

BEFORE THE COMMISSIONER ON BEHALF OF THE OTAGO REGIONAL COUNCIL

Consent No. RM18.004

Between the Applicant: Pioneer Energy Limited and the Consent Authority: Otago Regional Council

Speaking Notes from Natasha Maree Pritchard, 6 July 2022

I have prepared planning evidence on behalf of Otago Regional Council for this hearing.

In my right of reply I will respond to the applicant's evidence and supplementary evidence, submitter's evidence, the opening legal statement for the applicant, and the further advice of Council's experts including taking into consideration what I have heard here today.

Applicant's Evidence and Supplementary Evidence

1. Mr Antony Jack
 - a. I note that this evidence provides further details around:
 - i. the purpose of the dam in the hydro-electricity scheme as seasonal storage,
 - ii. the value of the storage potential provided by the Lake; and
 - iii. how the operation of the storage is related to the NZ energy market and meeting its forward generation commitments.

The evidence also confirms the current limitations of the existing draw down rate (i.e. the inability to respond to short periods of high demand and maintenance of higher levels of generation at lower lake levels – para 14).

- b. The evidence explains and summarises the current operating regime and likely future operating regime for the Lake and notes that this not likely to be significantly different. I understand this and agree with the conclusions in the opening submissions of counsel for the applicant (para 10) that actual lake levels under the proposed draw down will be something between Scenario A and Scenario C. This is also addressed by Mr Nicholson in his supplementary evidence (para 8).
 - c. The 'Model' is discussed in paras 23-33 and further validation provided. I note and accept that the model is not intended to provide definitive details of what Lake Onslow would have looked like under Scenario B or could look like under Scenario C. Mr Jack notes that there are a number of variables that have not been included in the model. I consider that it is relevant to distinguish between the variables that impact on how the applicant operates (i.e. electricity market, ...) and those that

would affect how the consents could be exercised to their fullest extent (i.e. other sources/losses). I understand the model includes the primary source of inflow only and that Mr Jack's evidence (para 30) is that other sources are very minor and would have little impact on the model output. The advice of Mr Coutinho is that some changes to the model would increase the accuracy of the model output and that adding meteorological data would be an easy change that would improve the model's reliability (para 13 of speaking notes).

- d. I understand from Mr Jack and Mr Nicholson that they are seeking no further improvements to the model primarily because it is to be used as a relative tool to compare differences between Scenario B and C. I agree that this is one of the primary purposes of the model and that the model is best suited to this. Understanding whether Scenario B is a relatively accurate reflection of what could occur to lake levels is important as it establishes the baseline for which effects are compared against. I do not have an understanding as to how different the outputs could be based on the refinements suggested by Mr Coutinho in his peer review and speaking note. I do however note that without the correction factor applied to the model there was an increase in the period of time that the boat ramps would not have been usable under Scenario C v Scenario B (as considered by Dr Booth in her evidence dated 3 June 2022 – para 96-98) so I consider there could be consequential changes that could result from a refinement of the model.
- e. In terms of the additional validation undertaken by Mr Jack, this shows that a correction factor between 0.61 and 0.68 is likely to be appropriate. I refer to the peer review of Mr Coutinho and speaking notes that confirms that models changes and additional calibration would confirm whether these correction factors are appropriate. I note that I applied and considered the 0.68 correction factor in the s42A report as this was the best available information I had available at that time.
- f. **Para 30 of Mr Jacks evidence** relates to the 'rocky bed' condition. I appreciate the practical, logistical and financial concerns with imposing the rocky bed condition. I reiterate that I have not recommended this as a condition of consent.
- g. **Para 31 of Mr Jacks evidence** relates to the signage condition– I am in agreement with the changes to the signage condition to include wording regarding NZ Coastguard requirements, for the reasons outlined in Mr Jacks's evidence.

2. Ross Dungey

- a. I have no specific comments on Mr Dungey's evidence. I note that this summarises the ecological studies and understanding of the Lake and provides some updated data from recent sampling. Comments on this evidence have primarily been addressed by Ms Coates and Dr Booth.

