

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

**Response Table 1 – Electricity Authority, Ka Rūnaka, Te Rūnanga o Ngāi Tahu, Minister for the South Island, Minister for Regional and Development and Minister for Crown Relations**

#	Commenter	Comment	Response
1	Electricity Authority	<p><b>Supports the application</b></p> <ul style="list-style-type: none"> <li>The application will result in more competition for contingent energy resources (again, defined below) for the period it is in effect. This could benefit consumers by ensuring that the cheapest contingent resources are used first, rather than keeping Pūkaki contingent storage as a last resort even when it would be a lower cost option.</li> <li>The proposal could improve efficiency by enabling more flexible management of periods of low hydro inflows.</li> <li>The proposal could also improve system reliability. Allowing Meridian the option to use Pūkaki contingent hydro more readily, means the system has more risk management options available.</li> </ul>	<p>Support noted. Thank you.</p> <p>Meridian has addressed these comments in the attached evidence from Rory Blundell, Dr Brent Layton and Grant Telfar.</p>
2	Te Rūnanga o Moeraki, Te Rūnanga o Waihao, Te Rūnanga o Arowhenua	<p><b>Support the application</b></p> <p>Representatives for Kā Rūnaka have worked with the Applicant to agree on changes to the consent conditions relating primarily to:</p> <ol style="list-style-type: none"> <li>frequency of reporting to Kā Rūnaka;</li> <li>notifications regarding works affecting the Nohoanga Entitlement; reporting of mitigations relating to cultural values and mahinga kai; and</li> <li>Accidental Discovery Protocol.</li> </ol>	<p>Meridian is grateful for the ongoing willingness of Ka Rūnaka and Ngāi Tahu to engage on this Project.</p> <p>Meridian acknowledges that Kā Rūnaka are making a gesture of manaakitaka to enable the operation of the wholesale electricity market and security of supply of electricity that benefits New Zealand.</p>
3	Te Rūnanga o Ngāi Tahu	<p>Te Rūnanga supports Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki and Te Rūnanga o Waihao (Ngā Rūnaka) in relation to the Application, with their position of the Application to also be regarded as being the position of Te Rūnanga.</p>	

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

		<p>Further, Te Rūnanga supports the comments made by Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki and Te Rūnanga o Waihao.</p> <p>Requests The panel give consideration to Ngāi Tahu Settlement Statutory Acknowledgement, the Nohoanga and Ngāi Tahu Settlement Taonga Species.</p>	
4	Minister for the South Island	<p><b>Supports the application.</b></p> <p>This project could lead to lower and more stable wholesale electricity prices. This would support the resilience of regional manufacturing businesses that are large employers, and dependent on affordable power to maintain viability, reducing the risk of further major business closures and the associated regional job losses.</p>	Support noted. Thank you.
5	Minister for Regional and Development	<p><b>Supports the application</b></p> <p>The proposed development would have significant regional and national economic benefits through reduced costs to energy users, with the potential to improve regional employment opportunities such as through increased investment in regional manufacturing capacity.</p> <p>The application primarily has implications for New Zealand’s energy system, and commentary from the Energy portfolio will be important in assessing the strategic importance and potential energy system impacts of the Project.</p>	Support noted. Thank you.
6	Minister for Crown Relations	<p><b>Supports the application subject to:</b></p> <ul style="list-style-type: none"> <li>• Having due regard to the Statutory Acknowledgement and Deed of Recognition over Lake Pūkaki, including TRONT'S views (per the Deed of Recognition), the association of Ngāi Tahu with the lake, taonga species, mahinga kai importance, and nohoanga entitlements within the project area.</li> <li>• Having due regard to the matters raised by Kā Rūnaka and Te Rūnanga o Ngāi Tahu (TRoNT), and their counsel.</li> <li>• Ensuring there is ongoing consultation between the Applicant and Kā Rūnaka.</li> </ul>	Support noted. Thank you.

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

**Response Table 2 – Department of Conservation s51 Comments**

#	Comments	Response
1.	<p>No evidence of clear methodology for lizard relocation.</p> <p>The applicant has referred to the possibility of unspecified lizard relocation, although no evidence or clear methodology has been provided.</p>	<p>The Substantive Application included a Wildlife Permit to catch, hold, relocate and incidentally kill lizards.</p> <p>As set out in the joint evidence of Sam Heggie-Grace and Dean Miller and in response to the comments provided by DOC, specific salvage at the northern stockpile is now included in the Lizard Management Plan (LMP).</p>
2.	<p>No avoidance, minimisation, remedial or offsetting measures are proposed</p>	<p>Refer to the joint evidence of Sam Heggie-Grace and Dean Miller and the evidence of Graham Ussher.</p>
3.	<p>The 35-year term of the approval sought is a key concern for DOC for 2 reasons:</p> <ul style="list-style-type: none"> <li>- The mismatch between the term and the duration of the wilding pine control and monitoring that can be achieved with the compensation proposed; and</li> <li>- The potential for change in the conservation status of the impacted wildlife over the next 35 years.</li> </ul> <p>The benefits of any wilding pine control that would be able to be achieved with the proposed sum is, on its own, unlikely to meaningfully address the scale of the impacts generated by the Project over the 35 years for which the approval is sought.</p> <p>DOC cannot evaluate the effectiveness of the proposed compensation in order to assess the extent to which it is consistent with the purpose of the Wildlife Act, or the principles for biodiversity compensation in the National Policy Statement for Indigenous Biodiversity. However, to maintain benefits to the lizard population at the proposed compensation</p>	<p>Refer to the joint evidence of Sam Heggie-Grace and Dean Miller and the evidence of Graham Ussher.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	site is likely to cost \$125,000 for the first year of removal of remaining live trees and dead tree material in the sites identified. In addition, follow up removal of regrowth would be required which is likely to cost between \$30,000 and \$40,000 annually, or at a minimum every two years.	
4.	Whether the information requirements in clause 2 of Schedule 7 have been sufficiently addressed in respect of the proposal to relocate Mackenzie skinks.	Refer to the evidence of Amy Callaghan
5.	DOC notes it is also possible that Lake's skink ( <i>O. aff. chloronoton</i> "West Otago"; Threatened – Nationally Vulnerable) may also be present nearby.	Refer to the joint evidence of Sam Heggie-Grace and Dean Miller and the evidence of Graham Ussher.
6.	The applicant's lizard survey covered only the areas directly affected by the proposed dam-armouring works at Lake Pūkaki, leaving periodically exposed habitats unassessed and creating uncertainty about the full impact on lizard populations.	Refer to the joint evidence of Sam Heggie-Grace and Dean Miller and the evidence of Graham Ussher.
7.	The applicant's current compensation proposal does not meet the additionality principle of NPS-IB Appendix 4.7	Refer to the joint evidence of Sam Heggie-Grace and Dean Miller and the evidence of Graham Ussher.
8.	Significant residual effects will remain even if the exclusion fence is installed and DOC undertakes wilding pine control.	Addressed through the salvage programme proposed. This is set out in the joint evidence of Sam Heggie-Grace and Dean Miller, the evidence of Graham Ussher and the updated LMP.
9.	When assessed against the purpose of the Wildlife Act, DOC is not satisfied that the proposal is consistent with the purpose of that Act. DOC considers that if additional mitigation measures are applied by way of an amended proposal and/or additional conditions, the Project's impacts could be reduced, and it is likely the wildlife approvals sought could be granted in a manner that would be consistent with the purpose of the Wildlife Act.	Refer to the evidence of Amy Callaghan

