

30.7.09

# Exhibit 6

**NOTE: Aquatic ecology monitoring conditions (those numbered 1-6 inclusive) have been reviewed by the Department of Conservation only with regards to the monitoring of the *Namalycastis tiriteae* species.**

## **Aquatic Ecology Monitoring**

1. A monitoring programme shall be designed and carried out to measure the effects of the proposed wind farm on the Turitea Stream, Kahuterawa Stream, Otangane Stream, Tainui Stream and Southern Matarua Creek. The Consent Holder shall submit the programme to the technical staff at Manawatu-Wanganui Regional Council for certification, prior to any construction work commencing, to demonstrate how the Consent Holder will achieve compliance with this condition. Written certification should be provided within 15 working days of receipt of the plan. Construction activities must not commence until written certification has been obtained.
2. The programme shall include a requirement to obtain pre-construction data for a period of no less than six months on water quality and in-stream community structure (including the presence of *Namalycastis tiriteae*) in order to establish baseline data. The monitoring programme shall be reviewed two years after the completion of construction and the requirement to continue with monitoring shall be assessed at that time.
3. On-site weather stations should be included in this monitoring programme.
4. The ecological monitoring programme shall include but not be limited to the following matters.
  - 4.1 Selection of Sampling Sites (add to established PNCC monitoring sites)
  - 4.2 Parameters to be monitored (including water quality, sediment transport and deposition, and instream community structure including *Namalycastis tiriteae*)
  - 4.3 Nominate thresholds of concern for parameters that are monitored and establish required response in event of non-compliance
  - 4.4 Events-based monitoring strategy.

## **Adaptive Management Response to Findings of Aquatic Ecology Monitoring**

5. The Consent Holder shall prepare an Adaptive Aquatic Ecology Management Response Plan, to be submitted to technical staff at Manawatu-Wanganui Regional Council, which specifies agreed responses to the findings of the monitoring to be undertaken in accordance with Condition [number].
6. The Adaptive Aquatic Ecology Management Response Plan shall include a contingency plan for:
  - 6.1 Riparian zone restoration and de-silting of the Palmerston North City Council water supply reservoirs in the event of significant erosion / washout events occurring during the construction phase for the Wind Farm;
  - 6.2 Early notification of downstream users and monitoring of a cleanup response in the event of significant spillage of hydrocarbons / concrete products to watercourses occurring during the construction phase of the Wind Farm; and
  - 6.3 The removal and disposal of cleared vegetation offsite in the event of significant release of nutrients / BOD from moribund vegetation bunds at turbine sites occurring during the construction phase of the Wind Farm.

## Ecological Considerations

7. The consent holder shall engage a suitably qualified and experienced ecologist to advise on the final detailed design of the wind farm, including the final placement of turbines and associated infrastructure within the turbine envelopes, transmission infrastructure and roading infrastructure across the wind farm site. In undertaking detailed design, the consent holder shall, in addition to the advice from the ecologist, also take into account:
  - 7.1 The Weed Monitoring and Control Plan and Rehabilitation / Revegetation Plan prepared in accordance with conditions **[numbering to be confirmed]** below.
  - 7.2 The findings of the pre-construction monitoring undertaken in accordance with conditions **[numbering to be confirmed]** below.
  - 7.3 The relevant Transpower Regulations, including (but not limited to) *Electricity (Hazards from Trees) Regulations (2003)* and the *New Zealand Code of Practice for Electrical Safe Distances*.

Final placement of wind farm infrastructure shall avoid the existing wetlands within Browns Flat, as shown on [X plan].

8. The consent holder shall complete the revegetation of at least 75 hectares of existing and former pine plantation (as indicated on Figure 6-6 of the consent holder's AEE), and those areas disturbed by the construction of roads, crane working platforms, and turbine platforms, where possible (approximately 8 ha).

The revegetation shall use a combination of indigenous planting and management of natural revegetation.

The consent holder shall engage a suitably qualified and experienced ecologist to prepare a rehabilitation/revegetation plan that shall include details of the following matters:

- The aims of the revegetation programme.
- The areas to be treated.
- The types of techniques to be used and the places they will be used.
- The species selection and eco-sourcing (i.e. sourcing local seeds/plants for local use).
- Monitoring and maintenance techniques, including weed control, pest control, infill planting, and operational timing.

The rehabilitation/revegetation plan shall be submitted to Manawatu-Wanganui Regional Council for written certification no later than 6 months prior to the commencement of construction activities. Written certification should be provided within 15 working days of receipt of the plan. Construction activities must not commence until written certification has been obtained.

