s electricity generation capability is described in the evidence of Meridian’s Chief Executive, [Personal details removed]. Mr Person also addresses the projections for growth in electricity demand, and the critical role that the existing large hydro schemes will play in meeting that demand as existing flexible thermal generation is retired and new renewable generation is dominated by intermittent sources with little flexibility.

12 At present, around 85% of New Zealand’s electricity is generated from renewable resources\(^6\). The percentage is trending upwards and is expected to exceed 90% within the next 15 or so years\(^7\). The largest source of renewable electricity is hydroelectric generation, accounting for around two-thirds of renewable electricity generation, and 50-60% of total electricity generation. As Mr Person states in his evidence by reference to the World Energy Council Trilemma Index, New Zealand’s electricity system ranks very highly in a global context for its Equity (Cost and Affordability), Security and Sustainability. New Zealand’s ability to reliably, economically, and flexibly generate large amounts of electricity from our hydro schemes is a major part of the overall electricity system’s strength.

13 The vast majority of this hydro generation comes from just a handful of catchments. More than half of our hydroelectricity comes from the two catchments in which Meridian operates hydro schemes – the Waitaki catchment in South Canterbury and the Manapouri/Waiau catchment in Southland.

14 The combined generation output from these two catchments, together with the next 4 largest schemes, typically accounts for over 90% of total hydroelectricity generation as shown in the following graph taken from Mr Person’s evidence.

\(^{5}\) The NPS-REG identifies as matters of national significance to which it relates:
- The need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand; and
- The benefits of renewable electricity generation.

  - Hydro – 50-60%
  - Geothermal – 17%
  - Wind – 5%
  - Coal, gas and thermal (non-renewable) – 12-21%

\(^{7}\) Interim Climate Change Committee (2019) *Accelerated electrification*, pg. 97
15 In his evidence, Mr Person describes the role that large hydro schemes play within the electricity system, both in terms of energy contribution and the flexibility that storage enables.

16 These schemes are non-substitutable. To replace the generation output of Meridian’s two hydro schemes with wind generation would require the construction of multiple new wind farms. Assuming the average size of new wind farms was similar to Meridian’s existing wind farms, and ignoring the intermittent nature of wind generation, something in the order of 40-50 new wind farms would need to be built and linked to the National Grid.

17 As Mr Person highlights however, the contribution large hydro makes is much more than can simply be measured by counting installed MW or GWh of electricity produced. The ability to store water, and thereby adjust generation patterns to meet demand and to enable fuel (water) to be conserved by reducing generation flows at times when intermittent renewable generation (particularly wind, but in the future solar also) is available to meet demand, is invaluable. The flexibility that comes with the ability to store water makes hydro unique amongst existing renewable generation technologies.

18 Critically, a reduction in flexibility of our major hydro schemes would need to be offset by using thermal generation. Given the direction of travel is firmly away from thermal electricity generation I submit such an outcome needs to be avoided.
Draft National Policy Statement – Provision for Large Hydro

19 The DNPS at Part 3, Subpart 4, clause 3.22 is set out below:

3.22 Exception for large hydro schemes

(1) This section applies to the following 6 hydro-electricity generation schemes (referred to as Schemes):

a) Waikato Hydro Scheme;
b) Tongariro Power Scheme;
c) Waikaremoana Power Scheme;
d) Waitaki Hydro Scheme;
e) Manapouri Power Scheme;
f) Clutha Hydro Scheme.

(2) When setting limits or developing action plans, and when making plan changes required by this National Policy Statement, regional councils must have regard to the importance of not adversely impacting the generation capacity, storage and operational flexibility of a Scheme.

(3) Regional councils may accordingly set target attribute states that are below national bottom lines in respect of waterbodies or freshwater ecosystems that are adversely impacted by structures that form part of any Schemes, to the extent of such an impact.

(4) Despite subclause (3), regional councils must still set target attributes states that, to the extent possible, improve any waterbody or freshwater ecosystem affected by any Scheme.

(5) Subclause (1) only applies to structures that were first operational as part of any Scheme on or before 1 August 2019, including any subsequent maintenance, repair or like for like replacement works.

20 The Interim Regulatory Impact Analysis for Consultation: Essential Freshwater (IRIA) discusses the topic of providing for hydro-electricity generation. The IRIA discusses the existing NPS-FM’s provision for significant infrastructure (including hydro generation infrastructure) in Policy CA3, and recognises that this Policy has been ineffective as it relies upon the identification and listing of specific existing infrastructure in Appendix 3 – a process that has never been completed.