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

Response Table 3 – Canterbury Regional Council

#	Comments	Response
1.	<p>CRC considers it is appropriate to consider any effect of operating Lake Pūkaki within the proposed levels, for the events or times which are not provided for in the WAP, as new and not provided for by the WAP. It is not overly clear in the application, for modelled scenarios, which periods of time would likely have been operating within consented or permitted limits, or which would be under this proposal.</p> <p>In applying the permitted baseline, CRC considers it would be reasonable for the Panel to adopt the environmental effects established as a permitted activity in the WAP - i.e. the operation of Lake Pūkaki down to 513 m RL during Declared Electricity Supply Emergencies. For this proposal, this means the effects of the duration the lake is operated within these levels when <b>no</b> Declared Electricity Supply Emergencies would likely have been declared should be considered as new.</p> <p>CRC notes that the assessments provided by Meridian do not extend to this level of modelling. Meridian have explained to CRC difficulties and uncertainties associated with modelling such scenarios. CRC suggests the Panel may wish to discuss these difficulties with Meridian to understand the limitations further.</p>	<p>Environmental effects of temporarily lowering Lake Pūkaki below 518mRL have previously been assessed and found to be appropriate. What the Project proposes is a temporary modification to the existing approved arrangements that, while classed as a prohibited activity status under the WAP, vary from those existing arrangements only in terms of a small increase in the likelihood of the lake level falling below 518 m RL. In other words, Lake Pūkaki is already able to be lowered below 518 m RL for infrastructure maintenance or rehabilitation purposes, and when a SSA or OCC is in place. What the Panel is being asked to authorise is the possibility that the lake might be lowered below 518mRL outside of the above circumstances for generation purposes over the next three years.</p> <p>The modelling indicates that the likelihood of this occurring is low, and that if it does occur any incursions below 518 m RL will be shallow and of short duration.</p>
2.	<p>Further while CRC agrees some effects cannot be mitigated, given these lower lake levels have not yet been tested in the environment, CRC recommends monitoring of Kakī (Black Stilt) and at risk/threatened flora on the Tasman Delta if this application is approved and exercised.</p>	<p>Refer to evidence of Amy Callaghan</p>
3.	<p>CRC considers this proposal will likely result in adverse effects for two consent holders CRC155429 (Bendrose Farm 2014 Limited) and CRC251630 (M R &amp; K M Ivey).</p>	<p>Meridian accepts that Bendrose (Condition 3, CRC155429) and Ivey (condition 3, CRC251630) must cease taking water when Lake Pūkaki is at or below 518m.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>With respect to mechanics of taking water, Meridian have identified the level at which the intake for CRC251630 (located adjacent to Pūkaki Dam) will no longer be able to take in water. Meridian note that the minimum lake level restrictions would stop CRC251630 from being exercised before the intake cannot physically access water. CRC155429 takes water from Pūkaki Canal so the mechanics of taking water is not a concern. Rather, minimum lake level restrictions will apply.</p> <p>These restrictions have potential to have significant effects on crop and farming decisions for these properties. Meridian has advised in their application that Meridian has legal agreements with these two parties regarding the security of water supply.</p>	<p>Meridian disagrees with CRC that this results in an adverse effect for its Fast-track application.</p> <p>Both Bendrose and Catherine Fields undertook to Meridian (and CRC as part of their applications), that they would not seek to take water in circumstances when Lake Pūkaki is operating below 518 m. In effect, both have accepted such circumstances may arise and internalised this into their decision making.</p> <p>This reflects the established Derogation Approval practice in the upper Waitaki Catchment. Meridian provided Derogation Approval to both applications on the basis of these (and other) proffered conditions. Environment Canterbury was legally unable to consider these applications outside of the terms of these Derogation Approvals.</p> <p>Meridian has established legal arrangement with both parties relating to their irrigation takes.</p>
4.	<p>A key theme between many of the technical experts' comments relates to ensuring that the 'intent' of the proposal or limits of what have been modelled are in some way provided for in conditions of consent. Specifically, a shorter period of time of effects has been modelled (while worst case scenario isn't modelled). Short, periodic exercising of lowered lake levels is considered to have effects which may be able to be accommodated by the environment, rather than holding the lake at low levels for extended periods of time year after year.</p>	<p>Meridian agrees with ECan that restricting draw down rates or duration the lake may be held below 518m RL would essentially defeat the reason this application is being sought.</p> <p>It is also noted that the permitted activity rule and resource consent to operate the between 518 m and 515 m do not contain operating restrictions.</p>
5.	<p>Minor matters where agreement cannot be reached.</p> <p>Hydrology - With respect to lake level recording, see Appendix 2 of the s53 response for recommended conditions to be included on consent if approved.</p>	<p>Refer to evidence of Matt Dodson</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
6.	<p>Minor matters where agreement cannot be reached.</p> <p>With respect to Mr Clark’s concerns that insufficient modelling has been provided to understand potential effects on spill events into the Pūkaki River, CRC notes there are two key types of spills into the river:</p> <ul style="list-style-type: none"> <li>a) Operational spills – these are scheduled spills of various sizes and frequencies carried out as part of Meridian’s Dam Safety Assurance Programme.</li> <li>b) In-flow driven spills – essentially spills that occur when the lake is at its maximum lake level and rainfall events (in particular) increase the flows into the lake causing spills into Pūkaki River.</li> </ul> <p>In-flow driven spills and the extent to which associated effects of those spills should or should not be considered have been subject of discussion at Environment Court for the reconsenting of Meridian’s existing consents. Specifically, Meridian considers that any impact from in-flow driven spills is not an effect of the WPS.</p> <p>CRC acknowledges that when the lakes are at capacity, high inflow events will flow into and over Meridian dams; just as high inflow events may result in a river flooding. CRC also agrees it is appropriate these spills are managed in accordance with the Flood Flow Management Plan (FFMP), so the integrity of dam structures is preserved. However, management decisions by Meridian relating to lake levels have implications on the frequency and timing of when these spills occur. Meridian, obviously, aims to minimise the frequency of such spills to avoid water lost from power generation. Given this level of manipulation within the hydraulic system, CRC finds it hard to agree that the effects of inflow driven spills are not in some way associated with the WPS.</p>	<p>Refer to legal submissions of Stephen Christensen</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>The proposed lowering of the lake may result in less in-flow driven spills as a lower lake level may provide buffering for these in-flow driven events. Regardless, CRC notes some consideration has been given to values downstream of Pūkaki Dam in technical assessments. This potential effect is considered to be similar to groundwater effects in that is a matter to consider against the positive benefits.</p>	
7.	<p>Drawing the lake to proposed levels for extended periods of time may draw water out of the Tasman Delta. The scale of such effect is difficult to quantify, nor is there appropriate mitigation available. It is difficult to quantify how much of an effect this proposal may have beyond that which may occur under the pathways to lower the lake during shortage of supply scenarios. However, when considering the ‘likely scenario’ of 39 days (even if no shortage of supply is declared and so those provisions are not exercised), it is significantly lower than the duration anticipated by PC1 of four to seven months. The worst-case scenario (1% probability of occurring) would extend to four months.</p> <p>CRC considers any monitoring would be difficult to undertake and unlikely to pass the ‘onerous’ test. CRC considers this to be a potential effect of the proposal for the Panel to consider alongside the potential benefits of additional renewable energy supply.</p> <p><u>Technical Report</u>            Unsure about how the Tasman Delta hydrology could be impacted by the proposal. Given the high hydrological connectivity to the lake and lack of information regarding its specific hydrology it is difficult to assess its potential impact.</p>	<p>Refer to evidence of Matt Dodson</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>Ensuring the lake levels are not drawn down for extended periods would be beneficial to the environment. Please note comments made in other effects summaries in relation to consideration of such mitigation measures with respect to onerous conditions.</p>	
8.	<p>Dr Bayer considers the proposed activity may have adverse effects particularly on the littoral zone of Lake Pūkaki. While Dr Bayer suggests mitigation, these are not considered appropriate by Meridian and CRC agrees such restrictions have the potential to restrict the proposal beyond that which is being sought.</p> <p>The uncertainties Dr Bayer expresses predominantly relate to the limitations of modelling provided with the application (being the modelled most likely situation, worst case scenarios and what was assessed for PC1).</p> <p>CRC considers this to be a potential effect of the proposal for the Panel to consider alongside the potential benefits of additional renewable energy supply.</p>	<p>Meridian agrees and confirms its position as stated in the Substantive Application that adverse effects on the littoral zone are already provided for by the existing regulatory framework and that further restrictions will negate the purpose of the approvals sought. This is covered further in both the evidence of Patrick Lees and the planning evidence of Amy Callaghan.</p>
9.	<p>Dr Jack's concerns are detailed in Appendix 1 and Appendix 5 to ECan's s53 response. Meridian do not wish to restrict the duration for which Lake Pūkaki may be held at these lower levels, nor when during the year this may occur. As such, effects on ecosystem values of the Tasman Delta is an adverse effect which CRC anticipates will not be mitigated.</p> <p><u>Technical Report</u> Dr Jack notes that while she agrees with the applicant's conclusions regarding the potential level of effect, she does not agree that any low-level</p>	<p>Refer to the evidence of Amy Callaghan</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>effects would not require effects management - that efforts to address low-level effects should be taken where feasible.</p> <p>Dr Jack further notes that she is aligned with the advice of Dr Tina Bayer, which acknowledges that if the drawdown to 513 m RL happens infrequently and for short periods of time as outlined in the application, then risks to ecology (including wetlands and avifauna) are reduced compared to longer, more frequent drawdowns</p>	
10.	<p>Dr Jack’s assessment makes comments in relation to conditions discussed at Environment Court. These relate to compensation which is not proposed by Meridian for this proposal and as such cannot be imposed by the Panel.</p> <p>Monitoring however is considered an appropriate tool to be utilised for this potential effect. The purpose of monitoring would be to gather information which may support the conclusions made in the application or inform any future proposal. Often monitoring would be linked to conditions providing for review of a resource consent. Given the application has identified there to be an effect (albeit low or very low) on biodiversity values and the short duration of the water permit being sought, this step of linking monitoring to review conditions is not considered necessary.</p>	Refer to the evidence of Amy Callaghan
11.	<p>Having considered the technical advice provided by Ms Suzanne Cawood and Mr Mathew Noonan, CRC wishes to highlight there remains a level of uncertainty around modelling and/or assessments that have been carried out with respect to both rock armouring and lake lowering. CRC respectfully suggests that many of the matters raised in Appendices 6a and 6b of their s53 response may be able to be discussed by the experts present at the site visit on 1 April 2026.</p>	Refer to the evidence of Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>CRC further notes that many of the outstanding issues may also be able to be addressed through a revised DMP(s). It may be of benefit to the Panel to understand from Meridian, proposed timing of any revised DMP(s) and the extent to which the matters in Appendices 6a and 6b will be resolved through those DMPs. Given the durations of the discharge to air and water consents are significantly different, CRC recommends two separate DMPs are prepared for each activity.</p> <p><u>Technical Report</u></p> <p>Ms Cawood and Mr Noonan disagree with a number of conclusions presented in the assessment including specific receptors, lack of measures and cumulative effects, and assessment of PM10 / PM2.5 exposure vs the National Environmental Standards for Air Quality (NESAQ).</p> <p>Ms Cawood and Mr Noonan note that the move from a modelling assessment to qualitative, uncertainty-heavy assessment for the dust risk is more appropriate.</p> <p>Further Ms Cawood and Mr Noonan note that while they agree with the FIDOL for the long-term dust storm effects, FIDOL assessment for events that would occur for a short period of time should also be considered.</p> <p>They further note that dust nuisance effects has not been fully assessed in the proposal. It should be expanded upon to be consistent with Schedule 2 of the Canterbury Air Regional Plan (CARP) and the MfE's 'Good Practice Guide for Assessing and Managing Dust' (GPG Dust).</p> <p>It is recommended that the Panel review Appendix 6a and 6b to the response.</p>	

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
12.	<p>While usage of the haul roads has been included in the assessment, their construction effects (specifically the right abutment and main dam access ramps mentioned in Section 9.5.2 of the GHD Rip-rap Design and Construction Methodology (GHD DCM)) have not been assessed. The GHD DCM has indicated that these access ramps might require reinstatement works prior to each construction event to restore access affected by wave action.</p> <p>Unresolved. Mitigation measures for the construction of haul roads need to be included in the management plan.</p> <p>The applicant has replied that the construction of the haul roads is implicit in the report. While this may be true, no mitigation measures have been mentioned in the draft management plan regarding the construction of any haul roads (i.e. drop height of fine material should be less than 1m to reduce dust generation etc).</p>	Refer to the evidence of Peter Stacey
13.	<p>Insufficient information is provided regarding the results of the dispersion model predictions. The maximum PM10 and PM2.5 concentrations predicted at sensitive receptors have not been provided in the report.</p> <p>We disagree with some of the conclusions represented on p66, Section 12 of the AQA report including the following:                      “The amenity value impacts, namely deposited dust, were not modelled in this assessment. However, the modelled impacts of dust on air quality provide a good indication that the nuisance effects of dust from the works are likely to be largely contained to within the site area and in close proximity to the actual works. Hence, the amenity impacts are considered to be addressed implicitly when overall dust is minimised.”</p>	Refer to the evidence of Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>Our concerns remain regarding the level of effect of the proposed construction activities. The predicted GLC with the proposed mitigation controls are predicted to exceed the GPG Dust recommended TSP trigger level up to 640m away, indicating the amenity values and overall effect of the dust is not minimised as stated in the AQA Report. Additionally, the NESAQ criteria levels are still being exceeded with the proposed mitigation measures. This indicates that the proposed mitigation measures are not sufficient to manage dust from the proposed activities. We also have concerns for the control factors applied for the haul roads watering. This is discussed in further detail below.</p>	
14.	<p><b>Water Suppression Rates</b>            The AQA report stated that the MfE’s recommended water suppressant rate of 1 L/m<sup>2</sup>/hr would provide the equivalent control as the Australian NPI’s 2 L/m<sup>2</sup>/hr due to New Zealand conditions. The AQA report states that “default haul road watering for 50 percent dust suppression in NPI is based on 2 L/m<sup>2</sup>/h”. The proceeding section then states “Haul road watering of greater than 1 L/m<sup>2</sup>/h is recommended to control dust emissions by 75 percent.”</p> <p>The applicant needs to provide water suppression application rates that can support their 75% effectiveness rate.</p>	Refer to the evidence of Peter Stacey
15.	<p><b>Mitigation Measures effectiveness</b></p> <p>The predicted GLC with control factors applied for the proposed mitigation measures indicate that there is still a possibility for adverse dust effects to be experienced, up to 640m downwind. This indicates that the proposed mitigation measures are insufficient to control the dust impact offsite.</p>	Refer to the evidence of Peter Stacey
16.	<p>We do not consider the Draft Management Plan (Appendix G of the AQA Report) to be sufficient for the proposed activities.</p>	Refer to the evidence of Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>The Management Plan contains wording such as “may wish to consider”, “following prevention measures should be taken”, “if meteorological conditions deteriorate consider” while the dispersion modelling assessment shows with the proposed mitigation measures there are still potential for high dust effects up to 640m from the site.</p> <p>The proposed mitigation measures also are deemed to be insufficient to manage the dust effects, and therefore more mitigation measures should be proposed.</p> <p>Additionally, we consider the proposed additional measures mentioned are the minimum required mitigation and not optional extras. As mentioned, the modelling assessment indicates mitigation measures are required to control dust from the proposed construction activities, and these additional measures are paramount to supporting this conclusion.</p> <p>Furthermore, the level of detail provided for the mitigation measures is insufficient. The Draft Dust Management Plan mentions in the weather forecast section to “pay particular attention to periods of forecast or observed high winds” without giving detail as to what is considered high winds and how are the staff on site meant to ‘observe’ these high winds without monitoring equipment.</p> <p>The cumulative impact of the lake lowering with the construction activities has been mentioned very briefly in Section 10.8.2 of the report and no mitigation measures are proposed for the lake lowering activities, due to the scale of the exposed area. We deem this to be an insufficient reasoning. Mitigation measures on the lake lowering (such as wetting the exposed shore before high wind speeds – above 5m/s) in close proximity to the construction activity is a manageable task and should be considered</p>	

