

IN THE MATTER OF: The Resource Management Act, 1991
-AND-
IN THE MATTER OF: of applications by Mighty River Power
 Limited to Palmerston North City Council,
 Horizons Regional Council, and Tararua
 District Council for Resource Consents for
 the Turitea Wind Farm Project.

**Caucusing Notes for Expert Witnesses (aquatic ecology):
Dr. Brian Coffey (for MRP) and Dr. Paul Blaschke (for PNCC)**

Dr. Brian Coffey and Dr. Paul Blaschke discussed their respective briefs of evidence for the proposed Turitea Wind Farm by phone on Tuesday 16 June 2009 between 11.15 am and 12.15 pm.

Specifically, they discussed:

- use of flocculants in sediment control ponds,
- status of the Greater Wellington Regional Council's Erosion and Sediment Control Guidelines,
- relocation of proposed spoil and vegetation disposal sites from within the Palmerston North City Council Water Supply Catchment,
- potential effects of the proposed Wind Farm on aquatic ecology, and
- monitoring requirements for aquatic ecology during the construction and immediate post construction phase of the proposed Wind Farm.

Use of Flocculants in Sediment Control Ponds

Dr. Blaschke recommended in paragraph 6.7 (b) of his evidence that "*Flocculation of all sediment ponds will be required in order to improve sediment retention performance*".

Dr. Coffey responded in his rebuttal evidence that "*There may be specific situations where some silt retention ponds are best treated with flocculants but such ponds would require de-silting programmes and diversion channels to ensure there is no washout of spent floc to the headwaters of streams during storm events*".

Having exchanged views and information on the use of flocculants, it was agreed that any use of flocculants in sediment ponds associated with the construction of the proposed Wind Farm should be the subject of a Flocculent Management Plan that would include the decommissioning of such facilities at the end of construction activities. Dr Blaschke agreed with Dr Coffey's statement above (Para 4.3 of his rebuttal evidence.

Status of the Greater Wellington Regional Council's Erosion and Sediment Control Guidelines

In paragraph 6.6 of his evidence, Dr. Blaschke has stated that in general "there is an over-reliance on Greater Wellington Regional Council's Erosion and Sediment Control Guidelines" and that these guidelines no longer represent "best practice".

In his rebuttal evidence Dr. Coffey disagreed with this opinion as they are guidelines, not a prescriptive recipe for all situations and can be added to or amended to suit differing situations. He noted that Erosion and Sediment Control Plans have been proposed for five areas within the footprint of the

proposed wind farm that are consistent with the guidelines but which account in general terms for specific conditions within each of these five areas.

Following a discussion on this matter, Drs Coffey and Blaschke agreed that Greater Wellington Regional Council's Erosion and Sediment Control Guidelines were a potential tool for the management of erosion and sediment issues, and that any use of these guidelines would need to be adapted for conditions at the site of the proposed wind farm, but they disagreed on the relative weight that should be accorded the guidelines. Dr. Blaschke remained of the view that insufficient detail has been provided in the five Erosion and Sediment Control Plans to demonstrate they will be effective in avoiding significant sedimentation effects in watercourses.

Relocation of Proposed Spoil and Vegetation Disposal Sites From Within the Palmerston North City Council Water Supply Catchment

Dr. Blaschke was in general agreement with Section 5 of Dr. Coffey's rebuttal evidence regarding the relocation of proposed spoil and vegetation disposal sites from within the Palmerston North City Council Water Supply Catchment.

However, Dr. Blaschke recommended the specific criteria to be used when selecting alternative spoil disposal sites outside of the Palmerston North City Council Water Supply Catchment should include the distance from the spoil disposal sites to the nearest surface receiving water. Dr. Coffey agreed with this recommendation.

Potential effects of the proposed Wind Farm on aquatic ecology

In paragraphs 4.31, 4.48 and 7.2 of his evidence Dr Blaschke has stated that, in his opinion, Dr. Coffey's assessment of the likelihood and magnitude of aquatic ecological effects associated with the construction of the proposed Wind Farm is inadequate. He specifically states in paragraph 4.48 of his evidence that Dr. Coffey's assessment "*contains no analysis of the location of sediment sources and the location of areas in the wind farm site where they could affect aquatic ecosystems. It contains no analysis of the efficiency or likely success of the proposed erosion control methods. For this reason, the aquatic ecology effects analysis gives me no confidence to accept its conclusion that the aquatic ecology effects would be less than minor*".

Dr. Coffey has stated in his rebuttal evidence that "*given the principles upon which the Erosion and Sediment Control Plans were based, the likelihood of adverse aquatic ecological effects being associated with the construction of the Wind Farm would be very low and therefore that the aquatic ecology effects would be less than minor*".

Moreover, Dr. Coffey does not consider there is a scientifically robust rationale for Dr Blaschke to conclude in paragraphs 4.50 and 7.11 of his evidence that "*there is a reasonably high probability that enough sediment to cause significant adverse effects will reach the receiving environment of the principal streams draining the wind farm site*".

Dr. Coffey was of the opinion that any unavoidable adverse erosion / sedimentation effects on aquatic ecology that resulted from storm events during the construction phase of the Wind Farm would be reversible and relatively short term, and therefore less than minor. Dr. Blaschke did not agree with this view, considering that the combination of probabilities of intense storm events, amount of sediment generated and reaching watercourses amounts to a significant potential effect.

These differences of opinion were not resolved by discussions between Drs. Coffey and Blaschke.

Monitoring requirements for aquatic ecology during the construction and immediate post construction phase of the proposed Wind Farm

Drs. Coffey and Blaschke agreed that monitoring sediment loads in surface receiving waters during the construction and immediate post construction phase of the Wind Farm should involve a combination of methods, including measurements of turbidity / suspended solids in the water column (ideally using short-interval recording data loggers) and Quorer sampling, to describe deposited suspended solids at representative localities.

They agreed it would also be desirable to establish a weather station within the footprint of the proposed Wind Farm during the construction and immediate post construction phase to correlate sediment loads in surface receiving waters with weather events.

Brian Thomas Coffey



dated: 18 June 2009.

Paul Michael Blaschke



dated: 19 June 2009