21 In assessing options for how to provide for hydro-electricity generation the IRIA states that “[T]he desired outcome is that regional councils are able to secure the benefits derived from existing infrastructure, and can balance national and regional benefits while working towards achieving desired outcomes over time. The primary benefits derived from hydro-electricity generation infrastructure are security of New Zealand’s electricity supply, and renewable electricity generation.”

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8 Interim Regulatory Impact Analysis for Consultation: Essential Freshwater Part II: Detailed Analysis, Appendix 10, pages 207-217
9 Ibid, page 209
22 The IRIA goes on to state that in selecting a preferred option the objectives are to “Ensure that the existing ambiguity is resolved. Strike an appropriate and sustainable balance between the competing interests of New Zealand’s climate change obligations and the maintenance and improvement of freshwater quality and ecosystem health around New Zealand.”

23 The wording of 3.22 is intended to assist regional councils strike a sustainable balance between these two matters of national significance - managing freshwater and protecting renewable electricity generation as part of the response to climate change. In effect, in order to secure the benefits to New Zealand of our six largest hydro schemes, it is intended to be an unambiguous statement that existing freshwater outcomes resulting from those schemes may be deemed to be appropriate, with improvement only being required if generation outcomes are not compromised. For implementation purposes, 3.22 has both wide (3.22(2)) and attribute state specific (3.22(3) and (4)) applications in the architecture of the DNPS.

24 In my submission, the intent behind the proposed wording of 3.22 is a positive step toward resolving the ambiguity that exists in the provision for significant infrastructure in the existing NPS-FM. This overcomes the difficulty that is caused because Appendix 3 of the current NPS-FM is empty, arguably exacerbated by the preamble of the NPS-REG.

25 The proposal is also positive in the sense that it narrows and focuses the scope of any infrastructure ‘exception’ to just New Zealand’s largest and most important existing hydro generation infrastructure. I submit that the narrowing of the permissible scope of any exceptions in this way is consistent with the stated objective of striking a balance between addressing New Zealand’s climate change obligations – to which the large hydro schemes make a major contribution – and addressing the maintenance and improvement of freshwater quality and ecosystem health around all of New Zealand.

26 I submit however that to better strike the desired balance between the potentially competing national interests of meeting New Zealand’s climate change obligations, and maintaining and improving freshwater quality and ecosystem health, some amendments to 3.22 and other related provisions should be made.

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10 *idem*
11 This national policy statement does not apply to the allocation and prioritisation of freshwater as these are matters for regional councils to address in a catchment or regional context and may be subject to the development of national guidance in the future. (pg 3).
These recommended changes are set out in Meridian’s submission, and are discussed in the planning evidence of Personal.

27 As a preliminary point, I note that clause 3.1 provides an overview of Part 3 of the DNPS and records that Part 3 sets out what local authorities must do to implement the DNPS’s objective and policies.

28 In my submission, and as set out in Personal planning evidence, it is not clear that an appropriate policy foundation has been provided in Part 2 of the DNPS to support clause 3.22’s provision for large hydro-electricity generation. As the IRIA notes12 the purpose of clause 3.22 is to enable an appropriate balance to be struck between the potentially competing national values of responding to climate change on one hand, and maintaining and improving freshwater quality and ecosystem health on the other.

29 I submit that managing freshwater as part of New Zealand’s integrated response to climate change should be added as a new Policy at 2.2 of the DNPS. While the importance of managing freshwater for this purpose is implicit in the proposal to include clause 3.22 in the DNPS, I agree with Personal opinion that this should be made explicit. Personal proposes wording for a new Policy in this regard and I adopt her suggestion.

30 Consideration has been given by Personal to whether a new Policy about managing freshwater as part of New Zealand’s response to climate change can sit under the DNPS’s currently worded Objective (clause 2.1). In her opinion it can, and I agree. The Objective sets out to ensure that in making decisions concerning freshwater, priorities are observed – first to the needs of the waterbody; second to the essential health needs of people; and third to the needs of people and communities to provide for their social, economic, and cultural wellbeing. The objective is, quite properly, not expressed in absolute terms. Rather it requires that higher ranking factors are considered in priority to lower ranking factors. The Objective does not say that freshwater must be managed so that the health and wellbeing of a waterbody and its ecosystems are maximised, and only after that can decision-makers consider essential health needs and the ability of people and communities to provide for their social, economic and cultural wellbeing.