3. William Nicholson

- a. I am in general agreement with the planning evidence.
- b. **Para 20** - there is reference to an email sent by myself to Hilary Lennox (planner at LandPro in 2018) that states that I expressed that a decision had been made that the application had no more than minor effects and that monitoring had been recommended. I can clarify that this email was the provision of the final Aquatic Environmental Sciences report to the applicant. My email summarised the conclusions of that particular report. It was this report that concluded there was no more than minor ecological effects and that recommended monitoring. I reiterate that Council had not made a decision on the nature of the effects at this point or imposed any conditions requiring monitoring. I can provide a copy of this email if required.
- c. **Para 26** – Mr Nicholson mentions that on June 20 2022 the Applicant approached Teviot Angling Club about extending the concrete boat ramp below 3.5 m, should lake levels provide an opportunity in the future. This has not been proffered as a condition of consent. I agree with Mr Nicholson that there are challenges with such a condition. These include likely consent requirements for the works in the lake bed and responsibility and timeframes for the boat ramp extension. The condition would need to require the Applicant to extend the boat ramp to avoid third party issues with the consent. I did not recommend that such a condition be imposed, given the additional effects on boat ramp useability were assessed to be minimal. I noted that Mr Nicholson's evidence is that the boat ramp extends to 3.5 m below the crest. My assessment was based on the boat ramp being operational to 3.2 m below the crest. This was based on the site visit and agreed notes. Based on Mr Jack's Table 1 it shows that when the inflow correction of 0.688 is applied, the lake would be below 3.5 m below crest 2% more of the time when comparing Scenario C to Scenario B. I consider this to be minimal and any additional time to not have any real impact on boat users.

- d. As noted previously, I accept the proposed changes to the signage condition – Condition 15 of 2001.475.
- e. In terms of statutory analysis, I am in general agreement with the further assessment by Mr Nicholson. I specifically comment on the following:
- f. **para 44** - I agree that the proposed change to the draw down rate could be considered an 'upgrade' to the renewable generation activity. It will be changing how the lake can be operated by enabling more water to be taken hence enabling more renewable electricity to be generated than could currently occur.
- g. **Para 49** – I note that I still interpret Policy D of the NPS-REG to be relevant only if the application being decided was one that could have reverse sensitivity effects on existing or consented renewable electricity generation. Mr Nicholson has stated that by declining or constraining the proposal to the benefit of the amenity values this could be creating a reverse sensitivity effect on the renewable electricity activity. My opinion is that this is not a correct application of this policy as it is not the recreation activity that is being consented. However, I note that it is not consequential to the decision and that other policies in the NPS-REG require that due consideration is given to the effects that declining or constraining the proposal could have on renewable electricity generation.
- h. I have realised that as an oversight I did not include in my s42A report relevant policies in the PO-RPS 2019 and P-RPS 2021 that relate to renewable electricity generation. I note, in summary, that these provisions generally align and reflect the objective and policies of the NES-REG and the overall assessment related to them. Granting the application is consistent with these objectives and policies by enabling the proportion of electricity generated by renewable electricity generation to increase, enabling the renewable electricity generation activity to become more efficient and to assist with security of supply and because the adverse effects of the proposal are minimised. I consider that the applicant meets the definition of regionally significant infrastructure under Policy 4.3.2 of the PO-RPS 2019 and in the interpretation section of the P-ORPS 2021¹ as I understand that the Teviot hydroelectricity scheme is a renewable electricity generation activity that is connected to the National Grid as well as a local distribution network. For completeness, I consider that the following policies are relevant for this application:

¹ Pg 33 of the P-ORPS 2021

- i. PO-RPS – 2019: Objective 4.4, Policy 4.3.2, Policy 4.3.4, Policy 4.4.1, Policy 4.4.3
 - ii. P-RPS 2021: EIT-EN-O1, EIT-EN-O2, EIT-EN-O3, EIT-EN-P1, EIT-EN-P2, EIT-EN-B3, EIT-EN-P6, EIT-INF-P11
 - iii. I have included copies of these provisions at the bottom of my right of reply.
- i. I note that I did not comment on Objective 5.3.6 or 6.3.1 of the RPW in the s42A report. I do not disagree with Mr Nicholson’s assessments for these objectives.