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>when the current modelling assessment indicates exceedance of ambient standards.</p> <p>There has been no mention of dust monitoring against trigger levels, which could guide the onsite teams as to whether additional mitigation measures are required.</p> <p>The Draft Management Plan should:</p> <ol style="list-style-type: none"><li>1) be more definitive in what is required, leaving no option other than for mitigation measures to be implemented. (i.e. activities should stop if dust is observed to be going beyond the site boundary)</li><li>2) Provide more thorough detail to how and when mitigation measures should be implemented.</li><li>3) An ambient monitoring station should be set up during construction periods to guide the on-site teams as to when to restrict dust generating activities.</li><li>4) Include additional mitigation measures, (low travel speeds on unpaved roads, decrease drop heights of fine material, more frequent wetting of surfaces, more frequent inspections etc).</li><li>5) Implement mitigation measures on the lake lowering and additional exposed areas of the lakeshore, within close proximity to the construction activities, to further mitigate the potential for cumulative effects.</li><li>6) Inclusion of dust monitoring to help guide the onsite teams as to if</li><li>7) additional mitigation measures are required.</li><li>8) The level of dust being predicted indicates that the Dust Management Plan is critical in managing dust impacts and therefore we recommend the Dust Management Plan is independently verified and provided to Council 30 days before any activities commence.</li></ol>	

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
17.	<p>The potential health effects of the proposed dust emissions have not been assessed, particularly in term of exposure of the public to fine particulate matter (PM10 and PM2.5).</p> <p>Whether emissions would be compliant with health based ambient air quality criteria has not been assessed. Discharges of dust have the potential to have an adverse health effects. The report notes approximately 57% of the dust generated will be in the form of PM10, and 23% in the form of PM2.5 Therefore, emissions of fine particulate matter may not be negligible during some wind conditions. The impact of these emissions is uncertain.</p> <p>It is noted in the report that residential dwellings are located within 17m of the shoreline and therefore, could potentially be exposed to high levels of PM10 and PM2.5. The previous dispersion modelling presented in the Draft Air Quality Report suggests exceedance of guidelines could potentially occur at locations close to the lake.</p> <p>The potential health effects of the proposal should be assessed. It is also recommended that the health effects of exposure to respirable silica is considered for completeness purposes, (although it is noted that ambient concentrations are very unlikely to exceed guideline levels).</p>	Refer to the evidence of Peter Stacey
18.	<p>The compliance of expected dust emissions against the National Environmental Standards for Air Quality has not been considered in the assessment.</p> <p>The National Environmental Standards for Air Quality (NESAQ) specify a minimum ambient air standard for PM10. It is uncertain if this standard would be exceeded at nearby dwellings. If exceedance of the NESAQ at</p>	Refer to the evidence of Amy Callaghan and Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>locations that people are likely to be exposed, then granting a resource consent would potentially be problematic.</p>	
<p>19.</p>	<p>Potential dust effects have been assessed in terms of FIDOL factors (Frequency, Intensity, Duration, Offensiveness, and Location) in Section 9 of report. The Canterbury Regional Air Plan (CARP) recommends the potential for dust nuisance effects to be assessed in terms of these factors. However, we have a number of concerns assessment and therefore conclusions which can be drawn from the assessment.</p> <p><b>A. Wind speed conditions considered</b></p> <p>The FIDOL assessment only considers effects in terms of ‘dust storms’, which are defined as being events for a period when wind speed exceeds 10m/s for more than 2-hours. However, dust can be generated from exposed surfaces any time that wind speeds exceed 5.5 - 7.5 m/s, even if these events occur for a short period of time (e.g. 5-10 minutes). These other wind speed conditions have not been considered in the FIDOL assessment. The FIDOL assessment therefore does not account for these conditions. We also have concerns with how the frequency of ‘dust storms’ was calculated (in Section 7.5 of the report) as discussed below.</p> <p><b>B. Level of detail provided in the FIDOL assessment</b></p> <p>While we don’t necessarily disagree with the assessment of the Intensity, Duration and Location factors presented in the report, in our opinion insufficient information has been provided. The FIDOL factors are discussed only in very general terms.</p>	<p>Refer to the evidence of Peter Stacey</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>The impacts that the proposal would have on specific sensitive receptors, in particular the dwelling located near the lake which would be most impacted, are not assessed.</p> <p>Overall, there is still a high degree of uncertainty of the Air Quality impacts of the proposal.</p> <p><b>C. Conclusions</b></p> <p>The FIDOL assessment essentially concludes that the risk of a ‘dust storm event’ occurring is low, primarily as the likelihood of the lake being lowered below 518m is also considered low.</p> <p>We disagree with the basis of this assessment. The activity being proposed is the lowering of lake below 518m. The key consideration is the Air Quality effects of the proposal when the lake is operating under these conditions - not the likelihood of it occurring. The Meridian modelling presented in the report suggests that the lake level could be below the consented level of 518m, for up to 7 months which suggests that risk of adverse dust effects occurring could be significant.</p> <p>However, even when the frequency of an event occurring is taken into consideration, the predicted lake levels (Figure 1 of the report) indicate that there is more than a 5% probability per year that lake levels would drop below 518m for more 2.5 -3 months. This would suggest there is a reasonably high probability that dust storms could occur over the 3-year period.</p>	
20.	Section 10 provides a qualitative assessment of the relative impacts of lowering the lake level from 518m to 513m on dust emissions. The analysis	Refer to the evidence of Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>is based largely on the percentage increase in shoreline surface area with the lowering of the lake.</p> <p>This assessment has not considered the impacts on the west side of the lake where a number of dwellings are located (identified in Section 8.2) within 100m of the shoreline and therefore could potentially be impacted by emissions. It is uncertain how much of this analysis has been used to inform the FIDOL assessment (Section 9).</p> <p>The assessment has not assessed the potential impacts of the proposal on all of the identified sensitive receptors.</p>	
21.	<p>We disagree with some of GHD’s conclusions based on the information provided that, although the dust severity may increase with the increased lake surface area exposed, the frequency of any event would of infrequent and of short duration.</p> <p>Our concerns are:</p> <ul style="list-style-type: none"> <li>I. The likelihood of dust generation events has not been fully accounted for in the assessment. The assessment has largely focused on ‘dust storm events’ rather than considering all wind speed conditions when dust may be generated.</li> <li>II. The impacts of dust events have not been assessed in any detail, particularly at the dwellings located close to the shoreline, and receptors on the western side of the lake.</li> <li>III. The likelihood that lake levels will drop below 518m in any year, for a period of 2.5-3 months, appears to be approximately 5% per year, based on the Meridian Lake modelling output presented in Figure 1 of the report. This would suggest that there is approximately a 15%</li> </ul>	Refer to the evidence of Peter Stacey

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>probability over the 3-year period that this would occur- and consequently a higher risk than suggested by the GHD report</p> <p>IV. Irrespective of the probability of lake levels dropping below 518m, the primary concern is what would the Air Quality effects be when the lake does drop below 518m (this the ‘activity’ which is being proposed).</p> <p>The potential impact of the proposal has been underestimated.</p>	
22.	<p>The drawing down of Lake Pūkaki will likely have adverse effects on landscape values which cannot be readily avoided, remedied or mitigated. CRC has had further discussions with Mr Glasson, in order to understand if low lake levels during a security of supply (electricity shortage) would affect the scale of these effects (compared to low lake levels outside of security of supply). Mr Glasson noted that understanding the lake may be low due to an electricity shortage may lower effects. CRC notes that a range of people visit Lake Pūkaki, all with different ‘expectations’ of anticipated lake levels when visiting.</p>	<p>A response to this matter was provided at the Panel Overview Briefing by Kim Goodfellow.</p> <p>The 2012 PC1 finding remains the correct starting point: the additional 5 m drawdown from 518 m RL to 513 m RL results in a further exposure of shoreline, but not a material change to the broad-scale landscape values that make Lake Pūkaki iconic. In terms of the proposed operating range there is no difference between PC1 and this proposal.</p> <p>The most important landscape and visual attributes remain the same: the scale of the lake, the turquoise water, the openness of the basin, and the mountain backdrop including Aoraki / Mount Cook. Those attributes remain intact at lower lake levels.</p> <p>Changes since PC1 are limited. The 21 earlier viewpoints found no material deterioration in landscape quality. Most changes are negligible and mainly relate to vegetation removal, forestry change, and improved visitor facilities. Those changes generally improve public appreciation rather than reduce it.</p> <p>In natural character terms, lowering the lake does expose more gravels and shoreline margins for short periods. That is an incremental increase in an</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		<p>already familiar fluctuating edge condition rather than a new landscape pattern. The effect is therefore best described as low at the immediate shoreline and negligible at the wider lake scale.</p> <p>In visual terms, the effect is most noticeable close to the lake edge or where viewers are very familiar with a particular shoreline location. From the principal public routes and stopping places, the effect does not displace or materially weaken the iconic outward views.</p>
23.	<p>CRC generally agrees with Meridian assessment of Policies from this legislation, however wanting to bring the Panel’s attention to Policy F in particular which sets out clear direction for decisionmakers, specifically subsection (1) and (5):</p> <p>This new policy amended as of December 2025, in the CRCs view to be at the forefront of the Panels mind when considering this proposal. Acknowledging the importance of the Tasman Delta and potential effects on its associated ecosystems warrants providing for monitoring of some species to further understand the scale of potential effects from this proposal.</p>	Refer to evidence of Amy Callaghan
24.	<p>CRPS – Chapter 7 and 9 - CRC acknowledges Dr Jack’s comments in relation to potential effects of the activity on the Tasman Delta (a low effect should not warrant no management approach). While CRC acknowledges changes to the Delta are provided for during periods of “shortage of supply” through resource consent CRC185833 and Rule 17 WAP; this proposal is not consistent with those provisions.</p>	Refer evidence of Amy Callaghan

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

**Response Table 4 – Minister for Land Information**

#	Comments	Response
1.	The Land Act 1948 also governs applications for works on Crown Land. The approvals under this Act sit outside of the Fast-track process, and so any project works or installations of asserts on the Crown Land could require a separate application to the commissioner of Crown Lands in LINZ	<p>The rock armouring works are wholly contained on Meridian owned land (Lot 1-2 Deposited Plan 368484).</p> <p>Meridian also holds an easement in gross in perpetuity over the balance of the bed and margin of the lake - Deed of Grant of Easement for Lake Pūkaki YEC 7611810.1 granted by the Commissioner of Crown Lands (the Operating Easement)</p> <p>The Operating Easement grants Meridian rights to carry out the electricity generation business operated by it which includes without limitation the operating, maintaining, and upgrading of hydroelectricity assets.</p>