31 Rather, the Objective enables decision-making to proceed having regard to the circumstances that apply in a region, freshwater management unit, or waterbody, but directs that such consideration must observe the stated priorities. Ultimately

12 Idem, fn 9
an integrated decision that promotes the sustainable management purpose of the RMA must still be made.

32 The Policies (clause 2.2) and the ways these are implemented (Part 3) also reflect the fact that the extent to which a priority consideration in the Objective is attained before the next priority is considered will be a matter for determination as the various decision-making processes that are required in order to give effect to the DNPS-FM’s requirements are undertaken.

33 Turning to the wording of proposed clause 3.22 I note the following:

   a. Clause 3.22 applies only to the 6 largest hydro-electricity schemes in the country. As noted in Mr [Personal] evidence and as referred to earlier in these submissions, these 6 schemes together account for in excess of 90% of hydro generation and for the vast majority of hydro storage. While there are a significant number of smaller schemes in other catchments throughout New Zealand, and these all have a role to play and make a contribution to renewable electricity supply, in reality it is the output from and storage flexibility associated with the largest schemes that justifies special provision being made. In the final analysis there is simply a choice to be made as to where the line should be drawn for inclusion within the ‘exception’. A case could be made for extending the provision to the 7 largest schemes, or equally a case could be made for limiting the provision to the 5 largest schemes. I submit that the Government’s proposal to draw the line where it has is reasonable and appropriate. As the cumulative bar graph at paragraph 14 of these submissions and at paragraph 57 of Mr [Personal] evidence shows, at about this point on the graph is a point of inflection where the additional contribution of the next largest schemes makes a much smaller contribution to the overall amount of hydroelectricity produced.

   b. Clause 3.22(2) as presently drafted is both specific and general in its application. It applies to regional councils when setting water quality and quantity limits\textsuperscript{13}, when preparing action plans\textsuperscript{14} (relating to Appendix 2B), and more generally when making plan changes. As proposed, regional councils ‘must have regard to” not adversely impacting generation capacity, storage and operational flexibility.

   c. Clause 3.22(3) contains a specific proposed ‘exception’ in relation to attribute state national bottom lines. It says that councils can lawfully set target

\textsuperscript{13} See the definition of ‘limit” in Section 1.6 Definitions of DNPS (pg. 4)

\textsuperscript{14} Found in Clause 3.10(2) in relation to the attributes set out in Appendix 2B
freshwater attribute states below a national bottom line where existing water quality is worse than that bottom line, and where the cause of the lower water quality can be attributed to one of the 6 listed hydro schemes. Even in those circumstances Clause 3.22(4) still requires councils to set target attribute states so as to improve water quality to the extent that it is possible to do so.

d. The evidence of Dr Person is that in the Waitaki and Manapouri catchments affected by the hydro schemes operated by Meridian, the available water quality information indicates that the operation of the Manapouri and Waitaki schemes is not the cause of water quality being worse than national bottom lines in the DNPS. Rather the available scientific information suggests:

i. Land uses unconnected to hydroelectric generation contribute nutrients, suspended solids and pathogens which impact ecosystem health and human health for contact recreation;

ii. Hydro generation does not contribute significant levels of nutrients, suspended solids and pathogens into the waterbodies in which the schemes are located;

iii. Contrary to the unsubstantiated assertions of some stakeholders, particularly in the Waiau/Manapouri catchment, there have been no significant changes in the way the hydro schemes operate that can be linked to water quality deterioration, and no evidence from water quality monitoring to support the assertion that there have been significant deteriorations in water quality that can reasonably be attributed to the operation of the hydro generation schemes15;

iv. Reduced flows downstream of hydro infrastructure as a result of storage and/or diversions for generation can result in in-river concentrations of contaminants from other sources being greater than they would otherwise be, but most of the significant contaminant loses to water in the hydro catchments have been established after the hydro schemes and resulting changes in river flows were established;

v. Altered flows resulting from hydro infrastructure can cause contaminant transport and deposition patterns to be different from what they would otherwise be, but altered flows do not change the overall volumes (e.g. tons of nutrients) that enter waterbodies as a result of other activities;

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15 See the evidence of Dr Person at paragraph 47 for the Waiau (in particular paragraph 47(d)) and paragraph 56 for the Waitaki and Mr Person at paragraphs 32-40.
vi. Altered flows resulting from hydro infrastructure can also affect matters such as bedload transport and geomorphological processes;

vii. In the Waitaki catchment a significant factor affecting the ability of waterbodies to meet proposed national bottom lines is the natural presence of glacial flour – very fine rock particles that derive from glacier melt and which remain in suspension in the catchment’s lakes and rivers;

viii. In both the Waitaki and Waiau/Manapouri catchments the invasive pest periphyton species didymo\textsuperscript{16} is present. This species was not introduced by the hydro schemes, and the view of the scientists is that didymo would still be a problem in these systems even if the hydro schemes were absent. Didymo does not behave like other periphyton and tends to thrive in cool, low nutrient waters that would generally be described as having good water quality.