Submitter Evidence – Otago Fish and Game Council and Teviot Angling Club Incorporated

I have reviewed the submitter’s brief of evidence – namely the ecological evidence of Mr Couper for Otago Fish and Game Council. I have also considered what we have heard from the submitters today.

1. Mr Jayde Couper

Model

- a. I note that this identifies some of the limitations with the model and recommends that conclusions based off the model are considered with a moderate degree of uncertainty. I understand that there is agreement that there are some limitations with the model. Given the model is the primary tool for understanding what the lake could have been like under Scenario B and the relative changes that could occur further details might be required as detailed in the peer review of Mr Coutinho. Given the timing of the peer review (i.e. just before the s42A report was released), I left this at the Commissioners discretion.
- b. I note that in paragraph 10(c) of the evidence it states that the s42A assessment uses the most conservative correction factor. I confirm that this was because the other two calibration periods were provided after the s42A had been distributed as evidence. I address this in the evidence of Mr Jack.
- c. Para 10 (f) of the evidence relates to raw data provision for the model. My understanding is that the raw data is found in the spreadsheet: *Onslow Level with inflows (Taieri Synthetic).xlsx*. attached to the further information provided on 24 May 2022. This had been part of the further information emails sent to all parties on

2 June 2022. I am unsure if Otago Fish and Game could not access these attachments or whether or not they were provided to Mr Couper.

- d. Mr Couper questions the graph used in the evidence of Ms. Coates at para 12-14. The graph was that provided on 24 May 2022 by the applicant. This is titled – *Further information initial answers to inference questions and updated model* – which included ‘*Onslow Level with inflows (Taieri Synthetic).xlsx*’. It was later confirmed that this visual model had the scaling factor set to 1.5 over representing the inflows and providing a distorted graph. Communications on this were sent out on 8 June 2022. The version with a scaling factor of 1 was considered by Teixeira and Coutinho in the peer review. Ms Coates in her right of reply has considered changes to the model since preparing her evidence and notes that her effects assessment and conclusions are not solely reliant on the model. I also note that the relative effects between the two Scenarios were still considered. I rely on the supplementary evidence of Mr Jack (para 7) that the conclusions based on the model used by Ms Coates would tend to be more conservative.
- e. Para 29-33 - I note that Mr Couper has identified the uncertainty around the proportion of rocky/ gravel, cobble habitat, especially at lower lake levels. He considers it a ‘fair assumption’ that there is little to none near the Lakes minimum lake level. I agree that we do not have quantitative evidence of bed substrate and bed substrate proportions at different (including the lower) lake levels. I agree from the evidence available that there are likely to be limited rocky areas at the low and lowest lake levels.
- f. I note that comments on carrying capacity have been addressed by Ms Coates in her right of reply.
- g. I note that Table 1 in Mr Couper’s evidence– is useful to enable visualisation of the lake size at different levels and that Ms Coates comments on ecological values at different lake levels in her right of reply.
- h. Mr Couper agrees with the evidence that effects on the cicada hatch ecologically are likely to be minor. The key concern is the large decline in angling activity. I note this is consequential when considering Scenarios A and C but that when comparing B and C the lake could already be at levels that impinge on fishing at this critical angling time within any one year (i.e. comparison between the low lake levels and no access to boat ramps).

- i. Comparison – para 70 -I note that Mr Couper’s evidence indicates that he cannot identify any significant ecological effects of the proposal when Scenario B is considered as the baseline. His evidence indicates that stable lake levels may enable macrophyte production but the smaller lake area will effect trout productivity. Ms Coates has addressed trout productivity in her right of reply and notes that the lake is likely to be equally productive relative to its size at the any level/size.
- j. LOMP (para 89-91) – I note that Mrs Coates has further commented on the LOMP in her right of reply. I have no change to my s42A recommendation that this is not necessary or appropriate to include as a condition of consent, given the existing environment being considered.
- k. Hard substrate or rocky areas (para 92-95) – Mr Couper notes that this would require an assessment at lower levels as to what would be required and where. I agree with the applicant and submitter evidence that further consideration and detail would be required if hard substrate establishment (i.e. the rocky areas’) are made a condition of consent. I still consider that for these to have meaningful benefits the locations would need to be carefully chosen in consultation with relevant parties and that the design of the hard substrate or rocky areas be undertaken by experts.