The consent holder shall undertake all rehabilitation/revegetation works in accordance with the rehabilitation/revegetation plan. The rehabilitation/revegetation plan shall provide for:

- the rehabilitation of construction effects, through the rapid establishment of cover on open sites not required for operation of the wind farm. This will be achieved using techniques such as hydro-seeding, planting, and direct transfer. Non-invasive exotic grasses may be used to establish rapid initial cover, followed by planting of locally-sourced indigenous species matched to the characteristics of the sites being rehabilitated.

- the revegetation of the areas of pine forest (or recently-harvested pine forest). This will be achieved through the re-establishment of indigenous vegetation matched to the landforms and habitats present, using planting of locally-sourced indigenous species or managed natural regeneration. The aim will be to achieve canopy closure as rapidly as reasonably possible.

For 10 years following the commencement of the construction of the wind farm, the consent holder shall submit an annual report to the aforementioned council outlining the results of the revegetation works and demonstrating compliance with the revegetation plan.

9. The consent holder shall undertake weed monitoring and control over the areas disturbed by wind farm construction and those areas adjacent to the disturbed areas that may, as a result of construction, be adversely affected by weeds.

The consent holder shall engage a suitably qualified and experienced ecologist to prepare a weed monitoring and control plan that shall include details of the following matters:

- The species to be monitored and controlled (by reference to their status in relevant plans such as the Regional Plant Pest Management Strategy), including provision to review this list should a new species be identified within the weed monitoring and control areas (identified above) once construction has commenced.
- Frequency of monitoring inspections across the wind farm layout, including inspections by suitably qualified and experienced personnel at 3-monthly intervals from the start to the end of construction. The consent holder shall continue weed monitoring inspections across the site at 3-monthly intervals for one year post construction. At the one year post construction anniversary, weed monitoring frequency shall be undertaken annually, or more frequently as required.
- Control intensity requirements and control measures will be specified for particular types of weeds. (Note: the Weed Monitoring and Control Plan shall be integrated with the rehabilitation and revegetation plan to the extent it relates to those areas covered by that plan).
- The consent holder shall also develop a weed hygiene plan, including details of equipment wash-down sites and facilities, the sources and hygiene requirements for quarried material, and preventative measures to prevent weeds being transported from the wind farm site to other locations.

The Weed Monitoring and Control Plan shall be submitted to Manawatu-Wanganui Regional Council for written certification no later than 6 months prior to the commencement of construction activities. Certification should be given within 15 working days of receipt. Construction activities must not commence until written certification has been obtained.

The consent holder shall undertake the weed monitoring and control in accordance with the Weed Monitoring and Control Plan and shall submit an annual report to the Council outlining the results of the weed monitoring and control works and demonstrating compliance with the Weed Monitoring and Control Plan.

10. The consent holder shall engage a suitably qualified and experienced avian expert to undertake a Pre-construction Avian Survey of (as a minimum) the wind farm site as currently shown in Exhibit MH1. The survey methodology and reporting mechanisms shall be developed in consultation with the Department of Conservation and shall be submitted to the Manawatu-Wanganui Regional Council for written certification. Certification should be given within 15 working days of receipt. Written certification must be obtained prior to the commencement of the survey.

The survey must be undertaken for a minimum of 4 consecutive seasons (1 year) and shall as a minimum:

- Document species presence and relative abundance.
- Record habitat use patterns and flight pathways.
- Record seasonal variation for indigenous species that the avian expert(s) determines are at particular risk from wind turbines.

11. The consent holder shall engage a suitably qualified and experienced bat expert to undertake a Pre-construction Bat Utilisation survey of (as a minimum) the wind farm site as currently shown in Exhibit MH1.

The survey methodology and reporting mechanisms shall be developed in consultation with the Department of Conservation and shall be submitted to the Manawatu-Wanganui Regional Council for written certification. Certification should be granted within 15 working days of receipt. Written certification must be obtained prior to the commencement of the survey.

The survey shall be undertaken for a minimum of 4 consecutive seasons (1 year) prior to construction commencing and shall as a minimum:

- Document species presence and relative abundance.
- Record habitat use patterns, flight pathways and seasonal variation for species that the bat expert(s) determines are at particular risk from wind turbines.
- If no bats are identified as present in the survey area, determine a procedure to be followed in the event bats are later identified during the construction of the wind farm, in consultation with the Department of Conservation.