34 Dr Person\textsuperscript{17} evidence recommends a number of notes or exceptions be included in the relevant attribute tables to account for those waterbodies where glacial flour and didymo are present. These recommendations are included in Meridian’s submission and discussed by Personal\textsuperscript{18} in her planning evidence\textsuperscript{17}. Personal\textsuperscript{18} also proposes an explicit exemption in the text of the DNPS to account for waterbodies infested with didymo, as it is not clear that this pest species and its impacts on water quality come within the “naturally occurring processes” exception in clause 3.23. Provided these suggestions are adopted I submit that, at least as far as the two largest hydro catchments are concerned – Waitaki and Waiau/Manapouri, the ‘exception’ in clause 3.22(3) is unlikely to be immediately relevant to water quality in these catchments, and because no significant changes to the way the Schemes operate and manage water are proposed, Meridian does not expect that it will become relevant to water quality in the near future.

35 In contrast, clause 3.22(2) is of immediate relevance, and in my submission should be strengthened in order to better ensure the balance the Government seeks is struck, and that the vital role the large hydro schemes play in contributing to New Zealand’s climate change response is assured.

36 Personal\textsuperscript{18} notes in her evidence that 3.22(2) is not really an exception, and she therefore recommends a change to the heading of the provision relating to large

\textsuperscript{16} Didymosphenia geminata, also known colloquially as “rock snot”

\textsuperscript{17} Evidence of Personal\textsuperscript{18}, paragraphs 67-91
hydro. In my submission the change she recommends is an improvement to the document.

37 There are three matters in clause 3.22(2) that need to be addressed:

a. Providing further clarity around the circumstances when the provision is to apply;

b. The implication of regional councils only having to “have regard to” the importance of the listed schemes and their contributions;

c. The reference to generation “capacity” rather than “output”.

**Clarifying when clause 3.22(2) will apply**

38 [Personal details removed] suggests that the introductory words to the clause be amended to make it clear that it is intended to apply generally to the exercise of regional council functions in the setting of freshwater policy. She proposes that the introductory words be amended to read “When setting limits, environmental flows and levels or developing action plans, and when making plan changes required by this National Policy Statement…”. I submit her suggested amendment adds clarity and should be adopted.

**“Have regard to” and the need for stronger direction**

39 In my submission the requirement to “have regard to” the importance of not making freshwater management decisions that adversely impact on the contribution of the major hydro schemes is less directive than it needs to be given the national importance of responding to the challenge of climate change.

40 The phrase “have regard to” as it is used here will likely have the same meaning\(^\text{18}\) as the phrase “have particular regard to” has where it is used in section 7 of the RMA, even though the word ‘particular’ is not included. Section 7 addresses “other matters” – being matters that are generally less important than matters of national importance in section 6 which decision-makers must “recognise and provide for”.

41 I submit that in the present context the pressing need to address climate change through the protection of the contribution of New Zealand’s critically important major hydro generation infrastructure must be given more emphasis. To “have regard to” something requires a decision-maker to do no more than genuinely

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\(^{18}\) Marlborough Ridge Ltd v Marlborough DC (1997) 3 ELRNZ 483
consider the matter. It does not establish any absolute requirement or standard.\textsuperscript{19} There is nothing to prevent a decision-maker determining that in a particular circumstance a matter to which they are required to have regard should be given very little weight, and nothing to prevent a decision being made which simply fails to provide for a matter a decision-maker has to have regard to, provided the decision maker can say they have turned their mind to the matter.

42 The challenge that needs to be addressed in the present context must not be lost sight of. The task is to ensure that an appropriate and sustainable balance is struck between the management of freshwater quality and ecosystem health, and meeting our climate change responsibilities and imperatives. I submit that the latter imperative – addressing climate change – is clearly a matter of national interest. Management of freshwater for the purpose of maintaining and improving water quality, while having aspects of national interest (such as protecting threatened species) is much more amenable to being seen as a matter of regional interest. In my submission a reason for the inclusion of 3.22 in the DNPS is to place special emphasis on the critical role played by one part of the nation’s renewable electricity generation portfolio – the large hydro schemes – and in so doing to recognise that so far as those schemes and their contribution is concerned they are not merely matters to have regard to – even though in a wider sense the present drafting of the RMA sees the effects of climate change generally and the benefits to be derived from the use and development of all renewable energy (of all types and scales) as matters councils must have particular regard to under section 7.