2. Nigel Paragreen

- a. I note there is disagreement with the existing environment that has been considered for this application in the s42A. I defer to the expert legal advice in that instance.

3. Graeme Rae

- a. I have no specific comments on Mr Rae’s oral submission.

Opening submissions of Counsel for the Applicant – B Irving

- I have considered the opening submissions of Counsel for the Applicant and referenced them above when commenting on the applicant’s evidence. I confirm that I am not a legal expert. I have no disagreement with the submission points.

Updated Evidence/Advice from Experts

- I note that the additional comments from Ms Coates in her right of reply on the ecological effects of the proposal do not change any of my conclusions or recommendations.
- I note that the additional comments from Dr Booth on the recreational effects of the proposal do not change any of my conclusions or recommendations. I note that there is still an unquantifiable potential for increased navigation risk but this is likely to be low. I consider that this is mitigated in part provided the updated condition to signage with altered wording suggested by Mr Nicholson is imposed.
- I note that Mr Coutinho reiterates that the model reliability could be improved (para 8-10) and the model output be considered with a degree of uncertainty.

Final comments

Bearing in mind the key issues detailed in the s42A report and outlined in the Applicant's legal opening statement, I consider the following:

- There is still disagreement on the existing environment between the applicant and Council compared to the submitters. I defer to the expert legal advice in this instance. When assessing adverse effects, it is the comparison between Scenarios B and C that is relevant.
- The model has been used to contextualise what the environment could look like under Scenarios B and C. There are limitations to the model which have been highlighted by the peer review. I understand that some simple modifications would improve the accuracy of the model to improve certainty on the baseline that effects are considered. I agree that it is not likely to represent what will occur but it is the best available information to understand how the lake may be under the existing environment required to be considered.
- The operating regime of the lake and lake levels is likely to be different to the modelled scenarios due to the number of other factors that the Applicant takes into consideration when deciding what to take but lake levels will be between Scenario A and Scenario C.
- The ecological effects on trout production from the proposal will be limited. Effects to trout during the cicada hatch period will be minimal.
- Effects to angling during the cicada hatch period could already be realised through the existing consent (i.e. low lake levels, no boat ramp access, mudflats).
- There is still some uncertainty on recreation effects, especially as they relate to foot access and navigation risks (primarily as they relate to mudflat extent) but I consider there is sufficient information to conclude that these are not significant effects when comparing Scenarios B with C.

- The application is in accordance with all relevant statutory documents including the NPS-FM and NPS-REG.

Overall, I still consider that the variation application can be granted.

As noted above, I accept the change proposed by the Applicant to the signage condition. No further changes to the draft conditions are recommended.

PO-RPS -2019

Objective 4.4: *Energy resources and supplies are secure, reliable and sustainable*

Policy 4.4.1: *Renewable electricity generation*

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

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

Policy 4.4.3 *Protecting existing renewable electricity generation*

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

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

Policy 4.3.2 *Nationally and regionally significant infrastructure*

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

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

distribution network;

b) National Grid;

c) Electricity sub-transmission infrastructure;

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d) Telecommunication and radiocommunication facilities;

e) Roads classified as being of national or regional importance;

f) Ports and airports and associated navigation infrastructure;

g) Defence facilities;

h) Rail infrastructure;

i) Municipal infrastructure.