12. The results of the Pre-construction Avian and Bat Utilisation Surveys shall be provided in writing to Manawatu-Wanganui Regional Council and the Department of Conservation within twenty working days of the completion of the surveys. Final reports detailing the outcomes of the surveys shall be provided within two months of completion of the surveys.

These reports shall identify methods to avoid, remedy, or mitigate any adverse effects of the wind farm on avifauna species identified as threatened by Miskelly et al 2008 [Conservation status of New Zealand Birds, 2008, Miskelly C.M., Dowding J.E., Elliot G.P., Hitchmough R.A., Powlesland R.G., Roberston H.A., Sagar P.M., Scofield R.P., and Taylor G.A, 2008. Notornis 55: 117-135.], or any replacement publication, and/or bat species identified as threatened by Hitchmough et al. 2007 [New Zealand Threat Classification System Lists - 2005, Rod Hitchmough, Leigh Bull and Pam Cromarty (comp), January 2007, Department of Conservation, 194p (ISBN 0-478-14128-9)], or any replacement publication.

13. The consent holder shall undertake post-construction Avian and Bat Strike monitoring for a minimum of 12 consecutive seasons (3 years) after the wind farm begins operation.

The consent holder shall engage suitably qualified and experienced avian and bat experts to undertake Post-Construction Avian and Bat Strike monitoring. The monitoring methodology and reporting mechanisms shall be developed in consultation with the Department of Conservation and shall as a minimum:

- set out the framework of the collision fatality monitoring;
- set out the procedures for recording observed avoidance behaviour; and

- any other measures required to accurately assess the strike / collision effects of the wind farm on avifauna and bats.

The outcomes of the Pre-construction Avian and Bat Utilisation Studies shall be taken into account when identifying which species require further post-construction monitoring.

The monitoring and reporting mechanisms for the post-construction avian and bat monitoring programmes shall be submitted to the Manawatu-Wanganui Regional Council for written certification. Certification should be granted within 15 working days of receipt. Written certification must be obtained prior to commencement of post-construction monitoring and commissioning of the wind farm.

14. The results of the Post-Construction Avian and Bat Strike monitoring shall be provided in writing annually for a minimum of 3 years (12 seasons) to, Palmerston North City Council and the Department of Conservation. A final report shall be provided to each aforementioned organisation within three months of the completion of the monitoring period. This final report shall include recommendations as to any measures that should be undertaken to avoid, remedy, or mitigate any adverse effects of the wind farm on avifauna species identified as threatened by Miskelly et al 2008 [Conservation status of New Zealand Birds, 2008, Miskelly C.M., Dowding J.E., Elliot G.P., Hitchmough R.A., Powlesland R.G., Roberston H.A., Sagar P.M., Scofield R.P., and Taylor G.A, 2008. *Notornis* 55: 117-135.], or any replacement publication, and/or bat species identified as threatened by Hitchmough et al. 2007 [New Zealand Threat Classification System Lists - 2005, Rod Hitchmough, Leigh Bull and Pam Cromarty (comp), January 2007, Department of Conservation, 194p (ISBN 0-478-14128-9)], or any replacement publication.
15. The consent holder shall engage a suitably qualified and experienced ecologist to undertake a pre-construction survey for herpetofauna within the areas proposed to be disturbed by wind farm construction activities.

The survey methodology and reporting mechanisms shall be developed in consultation with the Department of Conservation and shall be submitted to Manawatu-Wanganui Regional Council for written certification. Certification should be granted within 15 working days of receipt. Written certification must be obtained prior to commencement of the survey.

The consent holder shall engage a suitably qualified and experienced ecologist to undertake the survey in accordance with the methodology.

The results of the survey shall be provided in writing to Manawatu-Wanganui Regional Council and the Department of Conservation within twenty working days of its completion. A final report detailing the outcomes of the surveys shall also be provided within two months of the completion of the survey.

If any herpetofauna species identified as threatened by Hitchmough et al. 2007 [New Zealand Threat Classification System Lists - 2005, Rod Hitchmough, Leigh Bull and Pam Cromarty (comp), January 2007, Department of Conservation, 194p (ISBN 0-478-14128-9)], are identified during the survey as being present within the surveyed area, the consent holder shall develop a protection plan for such species in consultation with the Department of Conservation. The protection Plan shall identify methods to avoid, remedy, and mitigate any adverse effects of the wind farm on threatened herpetofauna species and shall include, but not be limited to, details of the following matters:

- ongoing monitoring and population assessment including distribution and habitat description

- identification and development of options for species protection and enhancement such as:
  - translocation
  - in-situ protection (including options such as enhanced pest control and amendment to wind farm design and operation).