43 Because the different objectives can be best understood at different scales (i.e. national versus local), and because decisions on freshwater management to give effect to the DNPS-FM are made at a local level, I submit clearer direction is needed to ensure that the national interest in the protection of the contribution of the large hydro schemes is not able to be eroded by decisions taken in the regional interest.

44 This concern is not theoretical. As discussed in Mr\textsuperscript{19} evidence, in the context of the Proposed Southland Water and Land Plan (pSWLP) a panel of independent commissioners heard submissions on the pSWLP and made recommendations to the Southland Regional Council (SRC) on the wording of the document. The SRC adopted those recommendations in its decision. One of the recommendations was that in view of the national significance of the Manapouri Hydro Scheme a rule be included in the pSWLP making an application for

\textsuperscript{19} Donnithorne v Christchurch CC [1994] NZRMA 97
replacement consents for the scheme a controlled activity, where the application
was replacing like-for-like and adhered to the environmental flow requirements to
be set in the regional plan following completion of the processes set out in the
SRC’s progressive implementation programme pursuant to the existing NPS-FM.

45 The inclusion of that rule (along with many other provisions of the pSWLP) has
been appealed by a number of parties. The SRC has subsequently resolved not
to support its own decision in relation to the rule and instead intends to abide the
decision of the Environment Court. Mr Personal regards this as an example of a
situation where decisions taken in the local or regional interest can erode
decisions taken in the national interest, in this case notwithstanding the fact that
the Southland Regional Policy Statement explicitly recognises the national
significance of the MPS20. Given what is at stake I submit that clause 3.22(2) of
the DNPS-FM should be amended to ensure that in relation to the large hydro
schemes the national interest in protecting their contribution is appropriately
articulated so it is not able to be eroded by decisions taken at a local or regional
level.

46 Such an approach, whereby regional councils are constrained in what they might
otherwise be able to consider is not novel, and is expressly recognised as being
a legitimate component of a national policy statement21.

47 What is required in my submission is clear and directive wording that requires
regional councils to manage freshwater in a way that does not adversely impact
on the renewable energy contributions of the major hydro schemes. Personal
has recommended a change to the proposed wording for this purpose. In my
submission her suggested change is appropriate. It is included in Table I and in
her evidence, and involves simply deleting the words “...have regard to the
importance of..” so that the direction is clear and certain. Regional councils must
not adversely impact the contribution of the major hydro schemes.

48 The important point to be made about Personal suggested wording is that it
constrains regional councils by requiring that when exercising their functions
under the Act they not make decisions that would have the effect of reducing the

20 See for example Policy WQUAN.3 of the operative Southland Regional Policy Statement which directs the
Southland Regional Council to “Recognise the finite nature of water resources and catchments and identify
management regimes in accordance with the National Policy Statement for Freshwater Management 2014 that:

... (h) recognise the need for continued availability of water to enable the Monowai and nationally significant
Manapōuri hydro-electricity power generation activities in the Waiau catchment to continue, and be
enhanced where over-allocation will not occur.”

21 Section 45A(2)(d) RMA
generation output, storage and operational flexibility of one of the listed hydro schemes. The change suggests does not otherwise constrain what Councils may do, and in that regard suggests further wording to make it clear that where the large hydro schemes are having adverse effects on the environment there is no impediment in the NPS-FM to the regional council requiring mitigation or other measures to address such effects. The only proviso is that those mitigations or other measures not result in reductions in generation output, storage and operational flexibility.

49 In relation to this topic it is important to also point out to the Panel that the statutory context of the MPS is unique. The construction and ongoing operation of the MPS is authorised by special purpose enabling legislation – the Manapouri - Te Anau Development Act 1963 (“MTADA”). While Meridian must still obtain water and discharge permits under the RMA in relation to the use of water the structures themselves are authorised by MTADA and sit outside the RMA.

50 Further, pursuant to section 4A MTADA, Guidelines have been promulgated regarding management of the levels of Lakes Manapouri and Te Anau. The dual purpose of these Guidelines is to protect the shoreline and other values of the lakes and to optimise the energy output of the MPS. Meridian is required to operate the MPS to comply with the Guidelines as well as with the flow conditions set on its resource consents. The requirements of the Guidelines sit outside the RMA and impose real constraints on the storage and operational flexibility of the MPS. Any additional constraints imposed through changes to resource consents in the future – such as requirements to provide additional flow into the Lower Waiau River as a source of dilution to counter the effects on water quality of contaminants introduced by other activities – would need to be provided while still complying with the Guidelines. The consequence of this is that Meridian would have very little opportunity to provide different flows into the Lower Waiau River other than by directly reducing generation flows.