**Response Table 5 – New Zealand Transport Agency**

#	Comments	Response
1.	<p>If any damage is caused by Meridian Energy and/or their contractors on the state highway infrastructure, then this should be remediated at the end of each stage of construction.</p> <p>At a minimum this will include pavement repair and/or reinstatement, kerb and channel repair, and sweeping of loose material from the state highway carriageway. Appropriate conditions of consent should be included to address this.</p>	<p>Initial discussions with NZTA as part of this application process indicated that SH8 impacts will be managed through a Transport Management Plan (TMP). NZTA also indicated they would require a Corridor Access Request to address remediation of any damage to the sealed highway. The discussed approach is set out in GHD 2025 – Lake Pūkaki Reservoir Hydro Storage and Dam Resilience Works – Engineering Structures Assessment.</p> <p>While Meridian continues to agree with the preparation of these documents in consultation with NZTA, Meridian also agrees to the inclusion of the following consent conditions with respect to SH8 in the vicinity of the proposed rip-rap construction works (see below).</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		<p>Regarding the request for sweeping of loose material from the state highway carriageway, the Draft ESCP (GHD 2025 Lake Pūkaki Reservoir Hydro Storage and Dam Resilience Works – DRAFT Erosion and Sediment Control Plan) includes the requirement for daily inspection of the highway during construction and sweeping of the highway, as required.</p> <p><i>Proposed Condition “If authorised by NZTA, the consent holder shall undertake a pre and post construction condition survey of the SH8 pavement, kerbs and channels for the sections of SH8 utilised by heavy construction vehicles associated with the rip-rap works to identify existing pavement condition and damage. A pre and post construction survey shall be undertaken for each phase of construction. Any pavement damage caused by the rip-rap construction traffic shall be repaired within 1 month of the completion of construction to match or exceed the standard of the existing pavement. The limits of the survey are 30 m in either direction from the section of utilised highway.”</i></p> <p><i>Proposed Condition If authorised by NZTA, all pavement repairs undertaken in accordance with condition XX shall be inspected for a period of two years following completion of the works and any identified damage due to defects in the pavement construction are to be repaired.”</i></p>
2.	<p>NZTA wants to ensure that the lowering of the lake levels will not exacerbate or cause additional adverse effects on other sections of SH8 and also sections of SH80 that are prone to erosion.</p> <p>There are several sections on the state highway network adjacent to Lake Pūkaki that are currently prone to erosion and slips, such as a section of SH80 to the south of Boundary Stream and to the west of the Lake Pūkaki Viewpoint carpark on SH8. Currently these areas, in addition to many more,</p>	<p>See below responses.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>are monitored bi-annually by Meridian Energy to check for scour and erosion.</p> <p>NZTA is concerned that the lower lake levels could further expose these cliff faces and that increase or a change in wave energy may exacerbate the issue. Lower lake levels also have the potential for sediment to be exposed in the bed of the Lake Pūkaki, which could become an issue for dust during periods of high winds.</p>	
3.	<p>While the existing agreement between NZTA and Meridian outlines monitoring requirements, it is considered that bi-annually may not be sufficient for the three-year period where Meridian Energy is seeking to lower the lake levels.</p> <p>It is recommended that a baseline assessment be undertaken at the first time the lake levels drop below the current permitted level of 518.0 mRL, which can be done as a visual assessment. Additional monitoring should then occur during each winter period to ensure that the lowered lake levels do not undermine the state highway infrastructure. If any scour or erosion occurs that could result in impacts on the state highway then this should be remediated by Meridian Energy.</p>	<p>Meridian and NZTA have an existing agreement in relation to the Waitaki Hydro Scheme (Dated 9 September 2021 – see attached). The agreement establishes several obligations between the parties including the requirement for the parties to jointly undertake bi-annual inspections of SH8 and SH80 in the vicinity of Lake Pūkaki. The agreement also requires both parties to endeavour to agree any works necessary to avoid, remedy or mitigate where reasonably practical the actual or likely effects of the operation of Lake Pūkaki by Meridian.</p> <p>Meridian is agreeable to NZTA’s proposal and offers:</p> <ul style="list-style-type: none"> <li>• Visual base-line survey (together with NZTA if it wishes) following Lake Pūkaki first being managed below 518m under this consent.</li> <li>• In the event Lake Pūkaki remains below 518m, additional inspection (together with NZTA) in the June – July period. Undertaken in accordance with Clause 5.1(a) of the existing Agreement.</li> <li>• The development and implementation of a programme of remedial works in accordance with Clause 5.1(b) of the exiting Agreement.</li> </ul> <p>Given the existing relationship between NZTA and Meridian, Meridian proposes this is most effectively achieved via party-to-party agreement that dove tails with the existing Agreement.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		<p>Meridian also notes that the sections of state highway considered at risk by NZTA have been evaluated by GHD and the findings are presented in GHD 2025 – Lake Pūkaki Reservoir Hydro Storage and Dam Resilience Works – Engineering Structures Assessment. The report concluded that it is highly unlikely that there will be any detrimental impacts on these structures from the proposed lake lowering activity.</p>
4.	<p>Monitoring and management of dust from exposed sediment in the bed of the lake should also be required to ensure that it does not cause a safety effect on the state highway.</p>	<p>The primary potential source of dust is the proposed rip-rap construction site located either side of SH8 at Pūkaki Dam. The Dust Management Plan – Rock Armouring includes a range of mitigation measures to address potential effect from dust associated with the highway and other potential receptors.</p> <p>Lake shore dust generation has also been addressed in the GHD Dust Assessment and Lake Shore Dust Management Plan. Lake shore dust is an existing occurrence at the site and the expected change in lake shore dust generation due to the proposed activity is considered to be minor. Furthermore, the prevailing wind direction is generally to the west away from SH80.</p>
5.	<p>NZTA was unable to assess if there were any effects associated with change in gravel aggradation from streams entering Lake Pūkaki. NZTA have several structures that go over these streams, such as Sawyers Stream and Whale Stream on SH80, and maintenance is often required to remove gravel from these streambeds to ensure that the streams continue flow, minimise flooding effects on the state highway during high rainfall events and mitigate damage to these assets.</p> <p>NZTA is unsure whether gravel aggradation may be increased or decreased during the periods where the lake levels are lowered. It is recommended that further assessments are undertaken by Meridian Energy to confirm the likely change in volume of material associated with the reduction of water</p>	<p>The geomorphological response of the Lake Pūkaki shoreline to lake levels below 518 mRL has been considered by GHD and their findings are presented in GHD 2025 – Lake Pūkaki Reservoir Hydro Storage and Dam Resilience Works – Lake Processes and Geomorphology. The report concluded that the likelihood of adverse impacts on the shoreline are low and any minor morphological changes that do occur are likely to be short-lived. In summary, significant or long-term shoreline aggradation of gravels is not expected.</p> <p>Regarding specific structures, these have also been considered by GHD and their findings are presented in GHD 2025 – Lake Pūkaki Reservoir Hydro Storage and Dam Resilience Works – Engineering Structures Assessment. The report concluded that it is highly unlikely there will be any detrimental impacts on these structures.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	levels of Lake Pūkaki and whether this will change the characteristics of these streams.	Further, Meridian anticipates that existing Agreement between the parties and the survey, inspection and remediation process outlined above will be able to address this issue, if it does arise.
6.	<p>The lower lake levels could result in livestock being able to navigate around fencing where they haven't been able to do so previously.</p> <p>Typically, this fencing goes into the waterbody of Lake Pūkaki to prevent stock from getting around it, if the lake levels are dropped by 5.0 m then this could result in the risk of livestock getting out and entering the state highway carriageway. This would be a safety hazard to motorists, and it is considered that Meridian Energy should address this as part of their application where it is appropriate to do so.</p>	<p>The management of stock, including fencing, is not a matter Meridian is responsible for nor can control or undertake.</p> <p>In the event that NZTA identifies specific risks, Meridian offers to approach the appropriate landowner seeking practical resolution of the issue.</p>

## Response Table 6 – Department of Conservation s53 comments

#	Comments	Response
1.	<p>Fluctuating lake levels are necessary for the turf communities to exist in these areas; low levels are needed for the communities to develop each year, but periodic inundation is also required to exclude taller invasive weed species and maintain suitable habitat.</p> <p>Propose addition of a new condition to provide assurance that the fluctuating lake levels necessary to maintain the wetlands and their turf communities will continue, similar to the approach currently taken by Meridian at lakes Te Anau and Manapouri. This could be achieved by: defining a “main operating range” of lake levels for Lake Pūkaki, based on lake level data from the past 20 years; requiring endeavours to maintain continuous variation within that range and to achieve an annual mean level</p>	<p>Refer evidence of Matt Dodson</p> <p>Any conditions relating to the operation of the lake above 518 m RL are out of scope of this application and not able to be considered further.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>within that range; setting limits on the duration of time spent below this range; and requiring a minimum interval between drawdowns below 518 m RL. A condition of this kind would align the proposal with Meridian’s modelling of predicted lake levels over the consent period and would also be in line with mitigation measures proposed in the application. Both the modelling and the mitigation measures have been used in the application as a basis for assessing effects on wetlands.</p>	
<p>2.</p>	<p>The Department is concerned that the identification of potentially affected terrestrial vegetation and wetland values provided in the Ecological Impact Assessment (EIA) provided by Tonkin and Taylor (dated October 2025) is incomplete.</p> <p>Both the Tasman River Delta wetland and the eastern lake margin turf wetlands are highly dependent on the fluctuating levels of Lake Pūkaki:</p> <p>Only 5 TAR plant species are identified in the EIA. However, Dr Walker’s evidence cites sources indicating that a further 11 TAR plant species are present in the Tasman River Delta,</p> <p>Finally, there may also be effects on additional wetlands.</p> <p>Propose to add a new condition to require the establishment of a regular vegetation monitoring regime, to ensure that adverse effects on wetlands and their plant communities can be identified and remedied.</p>	<p>Refer to the joint evidence of Sam Heggie-Grace and Dean Miller</p>
<p>3.</p>	<p>The Department notes that, as part of the proposed rock armouring works on the dam, a 915 m<sup>2</sup> area of “short grass with occasional native shrubs” is proposed to be cleared, to establish an access track. This area is briefly described at section 5.5.1.2 of the EIA, and the species present in the area are listed in Appendix E of the EIA at Table E.2. Dr Walker’s view is that this</p>	<p>The site is a working dam and as such it is not practical to protect it via either re-routing or targeted weed removal. Following completion of the work, it will be returned to its existing (modified) state.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>area is ecologically significant, based on criteria in the Canterbury RPS, due to the presence of at least five At Risk - Declining native plant species. However, it is not assessed as such in the EIA</p> <p>DOC propose deletion of a condition requiring “re-grassing” of areas cleared of vegetation for an access track, and addition of a new condition to require: a survey for weeds and indigenous shrubs along proposed track(s) prior to disturbance; routing of access tracks to avoid indigenous shrubs where practicable; and a programme of follow-up weed survey and weed removal in the affected areas.</p>	
4.	<p>Dr Walker raises concerns that the 39-day maximum may be an underestimate:</p> <p><i>I have reservations about the reliability of the low water level duration predicted by Meridian’s model. If I understand correctly, the model assumes that hydrological and meteorological conditions in future will be within the probability distribution of the past 91 years. Yet the climate is changing directionally rather than varying around some historic mean. Therefore lake level outcomes in future years will not necessarily fall within the probability distribution calculated across most of the last century.</i></p>	<p>Meridian's high-level assessment of the current and future operation of the Waitaki Power Scheme is based on our internal electricity and economic</p> <p><i>The below text has been taken from a document provided to CRC in response to questions relating to Meridian’s power system model.</i></p> <p>power system model framework (LPcon), on scenario analysis of the future New Zealand electricity system, on a long-term meteorological data set, and on internal operational expertise.</p> <p>For this study, all data and assumptions have been anchored to analysis from late 2024 including a focus on the management of water and how the NZ power system is expected to operate to balance energy and capacity over the next few years. LPcon is a decision-support analysis tool, a ‘model’. It is underpinned by an economic and engineering framework that includes stochastic reservoir optimisation and power system simulation methodologies. It was developed by Meridian in 2011 and is like the hydro-thermal approach used prior to 2012 at Meridian and at ECNZ prior to 1999.</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		<p>LPcon includes an analytical representation of the current and possible future electricity supply, transmission, and demand systems for NZ. The model is used operationally to manage Meridian’s catchments, its portfolio of generation assets, and its retail load obligations over the next 3-5 years. It is also used to create long-term strategic insights and to inform large capital investment decisions with a 30-year horizon.</p> <p>LPcon datasets and assumptions are periodically updated, in line with an evolving operational outlook. As of 2024, hydrology covering 1931-2021 was being used for internal analysis. Meridian alters the raw historical inflow and wind records before using it for analysis:</p> <ol style="list-style-type: none"> <li>1. We ‘detrend’ the long-run record to reflect seasonal trends in catchment inflows over the last 30 years. In meteorological science, the most recent 30-year period is considered most appropriate to use when assessing weather effects. The breadth of the full history is preserved by replacing historical seasonality with more recent trends.</li> <li>2. We adjust for long-term climate change impacts expected under different global climate pathways by 2050. NIWA downscales effects observed by a range of global climate projections and apply that to regions within NZ. This is used to estimate how much seasonality and volatility in inflows and wind are expected to change over time.</li> </ol>
5.	<p>Based on lake level data provided by Meridian, Dr Walker recommends that “an ecologically sensible” main operating range would be 525.4 m to 531.0 m (this represents “the middle 60%” of lake levels from the start of 2006 to the end of 2025; over this period the lake was above 525.4 m 80% of the time, and above 531.0 m 20% of the time).</p> <p>In terms of time limits for the lower range, Dr Walker recommends that:</p>	Out of scope.

