

BOARD OF INQUIRY
HAUĀURU MĀ RAKI WIND FARM PROPOSAL

In the matter of the Resource Management Act 1991

And

In the matter of resource consent applications by Contact Wind Limited in respect of the Hauāuru mā raki Wind Farm Proposal

And

In the matter of notices of requirement and a resource consent application by Contact Energy Limited for transmission infrastructure related to the Hauāuru mā raki Wind Farm Proposal

**FURTHER REBUTTAL EVIDENCE OF PETER WILLIAM MILLAIS
RESPONDING TO THE EVIDENCE OF MALIBU HAMILTON**

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Introduction

1. My name is **Peter William Millais**. I am a Senior Water Resources Engineer with Beca Carter Hollings & Ferner Limited (“Beca”) based in Auckland.
2. I refer the Board of Inquiry to the statement of my qualifications and experience in my evidence in chief. I reaffirm my commitment to comply with the code of conduct for expert witnesses in the Environment Court.
3. The purpose of this brief of evidence (my second rebuttal brief) is to respond to the evidence of Mr Malibu Hamilton on behalf of Tainui Awhiro.

Correlation of stream flows

4. Mr Hamilton raises an issue in respect of the correlation between the flow of the Naike Stream at the Kaawa School Road gauge and the proposed source streams for the construction water supply. In my evidence in chief I recommended that the stream flows be gauged at two-weekly intervals, and stated that if there was a variation of more than 20% from the expected correlation, then the correlation should be adjusted accordingly. I noted that I expect this would be taken into account at the two-yearly review of consent conditions.
5. Mr Hamilton is concerned that if adjustments need to be made to that correlation, then the proposed two-yearly review period is too long (paragraphs 14 and 15).
6. I consider that the two year period is appropriate, given that:
 - (a) the allocable flow is only 10% of the five-year low flow, so any error in estimation of the five-year low flow has only minor impact on the allocable flow; and
 - (b) the proposed takes average only 30% of the allocable flow (three percent of the five-year low flow) so will have only minor impact on the streams downstream of the takes.

Oxygen levels in streams

7. Mr Hamilton states that the if the temperature of water is elevated, then this typically decreases the level of dissolved oxygen in the water, causing harm to aquatic animals, and that temperature changes as low as one or two degrees celsius have effects (paragraph 15).
8. I addressed this issue in paragraphs 8 to 10 of my first rebuttal brief of evidence. The proposed water takes will have a negligible effect on stream temperature. Any stream temperature effects of the takes are proposed to

be controlled by condition 7 of the relevant Waikato Regional Council water take consents, ie WRC 117913-117616.

Whitford Quarry spring

9. At paragraph 19 of his evidence Mr Hamilton states that there is the potential that the Whitford Quarry spring may 'never recover'.
10. I do not consider there to be any prospect that the flow at the Whitford Quarry springhead will change as a result of the proposed water abstraction, let alone any prospect that the spring will 'never recover'. In fact, I cannot conceive of any mechanism by which the proposed water abstraction could materially affect the continuing flow at the Whitford Quarry springhead.

Downstream users

11. Mr Hamilton is concerned that the water take calculations do not consider other downstream users in extreme dry periods, such as farmers (paragraph 20).
12. I refer the Board of Inquiry to paragraphs 64, 71 and 73 of my evidence in chief where I discuss my recommendation concerning water abstraction for the Wind Farm during dry periods. In that evidence, I explain that the effects of the water takes can be mitigated by ensuring that any takes are within the allocable flow limits set by Environment Waikato, and that all abstraction ceases in circumstances where (as in 2007-2008) the seven-day moving average flow of the Naikē Stream at Kaawa School Road falls below (or equal to) the environmental flow at that location.

Chlorination process

13. Mr Hamilton recognises that the use of chlorine in disinfecting potable water is common but he is concerned that toxins may have adverse effects on aquatic life (paragraph 32).
14. I note that only the water intended for potable supply will be disinfected. Any disinfected water will not be returned to the Waikaretu Stream.

15. Chemical storage facilities have not yet been designed, however it is normal practice for these facilities to incorporate measures to manage the risk of chemical spills to the environment. These requirements are set out in Hazardous Substances and New Organisms (“HSNO “) regulations and typically involve a bund to contain any leakage. I consider compliance with the HSNO regulations will prevent any chemical spills from having adverse effects on aquatic life.

PW Millais