*Protecting generation output rather than generation capacity*

51 has recommended a change in wording in 3.22(2) to refer to not adversely impacting generation output rather than generation capacity. The point here is that what the provision is seeking to protect is the amount of renewable electricity the schemes produce – their generation output (usually measured in gigawatt hours) – and in my submission the clause should say that. Generation capacity is a related but different concept. Capacity refers to the amount of energy a scheme can physically produce, usually measured in megawatts, and refers
more to the physical, mechanical and electrical properties of the generation infrastructure itself (e.g. the number and size of the generators). While the physical infrastructure is important, I submit it is a secondary consideration in the present context. In any event, in the case of both the MPS and WPS, the physical infrastructure is largely protected via direct statutory authorisation (in the case of the MPS structures under MTADA) or via permitted activity rules or existing use rights. A reference in the DNPS to protecting the generation capacity of the schemes does not serve a particularly useful purpose.

Addressing the causes of water quality deterioration at source

52 At paragraphs 25-29 of her evidence Personal discusses the desirability of a new policy to provide a stronger focus for directing action when water quality deteriorates. Her suggestion is that a new Policy 3A be added to support proposed Policy 3 and to provide a stronger link to the implementation section of the DNPS, and to 3.14 in particular.

53 Personal suggested wording for this new policy is “When addressing water quality deterioration; and in taking action to address deterioration, priority be given to managing the source of any pollution causing the water quality deterioration”.

54 In my submission this is a useful addition as it makes clear that the first priority in addressing water quality problems should be to better manage the cause of the problem.

55 In the case of the Waitaki catchment, and even more so the Manapouri/Waiau catchment, as Mr Personal explains in his evidence, this is a very real issue that confronts Meridian. Without strong national direction it could lead to loses in generation output and flexibility from the schemes. The scale of these large schemes needs to be borne in mind. Even an apparently ‘small’ percentage reduction in generation output or flexibility could be significant, and could result in a reduction in contribution many times greater than the entire contribution of some of the nation’s smaller hydro schemes.

56 As Dr Personal explains in his evidence, water quality in the parts of the Waiau system that Meridian manages is high. The water that comes from Lakes Manapouri and Te Anau is largely free of nutrient enrichment, sediment losses from land, and pathogens. This is the water that discharges to the Lower Waiau River. There are however issues with the quality of the water in parts of the Lower Waiau River. As Dr Personal explains, these issues are not caused by the operation of the MPS. Rather, they are caused by nutrient, pathogen and sediment
contributions to the system from other activities unrelated to the operation of the MPS.

57 The issue Meridian confronts is that for some stakeholders the most palatable solution to the water quality problem in the Lower Waiau River is to require New Zealand to accept a reduction in generation output and flexibility of the MPS so that additional water can be discharged to the Lower Waiau River to dilute the contaminant concentrations in the river caused by intensive farming and other activities.

58 That would be, in my submission, a poor outcome. Not only would it fly in the face of the national interest in protecting the output and flexibility of the large hydro schemes, it also offends what, in my submission, is a fundamental underlying principle of our resource management system – that those who seek to undertake activities should in the first instance seek to do so in a way that does not result in adverse effects on the wider environment, and where that is not possible and the activity is nonetheless allowed to occur, the proponent must be responsible for mitigating those external effects.

59 It is unsound to ask party B to change its lawful activity to address a problem caused by party A. And yet, as Mr Personal explains, that is what is happening in the case of the MPS. As noted earlier, the water quality evidence does not reasonably attribute the causes of degradation in the Lower Waiau River to the operation of the MPS.

60 The addition of suggesting Policy 3A, while in the first instance motivated by Meridian’s experience in the Waiau catchment, is an expression of a widely-accepted and (usually) non-controversial proposition. The wording is reasonable, and suitable to be applied generally to the management of water quality deterioration. In my submission her suggestion should be adopted.

“Sensitive receiving environments” – Policy 4 and clause 3.4

61 Policy 4 and clause 3.4 deal with integrated management. They refer to “sensitive receiving environments” but this term is not explained or defined. In my submission it is unclear what is meant by that term, and how regional councils are supposed to behave differently than they otherwise would if the references to “sensitive receiving environments” was not included.