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<ul style="list-style-type: none"> <li>each metre below 525.4 m should be assigned a number of allowable days per year that progressively decreases with distance from 525.4 m</li> <li>the maximum allowable days for the range from 518.4 to 517.4 m should be no greater than 39 consecutive days (aligning with Meridian’s modelling), with progressively fewer allowable consecutive days be assigned to each lower-level range (i.e. 517.4 to 516.4 m, 516.4 to 515.4 m and so on)</li> <li>to help to ensure that the lake is returned to its ecologically important normal operating range, as assumed in the EIA, the condition should specify a minimum interval of at least 8 months between any drawdowns below 518 m.</li> </ul> <p>The consent conditions currently proposed provide no assurance either that total time under 518 m RL will be 39 days over 3 years, or that any additional period under that level will be “short” and “not deep”. Given the assessment of effects has been based on this being the case, it is important that it is addressed in conditions.</p>	

**Response Table 7 – Parliamentary Commissioner for the Environment**

#	Comments	Response
1.	<p>Environmental Impacts</p> <p>Local environmental impacts both physical (water quality, ecology and biodiversity) and amenity.</p>	<p>The proposal’s effects are not materially different from those associated with activities anticipated under the WCWARP, nor are they contrary to the outcomes that the WCWARP’s objectives and policies seek. In particular, the adverse impacts of what is proposed are essentially the same as those that would be experienced in a lake lowering under an OCC - at which point the</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		<p>activity is permitted, and in the case of a SSA, authorised by a discretionary resource consent. This is not an activity of a type (or with a scale of effects) that the WCWARP makes no provision for nor one that is contrary to the outcomes the plan’s objectives and policies seek.</p> <p>An Assessment of Environmental Impacts is provided in Section 8 of the Substantive Application. The assessment concludes:</p> <ul style="list-style-type: none"> <li>• That both the eased access and rock armouring can (subject to implementation of appropriate mitigation) be undertaken in a manner that maintains the values of existing ecological habitats and communities, minimises adverse impacts associated with the discharge of sediment to surface water and groundwater, and the impacts associated with the discharge of dust.</li> <li>• The WPS is an established, deeply embedded, and important part of the Mackenzie Basin (including being associated with an Outstanding Natural Landscape). While the proposal may have some adverse impacts on the visual amenity of the area, these will be of a short duration and following the completion of the rock armouring and/or eased access period, the environment will be visually indistinguishable from the existing environment.</li> <li>• Appropriate consideration has been given to the cultural values associated with the lake and mitigation (including relocating one of the construction areas) will be implemented to address any cultural impacts.</li> </ul> <p>In addition, Canterbury Regional Council have assessed the application and considers that the application meets purpose of the FTAA, in that it is a</p>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
		development project with significant regional benefits and will not result in any adverse effect that is sufficiently significant to be out of proportion with the regional and national benefits.
2.	Granting unrestricted access to contingent storage increases systemic risk. The net benefit depends on the weight given to security of supply and whether electricity retailers will pass the savings on to consumers.	Refer to the legal submission of Stephen Christensen and the evidence of: <ul style="list-style-type: none"> <li>- Rory Blundell, Meridian Energy</li> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> <li>- Amy Callaghan, GHD</li> <li>- Dr Grant Webby, Damwatch Engineering</li> <li>- Viculp Lal, Damwatch Engineering</li> </ul>
3.	Impact of unforeseen events	Refer to the legal submission of Stephen Christensen and the evidence of: <ul style="list-style-type: none"> <li>- Rory Blundell, Meridian Energy</li> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> <li>- Amy Callaghan, GHD</li> <li>- Dr Grant Webby, Damwatch Engineering</li> <li>- Viculp Lal, Damwatch Engineering</li> </ul>
4.	Potential dynamic impacts of unlimited access to contingent storage. In the longer term there is the potential for unforeseen consequences from granting unlimited access to contingent storage at Lake Pūkaki. The extra generation available could alter the investment plans of generators.	Refer to the legal submission of Stephen Christensen and the evidence of: <ul style="list-style-type: none"> <li>- Rory Blundell, Meridian Energy</li> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> </ul>
5.	It may be more efficient to set a fee to access the contingent storage. This fee would place a value on resilience.	Refer to the legal submission of Stephen Christensen and the evidence of: <ul style="list-style-type: none"> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> </ul>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

**Response Table 8 – Genesis Energy Limited**

#	Comments	Response
1.	<p>The adverse impacts of allowing Meridian to access, without restriction the hydro storage at Lake Pūkaki including:</p> <ul style="list-style-type: none"> <li>- A nationally significant increase in system risk</li> <li>- The implementation of a material change to the regime for access to Lake Pūkaki below 518 m RL without comprehensive regulatory scrutiny</li> <li>- Potentially prolonged loss of generation from nationally significant infrastructure with cascading wide effects if the Tekapo B Power Station temporary tailrace and weir is compromised.</li> </ul>	<p>Refer to the legal submission of Stephen Christensen and the evidence of:</p> <ul style="list-style-type: none"> <li>- Rory Blundell, Meridian Energy</li> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> <li>- Amy Callaghan, GHD</li> <li>- Dr Grant Webby, Damwatch Engineering</li> <li>- Viculp Lal, Damwatch Engineering</li> </ul>
2.	<p>Whether these adverse impacts are sufficiently significant to be out of proportion to the projects benefits under section 85(3) of the FTAA.</p>	<p>Refer to the legal submission of Stephen Christensen</p>

**Response Table 9 – Transpower New Zealand Limited**

#	Comments	Response
1.	<p>Existing contingent hydro storage arrangement embedded in the current planning documents and consents relevant to Lake Pūkaki lake levels provide an important electricity generation fuel of last resort to be deployed to reduce risk of load curtailment under stressed system conditions.</p> <p>Transpower supports Meridian’s existing (conditional) access to lower lake levels at Lake Pūkaki to support the electricity system in security of supply emergencies.</p>	<p>Refer to the legal submission of Stephen Christensen and the evidence of:</p> <ul style="list-style-type: none"> <li>- Rory Blundell, Meridian Energy</li> <li>- Grant Telfar, Meridian Energy</li> <li>- Dr Thomas Brent Layton, Futures Consulting</li> <li>- Amy Callaghan, GHD</li> <li>- Dr Grant Webby, Damwatch Engineering</li> <li>- Viculp Lal, Damwatch Engineering</li> </ul>

# Lake Pūkaki Hydro Storage and Dam Resilience Works: FTAA-2510-1120

15 April 2025

#	Comments	Response
	<p>Any changes to the current approach to allowing generators to access the contingent hydro storage currently available would need careful thought, modelling, analysis and full consultation with industry participants. The complexities involved could give rise to unintended consequences and would change risk management arrangements that have financial impacts for all market participants in the electricity sector.</p> <p>The negative effect on security of electricity supply for New Zealand consumers relative to the status quo.</p>	

---

# Agreement in relation to Waitaki Hydro Scheme

---

Meridian Energy Limited

Waka Kotahi New Zealand Transport Agency

Date: 9 September 2021

## **PARTIES**

**Meridian Energy Limited ("Meridian")**

**Waka Kotahi New Zealand Transport Agency ("Waka Kotahi")**

## **BACKGROUND**

- A Meridian is a mixed ownership model company, that is dual listed on the New Zealand Stock Exchange and the Australian Securities Exchange and generates electricity, exclusively from renewable sources.
- B Meridian is the owner and operator of the Waitaki Hydro Scheme in the Waitaki basin from Lake Pūkaki to the Waitaki Dam, including six power stations and a system of dams, canals and associated infrastructure ("**Waitaki Hydro Scheme**").
- C Meridian holds a suite of water and discharge permits for the operation of the Waitaki Hydro Scheme at the date of this Agreement ("**Existing Consents**").
- D The Existing Consents are due to expire on 30 April 2025 ("**Expiry Date**").
- E Meridian intends to obtain new resource consents on providing for the same or substantially similar Operational envelope as the Existing Consents prior to the Expiry Date ("**Replacement Consents**").
- F Waka Kotahi is the statutory body charged with operating the state highway network under the Land Transport Management Act 2003.
- G Waka Kotahi interest in the Replacement Consents is the effects arising on the civil integrity of the State Highway system from the operation of the Waitaki Hydro Scheme authorised by the Replacement Consents, and in particular the potential effect of the operation of Lake Pūkaki by Meridian on State Highway 8 and State Highway 80.
- H The parties have previously reached agreement on the same matters:
- (a) prior to the granting of the Existing Consents an agreement was entered into between ECNZ (which then owned and operated the Waitaki Hydro Scheme) and various stakeholders including NZTA (which was then called Transit New Zealand ("**Transit**") dated 26 November 1990 and referred to as the 1990 Head Agreement;
  - (b) a specific agreement entitled "Agreement in relation to water rights" also dated 26 November 1990 was made between ECNZ and Transit;



- (c) Meridian and Waka Kotahi subsequently entered into an agreement dated April 2008 that recorded ongoing commitment in respect to effects arising from the Waitaki Hydro Scheme;
  - (d) Meridian and Waka Kotahi agreement in relation to water rights following the sale and purchase of Tekapo A and B assets to Genesis Energy Limited dated 25 May 2011.
- I For completeness and ease of reference at Appendix 1 we attach the former agreement made by the parties dated 25 May 2011 ("**Former Agreement**").
- J The parties have agreed to enter into arrangements similar to the former agreement for the Replacement Consents. In doing so the parties have identified the appropriate management, including obligations and undertakings, of the interface between the State Highway network and the Waitaki Hydro Scheme. The parties have resolved to include these obligations and undertakings within this agreement.
- K This purpose of this agreement ("**Agreement**") is to:
- (a) replace all previous agreements;
  - (b) ensure any effects arising from the re consenting of the Waitaki Hydro Scheme and Replacement Consents are addressed as between the parties;
  - (c) cover all obligations of the parties in relation to the management of the interface between the State Highway network and Waitaki Hydro Scheme and to record those arrangements; and
  - (d) set out the relationship between the parties during the period in which Replacement Consents are sought and obtained.
- L Accordingly, the parties enter into this agreement to record their ongoing commitment to the spirit and principles of the Former Agreement.