The Protection Plan shall be submitted to the Manawatu-Wanganui Regional Council for written certification no later than 2 months prior to the commencement of construction activities. Certification should be granted within 15 working days of receipt. Construction activities must not commence until written certification has been obtained.

The consent holder shall undertake all works in accordance with the Protection Plan and shall submit an annual report to the aforementioned council and the Department of Conservation outlining the results of the works and demonstrating compliance with the Protection Plan.

If no threatened herpetofauna species are identified as being present in the survey area during the survey, the consent holder, in consultation with the Department of Conservation, shall develop a procedure to be followed in the event that threatened herpetofauna species are found during construction of the wind farm. The procedure shall identify methods to avoid, remedy, and mitigate any adverse effects of the wind farm on the threatened herpetofauna species.

The procedure shall be submitted to the aforementioned council for written certification no later than 2 months prior to commencement of construction activities. Written certification should be granted within 15 working days of receipt. Construction activities must not commence until written certification has been obtained.

16. The Consent Holder shall engage a suitably qualified and experienced ecologist to undertake a pre-construction survey for *Powelliphanta* snails within the areas proposed to be disturbed by wind farm construction activities.

The survey methodology and reporting mechanisms shall be developed in consultation with the Department of Conservation and shall be submitted to Manawatu-Wanganui Regional Council for written certification no later than 2 months prior to the commencement of construction activities. Certification should be granted within 15 working days of receipt. Construction activities must not commence until written certification has been obtained.

The consent holder shall engage a suitably qualified and experienced ecologist to undertake the survey in accordance with the methodology.

The results of the *Powelliphanta* snail survey shall be provided in writing to Manawatu-Wanganui Regional Council and the Department of Conservation within twenty working days of its completion and a final report shall also be provided within two months of the completion.

If *Powelliphanta* snails are identified as being present within the survey area, the consent holder shall develop a Protection Plan for *Powelliphanta* snails in consultation with the Department of Conservation. The Protection Plan shall identify methods to avoid, remedy, and mitigate any adverse effects of the wind farm on the *Powelliphanta* snails and shall include, but not be limited to, details of the following matters:

- ongoing monitoring and population assessment including distribution and habitat description
- identification and development of options for species protection and enhancement such as:

- translocation
- in-situ protection (including options such as enhanced pest control and amendment to wind farm design and operation)."

The Protection Plan shall be submitted to Manawatu-Wanganui Regional Council for written certification no later than 2 months prior to the commencement of construction activities. Certification should be granted within 15 working days of receipt. Construction activities must not commence until written certification has been obtained.

The consent holder shall undertake all works in accordance with any such Protection Plan and shall submit an annual report to the aforementioned council and the Department of Conservation outlining the results of the works and demonstrating compliance with the Protection Plan.

If no *Powelliphanta* snails are identified as being present within the survey area during the pre-construction survey, the consent holder shall, in consultation with the Department of Conservation, develop a procedure to be followed in the event such snails are found during construction of the wind farm. The procedure shall identify methods to avoid, remedy, and mitigate any adverse effects of the wind farm on *Powelliphanta* snails.

The procedure shall be submitted to Manawatu-Wanganui Regional Council for written certification no later than 2 months prior to commencement of construction. Certification must be granted within 15 working days of receipt. Construction activities must not commence until certification is obtained.

17. During the six month period following every second anniversary of the commencement of these consents, the [consent authority] may, following service of notice on the consent holder, review the conditions of this consent under sections 128 - 132 of the Resource Management Act 1991, for the following purposes:
  - o to consider the performance of the wind farm in respect of adverse effects on threatened (as defined above) indigenous fauna which may arise from the exercise of the consent and which is appropriate to deal with at a later stage;
  - o to consider the performance of individual turbines within the wind farm with respect to their adverse effects on threatened indigenous fauna and whether there are any particular factors influencing the adverse effects of individual turbines;
  - o to require the consent holder to adopt measures to avoid, remedy or mitigate the adverse effects.

In addition, the [consent authority] may within 30 days of receiving an annual or final report under conditions [post construction ecological conditions], review this consent under sections 128 -132 of the Resource Management Act 1991, if the report makes recommendations regarding changes to conditions of these consents which may be required to avoid, remedy or mitigate an identified adverse effect on threatened fauna