62 Personal provides a useful analysis of the references to the term “sensitive receiving environments” in the background documents. The use of the term is variable and inconsistent, and as presently expressed it is likely to cause problems
for council plan making. Personal recommends that the references be deleted, and I support her recommendation. That does not mean that regional councils can ignore the particular characteristics of an environment that may make it sensitive to change or lacking resilience. These are factors that must already be considered when establishing freshwater objectives and desired attribute states.

**Wetlands definition**

63 Personal identifies the importance of clause 1.7(2) of the DNPS which identifies the temporal application of the instrument. She notes however that definition of “natural wetland” could be clarified to provide certainty that the DNPS provisions that deal with wetlands are referring to wetlands that exist at the date the DNPS becomes operative. Personal suggests an appropriate amendment to the definition for this purpose and I support the wording she has provided. The issue is important for Meridian because the historical hydrological alterations as a result of the various dammings, diversions and flow regulation of the MPS and WPS have resulted in changes to some wetland values. Meridian wishes the DNPS to be clear that it is not seeking to somehow ‘turn the clock back’ in relation to these matters. To do so would not be possible while protecting the generation output, storage and flexibility of the schemes.

**Fish passage**

64 In his evidence Personal describes how with some of the major hydro infrastructure it is impossible or impractical to retro-fit or physically alter the structures to provide for passage upstream and downstream for fish. He explains how alternative methods to manage the requirements for fish to move upstream and downstream to spawn or complete their lifecycles is able to be provided successfully using alternative methods such as trap and transfer. Personal proposes some amendments to clause 3.17 of the DNPS to recognise this, and she makes some other minor changes to improve the clarity of the provision. In my submission these changes are appropriate.

**Appendix 1A Compulsory Values – Ecosystem Health**

65 There is an apparent inconsistency between the definition of the compulsory ecosystem health value and the temporal application of the DNPS that should be corrected in my submission. The reference at the end of the definition to appropriate indigenous aquatic life “as would be found in a minimally disturbed condition (before providing for other values)” is confusing and is likely to be problematic. Personal proposes this reference be deleted and I agree. The
ecological evidence is that a healthy aquatic ecosystem and a modified hydrological environment are not mutually exclusive, and the way the compulsory value is described, which equates ecosystem health to an unmodified environment is unrealistic and inconsistent with clause 1.7(2).

**PNES impacts on large hydro schemes**

66 In its current wording the PNES includes a number of provisions that will apply to the hydro schemes addressed in 3.22 of the DRPS. In my submission those provisions are not efficient in the sense that they will operate to undermine the protection afforded to the hydro schemes in the DRPS, and could lead to adverse impacts on the generation output, storage and flexibility of the schemes – the very outcome the inclusion of 3.22 is designed to avoid.

67 Meridian is concerned to ensure that the provisions in the PNES do not create an obstacle to the successful reconsenting of the WPS and MPS\(^{22}\) and do not impede necessary maintenance works that may be required from time to time to allow the schemes to continue to operate efficiently and safely.

68 The provisions of particular concern to Meridian include:

   a. Reg 10(1)(c) which makes General earth disturbance in or within 10m of a wetland a discretionary activity where it is for the purpose of maintaining or meeting the operational needs of an existing hydro scheme;

   b. Reg 16(1)(b) which makes the taking of water\(^ {23}\) that impacts on the water level of a wetland to meet the needs of an existing hydro scheme a discretionary activity;

   c. Reg 18(1)(d) which makes river bed infilling a discretionary activity if there are no practical alternative methods to enable the activity to take place.

69 As Personal and Personal explain in their evidence, these activities are core activities associated with the operation of the MPS and WPS. The essential damming and diversion of water to allow the schemes to operate inevitably involves hydrological changes to wetlands and the structures occupy the beds of rivers, which presumably is a form of ‘infilling’ although that term is not defined.

70 The reconsenting of the WPS’s major activities is currently subject to operative rules in the relevant Canterbury regional plans that accord those activities

\(^{22}\) The existing resource consents for the WS expire in 2025 and the existing resource consents for the MPS expire in 2031

\(^{23}\) Which includes taking, damming and diverting – Reg 15
controlled activity status provided the replacement is essentially on a like-for-like basis and complies with any operative environmental flow, level and water allocation regimes\textsuperscript{24}.

71 Similarly, the decision version of the new proposed Southland Water and Land Plan contains a rule\textsuperscript{25} making the reconsenting of the MPS a controlled activity. This rule, along with many provisions in the proposed plan, is currently subject to appeals in the Environment Court.