**THE PARTIES AGREE** as follows:

## 1 **INTERPRETATION**

### **Construction**

- 1.1 Terms used in this agreement shall have the following meanings, unless the context otherwise requires:
- (a) words importing any gender will include all other genders;
  - (b) words importing the singular number include the plural and vice versa;



- (c) financial payments will be made in the lawful currency of New Zealand;
- (d) clause headings are inserted for reference only and shall not affect the interpretation of this deed;
- (e) anything required by this agreement to be done on a day which is not a Business Day may be done effectually on the next Business Day;
- (f) a reference to a prohibition against doing any thing includes a reference to not permitting, suffering or causing that thing to be done;
- (g) references to clauses are references to clauses in this Agreement and references to parties are references to the parties to this Agreement;
- (h) a person will include any individual person, a corporation, a company or other body corporate, an unincorporated body of persons, a public body, firm, partnership, joint venture, association, organisation, trust, the Crown or any agency of the Crown in each case whether or not having separate legal personality;
- (i) a reference to any document, including this Agreement, includes a reference to that document as amended or replaced from time to time;
- (j) except where otherwise expressed in this Agreement, where approvals or consents are required in this Agreement they will not be unreasonably or arbitrarily withheld or delayed;
- (k) a reference to an enactment or any regulations is a reference to that enactment or those regulations as amended, or to any enactment or regulations substituted for that enactment or those regulations and expressions defined or explained in any statute shall bear those meanings in this Agreement;
- (l) that if any party objects or acts contrary to the Purpose and Intent as set out in Clause 2 and/or the Obligations as set out in Clauses 5 and 6 of this Agreement, the other party may request it to withdraw such objections and/or cease such action;
- (m) where obligations bind more than one person those obligations shall bind those persons jointly and severally;
- (n) where a word or expression is defined in this agreement, other parts of speech and grammatical forms of that word or expression have corresponding meanings;
- (o) in the construction of this Agreement, unless the context requires otherwise:
  - i. including: mentioning anything after "include", "includes" or "including" does not limit what else might be included;

- ii. parties: a reference to a party to this Agreement or any other document includes that party's personal representatives/successors and permitted assigns;
- (p) except where otherwise expressed in this Agreement, nothing contained in this Agreement will be deemed or construed to constitute any party, a partner, agent or representative of the other party or be deemed to create any trust, commercial partnership or joint venture;
- (q) a reference to "written" or "in writing" includes all modes of presenting or reproducing words, figures and symbols in a tangible and permanently visible form;
- (r) the benefits and burdens shall be binding upon the parties and their respective successors and personal representatives and any permitted assignees or transferees and references to the parties shall be construed accordingly;

### **Defined terms**

**Application** means any application or other action taken to obtain or renew, or replace, or vary the terms of, any Consent, Consent Changes and/or Replacement Consents;

**Consent** means, in relation to any activity, any designation, rule, approval, consent, licence, permit or other authorisation for or relating to that activity and includes any Replacement Consent;

**Consent Changes** means a variation to the Existing Consents, Replacement Consents and/or an Application for resource consent for any activities and works provided the effects are of the same or similar character, intensity and scale as those reasonably existing;

**Existing Consents** has the meaning given in Background C;

**Expiry date** has the meaning given in Background D;

**ECNZ** has the meaning given in Background H;

**Former Agreement** has the meaning given in Background I;

**Force Majeure** means any event or circumstance beyond the control of the party claiming the benefit of the Force Majeure clause in this agreement, which that party is unable to prevent or overcome by the exercise of reasonable care and at a reasonable cost, and includes, but is not limited to, any:

- (1) act of God, fire, earthquake, storm, flood, or landslide;
- (2) strike, lockout, work stoppage or other labour hindrance;
- (3) explosion, public mains electrical supply failure, or nuclear accident;



- (4) sabotage, riot, civil disturbance, insurrection, epidemic, pandemic, national emergency (whether in fact or law), act of terrorism or act of war (whether declared or not);
- (5) requirement or restriction of, or failure to act by, any government semi-governmental or judicial entity; and
- (6) unavoidable accident, or inability to obtain or delay in obtaining adequate labour, contractors, equipment, materials, transport or supplies;

but does not include a lack of funds for any reason..

**Operational envelope** means the parameters the Waitaki Hydro Scheme is authorised to be operated within as set in any relevant Consent

**Remedial Works** has the meaning set out in clause 5.1(b);

**Replacement Consents** means the replacement and renewal of the Existing Consents required to authorise the Waitaki Hydro Scheme together with any ancillary consents to authorise such activities and/or any other existing or permitted authorisations and that may be amended, varied or changed from time to time;

**RMA** means the Resource Management Act 1991 and/or any amendment to that statute and/or any statute substituting for it;

**Transit** has the meaning given in Background H;

**Waitaki Hydro Scheme** has the meaning given in Background B.

## 2. PURPOSE AND INTENT

2.1 The purpose and intent of this Agreement is to:

- (a) establish a mechanism to recognise, manage and mitigate any effects arising on the civil integrity of all those parts of the State Highway system arising from the operation of the Waitaki Hydro Scheme authorised by the Replacement Consents;
- (b) agree any mitigation associated with Replacement Consents and/or Consent Changes and the Waitaki Hydro Scheme;
- (c) provide a framework to provide for an ongoing constructive and collaborative working relationship between the parties;
- (d) ensure that Meridian operates the Waitaki Hydro Scheme within the same Operational envelope as at the date of this Agreement; and
- (e) confirm that Waka Kotahi support the Application, Replacement Consents and Consent Changes relating to the Waitaki Hydro Scheme.

2.2 Specifically, the parties recognise that the ongoing operation, upgrade and maintenance of the Waitaki Hydro Scheme may adversely affect the State Highway system, including the civil integrity of State Highway 8 and State Highway 80 that adjoin Lake Pūkaki.

### **3. TERM**

- 3.1 The term of this Agreement is from the date of this Agreement until the Replacement Consents expire. For completeness and notwithstanding the terms of this Agreement Meridian retains the absolute right to terminate this Agreement by written notice if for whatever reason after the date of this Agreement the Replacement Consents are not granted.

### **4. CONSIDERATION**

- 4.1 The parties enter into this Agreement in consideration of the other also entering into this Agreement.

### **5. MERIDIAN'S OBLIGATIONS**

- 5.1 Subject to clause 3 and to Waka Kotahi complying with its obligations under clause 6 Meridian will provide the following mitigation due to the potential effects of the Waitaki Hydro Scheme and the operation of Lake Pūkaki on the civil integrity of all those parts of the State Highway system, including State Highway 8 and State Highway 80:

#### **(a) Bi-annual inspections**

The parties will jointly undertake an inspection in respect of such effects at least twice annually in autumn and spring, so as to obtain data and make observations at low and high lake levels, and otherwise as the parties determine appropriate. Each party may request that an inspection be held and propose a date and time for such an inspection. Inspections shall occur on dates and at times agreed by the parties from time to time.

#### **(b) Programme of remedial works**

As soon as reasonably practical following each of the bi-annual inspections under clause 5.1(a) above, the parties shall commence discussions in good faith to endeavour to agree:

- (i) The works necessary to avoid, remedy or mitigate where reasonably practical the actual or likely effects of the operation of Lake Pūkaki by Meridian for the purposes of the Waitaki Hydro Scheme on the civil integrity of State Highway 8 and State Highway 80 to the extent caused or contributed to by Meridian ("**the Remedial Works**")
- (ii) A timetable for the Remedial Works.



**(c) Agreement of third parties**

If Meridian determines that there is any person whose agreement to Meridian undertaking the Remedial Works is required, then Meridian will use all reasonable endeavours to obtain that agreement.

**(d) Consents**

Meridian will be responsible for obtaining any Consents necessary for the Remedial Works. Waka Kotahi agrees to Meridian making Applications for any such Consents. Waka Kotahi authorises Meridian to notify and person considering or determining any Applications for such Consents that Waka Kotahi has agreed to Meridian applying for the Consent and undertaking the work which the Consent is applied for.

**(e) Meridian will undertake the Remedial Works**

- (i) If Meridian obtains, upon terms and conditions satisfactory to Meridian, any third party agreements in accordance with clause 5.1(c), and any Consents in accordance with clause 5.1(d) (with no appeals or objections being validly lodged or made, or any such appeals or objections being resolved to the reasonable satisfaction of Meridian), then Meridian will, at its cost, undertake the Remedial Works in accordance with this clause 5.1(b);
- (ii) Meridian will use all reasonable endeavours to complete the Remedial Works in accordance with the timetable agreed by the parties under clause 5.1(b)(ii);
- (iii) Meridian will only undertake the Remedial Works under Clause 5.1(b) if Waka Kotahi agrees to any necessary interruption, limitation or suspension of access over and along all or part of the State Highway 8 or State Highway 80 as reasonably required;
- (iv) Meridian will not call upon Waka Kotahi to contribute towards the costs of the Remedial Works.

**(f) Meridian will provide information**

Meridian will inform Waka Kotahi of any long-term strategy of Meridian likely to affect the civil integrity of all those parts of the State Highway system, including State Highway 8 and State Highway 80. Meridian will formally advise Waka Kotahi of the confidentiality of any such strategy, and Waka Kotahi will not disclose the information contained within the strategy except as agreed by Meridian.

**6. WAKA KOTAHI OBLIGATIONS**

- 6.1 Waka Kotahi agrees that it will not make submission about the Replacement Consents and/or Consent Changes otherwise than on terms that support the Replacement Consents and/or

7



Consent Changes subject to the same being on similar terms or for an activity having no material greater adverse effects authorised on the date of this Agreement;

6.2 Waka Kotahi will support, and not in any way oppose, any Application by Meridian for the Replacement Consents, Consent Changes or for an activity having no materially greater adverse effects than the activities authorised by the Existing Consents. For the avoidance of doubt, Meridian may request, and Waka Kotahi will:

- (a) Provide written approval to under section 95E of the Resource Management Act 1991 (and/or any succeeding legislation), to the Replacement Consents and/or Consent Changes for a term of 35 years, in such form as is reasonably required by Meridian;
- (b) Notify in writing any regulating body that its concerns or interests in relation to the Replacement Consents, Consent Changes and/or the ongoing operation of the Waitaki Hydro Scheme have been resolved by agreement.

## **7. ACKNOWLEDGEMENT**

7.1 This Agreement is in full and final satisfaction of all claims or rights Waka Kotahi and any person claiming through Waka Kotahi would or might otherwise have had in respect of the Replacement consents, Consent Changes and the ongoing operation of the Waitaki Hydro Scheme until 35 years from the date of the commencement of the Replacement consents or to the duration granted, whatever is the lesser. Except as otherwise provided for in this Agreement, Meridian has no obligation or responsibility to provide mitigation or compensation in respect of the effects of the Replacement consent and/or the ongoing operation of the Waitaki Hydro Scheme that affect, or are likely to affect, Waka Kotahi or any person claiming through Waka Kotahi.

## **8. VALUES**

8.1 The Values Concept reflects the desire of the parties to adhere to an over-arching principle which will govern and guide the contractual relationships between them and which will recognise and comprise the following objectives and principles:

- (i) the establishment of a relationship based on mutual trust;
- (ii) the shared intention to achieve (by constructively and harmoniously working together) the parties' respective objectives;
- (iii) openness, promptness, consistency and fairness in all dealings and communications between the parties and their agents and representatives;
- (iv) good faith dealings between the parties and constructive mutual steps both to avoid differences and to identify solutions; and
- (v) open, prompt and fair notification and resolution between the parties of any differences or disputes which may arise.

- 8.2 The parties must in their day-to-day interaction and in performing their obligations under this Agreement conduct themselves in a manner consistent with the Values Concept.
- 8.3 Despite clause 8.1, nothing in this Agreement will be deemed to establish a legal relationship of partnership or joint venture between the parties.
- 8.4 Where, in terms of this Agreement the parties or their representatives or consultants are required to work together and supply each other with information or assistance (whether or not within a specified timeframe), they will do so having regard to the Values Concept.
- 8.5 For the avoidance of any doubt, the requirements of this clause 8 will not:
- 8.5.1 impinge on or otherwise fetter in any way whatsoever the exercise by a party of any of the rights and remedies it may have under or in relation to or in connection with this Agreement; and
- 8.5.2 require any party to disclose information or act in any manner which could prejudice its own commercial position or interests.
- 8.6 Each party will ensure that its representatives and consultants are made aware of the parties' respective rights and obligations under this clause 8 and that such representatives and consultants have regard to and abide by, in performing their obligations in respect of this Agreement, the objectives and principles recognised by and comprising the Value Concept.