Policy 4.3.4 Adverse effects of nationally and regionally significant infrastructure

Manage adverse effects of infrastructure that has national or regional significance, by:

a) Giving preference to avoiding its location in all of the following:

i. Areas of significant indigenous vegetation and significant habitats of indigenous fauna in the coastal environment;

ii. Outstanding natural character in the coastal environment;

iii. Outstanding natural features and natural landscapes, including seascapes, in the coastal environment;

iv. Areas of significant indigenous vegetation and significant habitats of indigenous fauna beyond the coastal environment;

v. Outstanding natural character in areas beyond the coastal environment;

vi. Outstanding natural features and landscapes beyond the coastal environment;

vii. Outstanding water bodies or wetlands;

viii. Places or areas containing historic heritage of regional or national significance;

b) Where it is not practicable to avoid locating in the areas listed in a) above because of the functional needs of that infrastructure:

i. Avoid adverse effects on the values that contribute to the significant or outstanding nature of a) i-iii;

ii. Avoid significant adverse effects on natural character and natural landscapes in all other

areas of the coastal environment

iii. Avoid, remedy or mitigate, as necessary, adverse effects in order to maintain the outstanding or significant nature of a) iv-viii;

c) Avoid, remedy or mitigate, as necessary, adverse effects on highly valued natural features, landscapes and seascapes. in order to maintain their high values;

d) Avoiding, remedying or mitigating other adverse effects;

e) Considering offsetting for residual adverse effects on indigenous biological diversity.

Where there is a conflict, Policy 4.3.4 prevails over the policies under Objectives 3.2 (except for policy 3.2.12), 5.2 and Policy 4.3.1

P-ORPS-2021

Objectives

EIT-EN-01 – Energy and social and economic well-being

Otago’s communities and economy are supported by renewable energy generation within the region that

is safe, secure, and resilient.

EIT-EN-02 – Renewable electricity generation

The generation capacity of renewable electricity generation activities in Otago:

(1) is maintained and, if practicable maximised, within environmental limits, and

(2) contributes to meeting New Zealand’s national target for renewable electricity generation.

EIT-EN-03 – Energy use

Development is located and designed to facilitate the efficient use of energy and to reduce demand if possible, minimising the contribution that Otago makes to total greenhouse gas emissions.

Policies

EIT-EN-P1 – Operation and maintenance

The operation and maintenance of existing renewable electricity generation activities is provided for while minimising its adverse effects.

EIT-EN-P2 – Recognising renewable electricity generation activities in decision making

Decisions on the allocation and use of natural and physical resources, including the use of fresh water and development of land:

(1) recognise the national, regional and local benefits of existing renewable electricity generation activities,

(2) take into account the need to at least maintain current renewable electricity generation capacity, and

(3) recognise that the attainment of increases in renewable electricity generation capacity will require significant development of renewable electricity generation activities.

EIT–EN–P3 – Development and upgrade of renewable electricity generation activities

The security of renewable electricity supply is maintained or improved in Otago through appropriate provision for the development or upgrading of renewable electricity generation activities and diversification of the type or location of electricity generation activities.

EIT–EN–P6 – Managing effects

Manage the adverse effects of renewable electricity generation activities by:

(1) applying EIT–INF–P13,

(2) having regard to:

(a) the functional need to locate renewable electricity generation activities where resources are available,

(b) the operational need to locate where it is possible to connect to the National Grid or electricity sub-transmission infrastructure, and

(c) the extent and magnitude of adverse effects on the environment and the degree to which unavoidable adverse effects can be remedied or mitigated, or residual adverse effects are offset or compensated for; and

(3) requiring consideration of alternative sites, methods and designs, and offsetting or compensation measures (in accordance with any specific requirements for their use in this RPS), where adverse effects are potentially significant or irreversible.

EIT–INF–P11 – Operation and maintenance

Except as provided for by ECO–P4, allow for the operation and maintenance of existing nationally and regionally significant infrastructure while:

(1) avoiding, as the first priority, significant adverse effects on the environment, and

(2) if avoidance is not practicable, and for other adverse effects, minimising adverse effects

EIT–INF–P12 – Upgrades and development

Provide for upgrades to, and development of, nationally or regionally significant infrastructure while ensuring that:

(1) infrastructure is designed and located, as far as practicable, to maintain functionality during and after natural hazard events,

- (2) it is, as far as practicable, co-ordinated with long-term land use planning, and*
- (3) increases efficiency in the delivery, operation or use of the infrastructure.*