72 In the case of both the WPS and MPS the controlled activity rules require that applications made under the rules are publicly notified, and give the consent authorities the ability to impose conditions to mitigate adverse effects, provided that those conditions cannot interfere with established and operative environmental flows, levels and water allocations that have been set in the relevant regional plans. In this respect the existing rule framework in the relevant regional plans is consistent with the relief Meridian seeks in clause 3.22(2) of the DNPS. The PNES provisions described above are inconsistent with this. Of particular concern is the move from controlled to discretionary activity status for these core activities, and the fact that the PNES makes no distinction between the 6 major hydro schemes listed in the DRPS, and the many smaller hydro schemes throughout the country.

73 As the panel will appreciate, a key difference between controlled and discretionary activity status is that in establishing discretionary status for an activity a council (or in this case the government) is contemplating that there will be some circumstances in which consents will be refused. If there is no such possibility, I submit that reserving a discretion to decline an application is inefficient, and controlled status is to be preferred.

74 I submit that in the case of the 6 major hydro schemes listed in 3.22 of the DNPS, and certainly in the case of the two largest schemes – WPS and MPS - there is no prospect, given their national importance, that consents to allow the continued operation of the schemes would be declined.

75 While there appears to be no explicit provision in the RMA requiring national environmental standards to give effect to the provisions of relevant national policy statements, in my submission where two separate national direction instruments\textsuperscript{26}

\textsuperscript{24} Rule 15A in the Waitaki Catchment Water Allocation Regional Plan and Rule 5.125A in the Canterbury Land and Water Regional Plan
\textsuperscript{25} Rule 52A in the proposed Southland Water and Land Plan
\textsuperscript{26} National policy statements and national environmental standards as per section 46A(2) RMA
address the same or similar topics they should be integrated so that they can operate together to deliver the desired objectives.

76 The present context sees a new national policy statement and new national environmental standards for the management of freshwater being developed together and provides a unique opportunity to draft fully integrated national direction.

77 For the reasons set out earlier in these submissions and in the evidence of Meridian's witnesses I submit that clause 3.22 of the DRPS should be amended to direct that when setting limits, environmental flows and levels or developing action plans, and when making plan changes required by the DRPS regional councils must not act in ways that adversely impact the generation output, storage and flexibility of the identified schemes.

78 Assuming the Panel is minded to recommend that this change be made I submit it is important to consequentially amend the PNES to ensure its provisions do not have the potential to frustrate the DRPS’s intent with regard to securing the role the large hydro schemes play in addressing climate change. As presently drafted, by including core activities of the major hydro schemes as discretionary activities and giving regional councils no opportunity to use controlled activity status where this is appropriate, I submit the DRPS’s intent regarding action to address climate change is being frustrated.

79 Personal has considered the options available to resolve this issue in her evidence. She concludes that the most efficient and effective option is to include a provision exempting the major hydro schemes from the provisions of the PNES. I submit her recommended approach is appropriate in the circumstances. It will promote a consistent approach across both the DNPS and PNES regarding the importance and regulation of the large hydro schemes, and the use of exceptions is provided for in relation to national environmental standards. Personal provides suitable wording for the exemption.

Conclusion

80 Through the DRPS and PNES the Government is expressing a clear intent to drive a change in the management of freshwater and in the protection of our most vulnerable waterbodies. The status quo is seen as not delivering the outcome New Zealand needs, with ongoing degradation of some of our freshwater.

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27 Section 43(2)(e) RMA
81 At the same time the Government had identified that the contribution New Zealand’s small number of large hydro schemes makes to our national response to climate change through the production of renewable, flexible electricity is vital and needs to be protected.

82 The changes Meridian seeks to the DRPS and PNES are designed to better ensure these two desirable outcomes are achieved.

83 The natural occurrence of glacial flour in the Waitaki catchment, and the presence of the invasive pest species didymo in both the Waitaki and Manapouri catchments are factors that impact on water quality. Meridian is not responsible for either of these.

84 Meridian’s two hydro schemes do not cause water quality to be below existing or proposed national bottom lines.

85 Water quality in parts of the hydro catchments is however in a deteriorated and (in some places) deteriorating condition because of other impacts. Meridian seeks to ensure that the first focus of future management of freshwater quality in those catchments is on addressing the sources of water quality reductions.

86 There is no prospect that the major hydro schemes will be refused consents in the future, given their national importance. Provisions in the PNES that would give core activities of the schemes discretionary activity status, and in doing so effectively undermine existing controlled activity rules, are not appropriate, and the PNES should include an exception for the large hydro schemes listed in the DNPS.

Counsel for Meridian Energy Limited

31 October 2019