

BEFORE THE CANTERBURY REGIONAL COUNCIL

In the matter of **61 consent applications to take, use, divert and dam water and
51 associated discharge and land use consent applications in
the Upper Waitaki Catchment**

7th Minute of Commissioners

Dated 2 November 2009

Introduction

NIWA Report on Lake Benmore

- 1 Prior to the commencement of the hearing, Jo Appleyard (counsel for Meridian) sent a memorandum suggesting that a recent report completed for Environment Canterbury (ECan) by NIWA ("Lake Benmore Water Quality: a modeling method to assist with assessments of nutrient loadings") was relevant to the commissioners' deliberations.
- 2 One of the authors of the report (Donna Sutherland) will be appearing as a witness for Meridian. Our understanding is that she will be presenting evidence on the current state of Lake Benmore, and the likely response of the lake to an increased nutrient load. While this evidence, and the answers to questions arising from the evidence will assist our understanding, we are also aware that Ms Sutherland is critical of the MWRL modelling approach, and that much of this criticism is based on differences in predictions made by NIWA and those made by GHD (the MWRL WQS).
- 3 From our reading of the NIWA report, it would appear that the predictions made by NIWA are heavily dependent on the hydrodynamic and ecosystem response models they used in their study. We note that this aspect is not covered in any depth in Ms Sutherland's evidence.

Modelling approval

- 4 In order to better evaluate the merits of Ms Sutherland's evidence we think it essential to understand the modelling approach used by NIWA; it's data requirements and the confidence that we can place on its predictions.
- 5 We understand that Dr Spigel was the principal modeller used by NIWA in the Lake Benmore water quality study. We would therefore like to hear from Dr Spigel to explain the modelling approach.
- 6 In particular we would like Dr Spigel to explain the choice of modeling tools, and how they reflect the hydrodynamics of the Lake Benmore system. This should include an explanation of how the model reflects the difference in water quality between the Ahuriri and Haldon arms of the lake.
- 7 We are particularly interested in the errors in the modeling approach, and how this may reflect our confidence in the predictions made by the model at

different nutrient loadings. We are also interested in Dr Spigel's view of the adequacy of the input data used to calibrate and validate the model, how unmeasured inputs (i.e. groundwater) were accounted for, and any other issues relating to data input to the model that would be likely to change in any material way, the predictions made on the response of Lake Benmore to increased nutrient loading.

- 8 Our preliminary thinking is that the issue of the current state of Lake Benmore and the predicted response of the Lake to increased nutrient loadings is critical to our evaluation of the issues. It is therefore important that we understand the various modeling approaches used to make these predictions. Our preliminary view is that the issue of predicting the response of Lake Benmore to increased nutrient loads is not fully addressed by the applicants, at least to this point. We want to ensure that we have the issue fully and adequately covered, and that we understand the merits and limitations of the modeling approaches presented to us. We are thinking that the applicants will support our request for further information from Dr Spigel as to do so will provide us with independent evidence on a matter that (based on our current understanding of the issues) is critical.

Section 42A officer report

- 9 On our review of the section 42A reports we do not consider that they appropriately address this issue of modeling.

Options

- 10 It seems to us under section 41C of the Resource Management Act 1991 (the RMA) we have two options. We can at a hearing request the applicant to provide further information (subsection 3). Alternatively, we can (subsection 4) commission a consultant to prepare a report on any matter that we require further information if all of the following apply:
- (a) The activity that is subject to the hearing may in the authority's opinion, have a significant adverse environmental effect; and
 - (b) The applicant is notified before the authority commissions the report; and
 - (c) The applicant does not refuse to agree to the commissioning of the report.

- 11 We note that in terms of subsection (5) of section 41C, copies of the report must be provided to the applicant and any person who made a submission.
- 12 Our preference is to commission an independent report, but, before we do so, the applicant must be notified and secondly, the applicant must not refuse to agree to the commissioning of the report.
- 13 We consider this sufficient notification to the applicant for purposes of section 41C(4)(b).
- 14 In terms of 41C(4)(a) it is our opinion that the activity that is the subject of the hearing may have a significant adverse environmental effect and that preliminary view is based upon the materials received and reviewed to date.
- 15 Finally, in terms of section 41C(4)(c), we ask the applicants to respond as soon as possible, alternatively, no later than Friday, 6 November 2009, whether or not they agree to the commissioning of the report, which report would cover the issues as expressed earlier in this memorandum.

Directions

- 16 Accordingly, we direct that the applicants advise forthwith whether or not they agree to the commissioning of the report from Dr Spigel as described above.
- 17 If the applicant's response is favourable, we request that Dr Spigel prepare a report for us as discussed above, and that he be available to answer questions before us arising from his evidence.

Dated at Christchurch this 2nd day of November 2009



Paul Rogers

Commissioner Chair on behalf of the Committee