## **9. APPOINTMENT OF LEAD RELATIONSHIP MANAGERS**

- 9.1 Each party will:
- (a) appoint, and maintain during the Term, a suitably qualified and experienced person to lead the relationship between the parties (each a Lead Relationship Manager); and
- (b) discuss with the other party about any proposed replacement of its Lead Relationship Manager.

### **Scope of role**

- 9.2 Each Lead Relationship Manager will:
- (a) serve as the primary point of contact with the other party; and
- (b) have overall responsibility for managing and co-ordinating the performance of his or her appointing party's obligations under this Agreement.
- 9.3 Each party's Lead Relationship Manager, as at the date of this Agreement, is set out in Appendix 2.



## **10. MEETINGS**

- 10.1 The parties will meet to discuss the matters provided for in this agreement. Unless otherwise agreed in writing such meetings will occur at least once annually, and otherwise as they determine appropriate. Either party may request that a meeting be held and propose a date and time and place for such a meeting. Meetings shall occur on dates and at times and places agreed by the parties from time to time.
- 10.2 The parties shall cause written minutes of the matters discussed at their meetings and the matters agreed at the meetings, to be kept and provided to each party. At the beginning of each meeting the minutes from the last meeting shall be considered, corrected if necessary, and approved.

## **11. PUBLIC STATEMENTS**

- 11.1 No party will make any public announcement or statement purporting to represent the joint position of the parties, the other party's position, or any decision of the parties, in respect of any matter provided for in this agreement, unless that announcement or statement is approved by the other party. Each party shall procure that its officers, employee and agents do not make any announcement or statement that would be in breach of this clause if made by that party.

## **12. NOTICE**

- 12.1 Any notice or communication to be given under this Agreement must be in writing addressed to the recipient at the mailing address and/or email address from time to time notified by that party in writing to the other party. Until a change is so notified, the address and/or email address of each party are those set out below at Appendix 2.

## **13. ESCALATION PROCESS**

- 13.1 If a dispute arises between the parties in connection with this Agreement, both parties agree to seek to resolve the dispute through this Agreement in accordance with 13.2 below and not to take any alternative action that circumvents the dispute process set out in 13.2.
- 13.2 The party raising the matter in dispute shall notify the other of the matter in dispute and:
- (a) first, the parties shall attempt to resolve that dispute through good faith negotiation, with a view to a quick resolution of such dispute or difference;
  - (b) if the dispute is not resolved within 10 working days of the date on which the matter in dispute has been notified to all parties, the parties shall escalate the matter to the Senior Manager for Waka Kotahi being the National Manager Maintenance and Operations and the Senior Manager for Meridian being the General Manager Generation;



10

- (c) if the dispute is not resolved within 10 working days of the date on which the matter in dispute has been referred to the relevant personnel in 13.2(b) above, any party can refer any legal issues relating to the dispute to the parties' chief executives;
- (d) if the dispute is not resolved within 10 working days of the date on which the matter in dispute has been referred to the chief executives, then either party can refer the dispute to mediation. The mediator will be appointed by agreement between the parties, or failing agreement within 5 working days of the dispute being referred to mediation, by the President for the time being of the New Zealand Chapter of Lawyers Engaged in Alternative Dispute Resolution (LEADR). The mediation will be governed by the then standard LEADR terms, provided, however, that nothing in this clause shall preclude any party from seeking immediate relief through the courts if that party, acting reasonably and in good faith, is of the opinion that such relief is required.

13.3 In the event that the dispute is not resolved through the steps set out in Section 13.2 above, either party may seek relief as it deems appropriate.

#### **14. CONFIDENTIALITY**

14.1 Each party shall keep all information provided to them by any other party to this Agreement confidential, any disclosure on a confidential basis to financial and legal advisors, consultants, employees or officers who have a "need to know" and, on the expiry of the Term, no party shall use or disclose any such information in any future dealings or otherwise and, if requested by the other party, each party shall return all information provided. This obligation is subject to the parties' legal obligations, including but not limited to under the Official Information Act 1982.

#### **15. COUNTERPARTS**

15.1 This Agreement may be executed in one or more counterpart copies which, read together, shall constitute one and the same instrument. Any facsimile or scanned and emailed copy of this Agreement may be relied on by the other party as though it were an original copy.

#### **16. SEVERABILITY**

16.1 If any part of this Agreement is held by any court or administrative body of competent jurisdiction to be illegal, void or unenforceable:

- (a) such determination shall not impair the enforceability of the remaining parts of this Agreement; and
- (b) the parties agree to amend this Agreement to the minimum extent required to render that part enforceable or to otherwise achieve the intent of this Agreement.

**17. NO WAIVER**

17.1 A failure, delay or indulgence by either party in exercising any power or right shall not operate as a waiver of that power or right. A single exercise or partial exercise of any power or right shall not preclude further exercises of that power or right or the exercise of any other power or right.

**18. WARRANTY AS TO AUTHORITY**

18.1 Each party warrants to the other party that it has all necessary authorities, consents, licences, permits and permissions to lawfully undertake its obligations under this agreement and to give effect to the provisions of this agreement.

**19. PRIVACY**

19.1 This Agreement shall not, and is not intended to, confer any benefit on, or create any obligation enforceable by, any person not a party to this agreement.

**20. ENTIRE AGREEMENT**

20.1 This Agreement is the entire agreement between the parties on the matters herein provided for; it replaces all earlier negotiations, representations, warranties, understandings and agreements, whether oral or written, between the parties relating to such matters.

**21. FORCE MAJEURE**

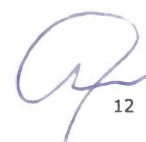
21.1 No party shall be liable for any failure or delay in performing its obligations under this agreement where such failure or delay is due to any cause beyond that party's reasonable control (an Event of Force Majeure) provided that any party relying on this provision to excuse any such failure or delay shall use reasonable endeavours to avoid or mitigate the effects of any Event of Force Majeure.

**22. FURTHER ASSURANCES**

22.1 Each party agrees to execute and deliver any documents and to do all things as may reasonably be required by the other to obtain the full benefit of this Agreement according to its true intent.

**23. MERIDIAN MAY TRANSFER ITS INTERESTS**

23.1 Meridian may, after first informing Waka Kotahi, assign or novate its rights and obligations under this Agreement, to any person who owns or operates, or will own or operate the Waitaki Hydro Scheme, or to any person with capacity to perform Meridian's obligations in this Agreement. On any such assignment or novation any future liability of Meridian shall cease and determine.



12

**24. COSTS**

24.1 Except as otherwise provided in this Agreement, each party will meet its own costs relating to the negotiation, preparation, completion and performance of this Agreement.

**EXECUTION**

**Meridian Energy Limited**

by:



Name: **Neal Barclay**  
Title: **Chief Executive  
Meridian Energy Ltd**

in the presence of:



Name: **Jeff Page**  
Occupation: **Environmental Site Manager**  
Address: **Christchurch**

**Waka Kotahi New Zealand Transport  
Agency** by:



Name: **Peter Connors**  
Title: **Manager System Management -  
Central South Island**

in the presence of:



Name: **Richard Shaw**  
Occupation: **Team Leader - Environmental  
Planning**  
Address: **Christchurch**

**APPENDIX 1: FORMER AGREEMENT**



---

# Agreement in relation to water rights

---

Meridian Energy Limited

New Zealand Transport Agency

Date: 25 May 2011

**PARTIES**

**Meridian Energy Limited** (*Meridian*)

**New Zealand Transport Agency** (*NZTA*)

**BACKGROUND**

- A Pursuant to an agreement for sale and purchase entered into by Meridian and Genesis Energy, as anticipated under the Electricity Industry Act 2010, Meridian has sold the power generating stations known as "Tekapo A" and "Tekapo B" and related assets to Genesis Energy (the *Tekapo Stations*). Meridian has also transferred to Genesis Energy certain resource consents to operate the Tekapo Stations which were formerly held by Meridian (the *Tekapo Consents*).
- B Meridian continues to own and operate a hydro electricity generation scheme in the upper Waitaki basin including six power stations and a system of dams and canals (the *Waitaki Stations*). Meridian holds a package of water rights and consents for the operation of the Waitaki Stations (the *Waitaki Consents*).
- C NZTA is the Crown Entity responsible for state highways. In respect of the Waitaki Stations, NZTA's interest is in the potential effect of the operation of Lake Pukaki by Meridian for the purposes of the Waitaki Stations on the civil integrity of those parts of State Highway 8 and State Highway 80 that adjoin the lake.
- D Immediately prior to the granting of the Waitaki Consents and the Tekapo Consents (together which were previously known as the *Waitaki Power Scheme Consents*), Electricity Corporation of New Zealand Limited (*ECNZ*) (which then owned and operated the Waitaki Stations and the Tekapo Stations) and various stakeholders (including NZTA (which was then called Transit New Zealand)) entered into an agreement entitled "Agreement to Electricity Corporation's water rights" dated 26 November 1990 recording agreed consent conditions (the *1990 Head Agreement*).
- E At the same time, ECNZ and NZTA entered into a related agreement entitled "Agreement in relation to water rights" dated 26 November 1990 recording agreed matters not incorporated into the Waitaki Power Scheme Consents (the *Stakeholder Agreement*).
- F Meridian and NZTA are parties to an agreement in relation to water rights dated April 2008 which replaced the Stakeholder Agreement and recorded their ongoing commitment in respect of those parts of State Highway 8 and State Highway 80 that adjoin Lake Pukaki (the *Former Agreement*).

FINAL



- G The Former Agreement is to be replaced by this agreement, and by a separate agreement between Genesis Energy and NZTA.

**THE PARTIES AGREE** as follows:

**1 DEFINITIONS AND CONSTRUCTION**

**1.1 Defined terms**

In this agreement, unless the context requires otherwise:

*1990 Head Agreement* has the meaning set out in paragraph D of the Background;

*Application* means any application or other action taken to obtain or renew, or vary the terms of, any Consent;

*Business Day* means any day other than a Saturday, Sunday, statutory holiday observed in Canterbury, or day in the period commencing on 24 December in one year and ending on 5 January the following year;

*Consent* means, in relation to any activity, any designation, rule, approval, consent, licence, permit or other authorisation for or relating to that activity;

*ECNZ* has the meaning set out in paragraph D of the Background;

*Former Agreement* has the meaning set out in paragraph F of the Background;

*Genesis Energy* means Genesis Power Limited (trading as Genesis Energy);

*Remedial Works* has the meaning set out in clause 2.3(a); and

*Stakeholder Agreement* has the meaning set out in paragraph E of the Background;

*Tekapo Consents* has the meaning set out in paragraph A of the Background;

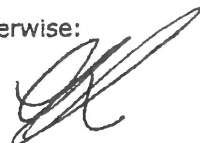
*Tekapo Stations* has the meaning set out in paragraph A of the Background;

*Waitaki Consents* has the meaning set out in paragraph B of the Background; and

*Waitaki Stations* has the meaning set out in paragraph B of the Background.

**1.2 Construction**

In the construction of this agreement, unless the context requires otherwise:



*Business Days:* anything required by this agreement to be done on a day which is not a Business Day may be done effectually on the next Business Day;

*documents:* a reference to any document, including this agreement, includes a reference to that document as amended or replaced from time to time;

*negative obligations:* a reference to a prohibition against doing any thing Includes a reference to not permitting, suffering or causing that thing to be done;

*parties:* a reference to a party to this agreement or any other document includes that party's personal representatives/successors and permitted assigns;

*person:* a reference to a person includes a corporation sole and also a body of persons, whether corporate or unincorporate;

*related terms:* where a word or expression is defined in this agreement, other parts of speech and grammatical forms of that word or expression have corresponding meanings;

*singular, plural and gender:* the singular includes the plural and vice versa, and words importing one gender include the other genders;

*statutes and regulations:* a reference to an enactment or any regulations is a reference to that enactment or those regulations as amended, or to any enactment or regulations substituted for that enactment or those regulations; and

*writing:* a reference to "written" or "in writing" includes all modes of presenting or reproducing words, figures and symbols in a tangible and permanently visible form.

## 2 LAKE PUKAKI

### 2.1 Acknowledgement

The parties acknowledge that the operation of Lake Pukaki by Meridian for the purposes of the Waitaki Stations may affect the civil integrity of those parts of State Highway 8 and State Highway 80 that adjoin the lake.

### 2.2 Bi-annual inspections

The parties will jointly undertake an inspection in respect of such effects at least twice annually in autumn and spring, so as to obtain data and make observations at low and high lake levels, and otherwise as the parties determine appropriate. Either party may request that an inspection be held and propose a date and time for such an inspection. Inspections shall occur on dates and at times agreed by the parties from time to time.

**2.3 Programme of remedial works**

As soon as reasonably practical following each of the bi-annual inspections under clause 2.2, the parties shall commence discussions in good faith to endeavour to agree:

- (a) the works necessary to avoid, remedy or mitigate where reasonably practical the actual or likely effects of the operation of Lake Pukaki by Meridian for the purposes of the Waitaki Stations on the civil integrity of those parts of State Highway 8 and State Highway 80 that adjoin the lake, to the extent caused or contributed to by Meridian (the *Remedial Works*); and
- (b) a timetable for the Remedial Works.

**2.4 Agreement of third parties**

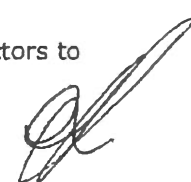
If Meridian determines that there is any person whose agreement to Meridian undertaking the Remedial Works is required, then Meridian will use all reasonable endeavours to obtain that agreement.

**2.5 Consents**

Meridian will be responsible for obtaining any Consents necessary for the Remedial Works. NZTA agrees to Meridian making Applications for any such Consents. NZTA authorises Meridian to notify any person considering or determining any Applications for such Consents that NZTA has agreed to Meridian applying for the Consent and undertaking the work which the Consent is applied for.

**2.6 Meridian will undertake the Remedial Works**

- (a) If Meridian obtains, upon terms and conditions satisfactory to Meridian, any third party agreements in accordance with clause 2.4, and any Consents in accordance with clause 2.5 (with no appeals or objections being validly lodged or made, or any such appeals or objections being resolved to the reasonable satisfaction of Meridian), then Meridian will, at its cost, undertake the Remedial Works in accordance with this clause 2.6.
- (b) Meridian will use all reasonable endeavours to complete the Remedial Works in accordance with the timetable agreed by the parties under clause 2.3(b).
- (c) Meridian may interrupt, limit, restrict or suspend access over and along all or part of State Highway 8 or State Highway 80 at any time, and for such periods, as Meridian reasonably requires to undertake the Remedial Works.
- (d) Meridian may use its nominated employees, agents or contractors to undertake the Remedial Works.



- (e) Meridian will not call upon NZTA to contribute towards the costs of the Remedial Works.

**2.7 Meridian will provide information**

Meridian will inform NZTA of any long-term strategy of Meridian likely to affect the civil integrity of those parts of State Highway 8 and State Highway 80 that adjoin Lake Pukaki. Meridian will formally advise NZTA of the confidentiality of any such strategy, and NZTA will not disclose the information contained within the strategy except as agreed by Meridian.

**3 ADMINISTRATION OF THE RELATIONSHIP**

**3.1 Meetings**

- (a) The parties will meet to discuss the matters provided for in this agreement at least once annually and otherwise as they determine appropriate. Either party may request that a meeting be held and propose a date and time and place for such a meeting. Meetings shall occur on dates and at times and places agreed by the parties from time to time.
- (b) The parties shall cause written minutes of the matters discussed at their meetings, and the matters agreed at the meetings, to be kept and provided to each party. At the beginning of each meeting the minutes from the last meeting shall be considered, corrected if necessary, and approved.

**3.2 Public statements**

No party will make any public announcement or statement purporting to represent the joint position of the parties, the other party's position, or any decision of the parties, in respect of any matter provided for in this agreement, unless that announcement or statement is approved by the other party. Each party shall procure that its officers, employees and agents do not make any announcement or statement that would be in breach of this clause if made by that party.

**3.3 Support**

NZTA will support, and not in any way oppose, any Application by Meridian for a Consent on similar terms to the Waitaki Consents or for an activity having no materially greater adverse effects than the activities authorised by the Waitaki Consents.

**4 MISCELLANEOUS**

**4.1 Term**

This agreement will continue in effect for so long as Meridian owns and operates the Waitaki Stations under the Waitaki Consents.



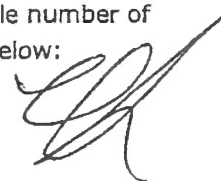
#### 4.2 Dispute resolution

Any dispute arising out of or in connection with this agreement shall be resolved in accordance with the following provisions.

- (a) The parties shall endeavour to resolve the dispute by discussion.
- (b) If the parties are unable to resolve the dispute by discussion then either party may at any time refer the dispute to mediation. Mediation shall be initiated by either party giving written notice to the other party identifying the dispute which it requires be referred to mediation and nominating a mediator. If the parties are unable to agree upon and appoint a mediator within 10 Business Days after the other party receives that written notice then either party or both parties may ask the Arbitrators and Mediators Institute of New Zealand Incorporated to appoint a mediator. The mediation shall be terminated on any of the following events occurring:
  - (i) the signing of a settlement agreement by the parties;
  - (ii) notice to the parties from the mediator to the effect that the mediator believes further efforts at mediation are no longer justified;
  - (iii) notice by either party to the mediator and the other party to the effect that the party believes further efforts at mediation are no longer justified; or
  - (iv) the expiry of 20 Business Days from the mediator's appointment or such greater length of time agreed by the parties from time to time.
- (c) If any mediation is terminated by the occurrence of any of the events in clauses (b)(ii) to (b)(iv) the dispute may be referred to arbitration by either party or both parties, to be resolved by arbitration by a single arbitrator in accordance with the Arbitration Act 1996.
- (d) No reference to mediation or arbitration shall affect either party's rights or obligations under this agreement pending the outcome of that mediation or arbitration.

#### 4.3 Notices

- (a) Any notice or other communication to be given under this agreement must be in writing and addressed to the recipient at the address or facsimile number from time to time notified by that party in writing to the other party. Until a change is so notified, the address and facsimile number of each party are those set out under the name of that party below:



*Meridian Energy Limited*

25 Sir William Pickering Drive  
Christchurch

Facsimile: 64 3 357 9821

Attention: The General Counsel; and  
Manager – Natural Resources

*New Zealand Transport Agency*

Christchurch Regional Office  
Education House  
Level 7, 123 Victoria Street  
PO Box 1479  
Christchurch

Facsimile: 64 3 365 6576

Attention: Peter Connors – Regional Network Operations Manager

- (b) Delivery may be effected by hand or by facsimile. A notice or other communication will be deemed to have been received:
- (i) in the case of hand delivery, at the time of actual delivery to the recipient's address; and
  - (ii) in the case of delivery by facsimile, at the time of transmission specified in a transmission report from the sending machine which indicates that the facsimile was sent in its entirety to the facsimile number of the recipient.
- (c) If a notice or other communication is received or deemed to have been received after 5 pm on a Business Day in the place to which it is sent, or on a day which is not a Business Day in that place, it will be deemed not to have been received until the next Business Day in that place.

**4.4 Warranty as to authority**

Each party warrants to the other party that it has all necessary authorities, consents, licences, permits and permissions to lawfully undertake its obligations under this agreement and to give effect to the provisions of this agreement.



**4.5 Force majeure**

No party shall be liable for any failure or delay in performing its obligations under this agreement where such failure or delay is due to any cause beyond that party's reasonable control (an *Event of Force Majeure*) provided that any party relying on this provision to excuse any such failure or delay shall use reasonable endeavours to avoid or mitigate the effects of any Event of Force Majeure.

**4.6 Entire agreement**

- (a) Subject to paragraph (b), this agreement is the entire agreement between the parties on the matters herein provided for; it replaces all earlier negotiations, representations, warranties, understandings and agreements, whether oral or written, between the parties relating to such matters.
- (b) The parties' rights and obligations under the 1990 Head Agreement as amended from time to time (as between themselves) shall continue in effect to the extent that such rights and obligations are not inconsistent with the provisions of this agreement.
- (c) For the avoidance of doubt, the parties' rights and obligations under any agreement to which they are both parties shall continue in effect to the extent that such rights and obligations do not relate to the effects or likely effects of the operation of Lake Pukaki by Meridian for the purposes of the Waitaki Stations on the civil integrity of those parts of State Highway 8 and State Highway 80 that adjoin the lake and are not otherwise inconsistent with the provisions of this agreement.
- (d) The Former Agreement shall terminate with effect from the date of this agreement.

**4.7 Contracts (Privity) Act**

This agreement shall not, and is not intended to, confer any benefit on, or create any obligation enforceable by, any person not a party to this agreement.

**4.8 No assignment**

Meridian may transfer the rights and obligations in this agreement to any subsequent operator of the Waitaki Stations. No party shall otherwise transfer, assign, or create any encumbrance over, any rights or obligations in this agreement without first obtaining the written consent of the other party, which shall not be unreasonably or arbitrarily withheld or delayed.

**4.9 No waiver**

A failure, delay or indulgence by either party in exercising any power or right shall not operate as a waiver of that power or right. A single exercise or partial exercise of any power or right shall not preclude further exercises of that power or right or the exercise of any other power or right.



**4.10 Severability**

If any part of this agreement is held by any court or administrative body of competent jurisdiction to be illegal, void or unenforceable, such determination shall not impair the enforceability of the remaining parts of this agreement.

**4.11 Costs**


Except as otherwise provided in this agreement, each party will meet its own costs relating to the negotiation, preparation, completion and performance of this agreement.

**4.12 Manner of execution**

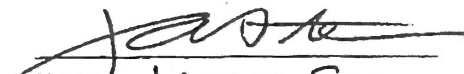
This agreement may be executed in any number of counterparts. Once the parties have executed the counterparts, and each party has received a copy of each signed counterpart which that party did not execute, each counterpart shall be deemed to be as valid and binding on the party executing it as if it had been executed by all the parties. The transmission by facsimile by each party of a signed counterpart copy of this agreement to the other party shall be deemed proof of signature of the original and the signed facsimile so transmitted shall be deemed an original for the purposes of this agreement.

**EXECUTION**

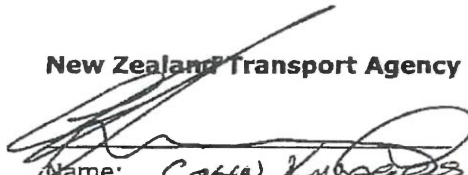
**Meridian Energy Limited by:**

  
Name: TIM LUSK  
Title: CEO

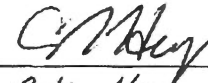
in the presence of:

  
Name: JASON STEIN  
Occupation: SOLICITOR  
Address: WELLINGTON

**New Zealand Transport Agency by:**

  
Name: COLIN HEY  
Title: STAFF HIGHER MANAGER

in the presence of:

  
Name: Colin Hey  
Occupation: Area Manager  
Address: NZTA  
123 Victoria St  
Christchurch.

**APPENDIX 2: LEAD RELATIONSHIP MANAGERS**

<b>Party</b>	<b>Name &amp; Position</b>	<b>Contact details</b>
Waka Kotahi	Andrew Crofts Senior Network Manager	P: 027 454 4329  E: Andrew.Crofts@nzta.govt.nz  A: Level 1, BNZ Centre 120 Hereford Street PO Box 1479 Christchurch 8011 New Zealand
Meridian	Tim Mills Civil Engineering Team Leader	P: 021 408 201  E: tim.mills@meridianenergy.co.nz  A: Corner Market Place & Mackenzie Drive Private Bag 950 Twizel 7944 New Zealand

