

BEFORE THE PALMERSTON NORTH CITY COUNCIL

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of the Palmerston North District Plan

AND

IN THE MATTER

of an application by **New Zealand Windfarms Limited** for land use consent for a proposed wind farm in the Tararua Ranges

 REPORT AND DECISION OF HEARINGS COMMISSIONER ALISTAIR ABURN

- [1] I was appointed as an independent hearings commissioner by the Palmerston North City Council under section 34A(1) of the Resource Management Act 1991 to decide on the application by New Zealand Windfarms Limited (the "Applicant") to establish a wind farm in the Tararua Ranges.
- [2] The application was heard in Palmerston North on 15, 16 and 17 December 2004 and a site inspection undertaken on 20 January 2005.
- [3] In addition to the evidence and submissions provided by the Applicant and submitters at the hearing, I record that I have also read and taken full account of the application documents, including the comprehensive assessment of effects on the environment (AEE) report and appendices, and all of the written submissions, 71 in total.

THE APPLICATION

- [4] The application pursuant to section 88 of the Resource Management Act 1991 ("the Act") is for land use consent for:

"The development, construction, installation, operation, maintenance and decommission of 104 wind turbines at Te Rere Hau Wind Farm to generate electricity and associated ancillary activities. The wind turbine generators comprise tubular towers and associated nacelles and blades. A summary description of the structures and activities is as follows:

- *The parameters of the wind turbine generators are as follows:*
 - (i) *The wind turbines will be supported by a tubular tower having a maximum height of 28.5 metres above ground level (total height including hub approximately 30 metres).*
 - (ii) *Each turbine will incorporate a maximum of two rotor blades with a maximum length of 33.2 metres for both blades (tip to tip).*
- *A site office and maintenance building and associated outdoor yard.*
- *Associated internal access tracks".*

The application requested a term of eight years to "allow for staged construction of the proposed wind farm".

This is the document marked "C" referred to in the annexed affidavit of **Rebecca Jane Blyth** sworn at Palmerston North on the 11 day of October 2010, before me:

Barry Allen Britten

Solicitor

Palmerston North

A Solicitor of the High Court of New Zealand

- [5] Under the Palmerston North District Plan the site is zoned "Rural".¹ As further discussed below, wind farms are a Discretionary Activity (Unrestricted) in the Rural Zone.

SITE AND LOCALITY

- [6] The wind farm is to be located on 243 hectares of land situated at the northern end of the Tararua Ranges approximately 2 kilometres to the north of the Pahiatua Aokautere Road (known as the "Pahiatua Track") on North Range Road.
- [7] The site, which consists of three titles, is mainly covered in pasture grass and has been farmed for a number of years for sheep and cattle grazing. It comprises moderate to steep hill country with sloping gullies. Within the confines of the site is an area of approximately 19.2 hectares of regenerating native bush, which it is proposed to protect under a QEII covenant.
- [8] The site, being largely on the western slopes of the Tararuas has an orientation and outlook to Palmerston North, which is some 9 kilometres from the site.
- [9] Adjacent to the site to the north is a forestry block of pinus radiata and to the north beyond that is the Tararua Wind Farm, approximately 3 kilometres to the north of the site.
- [10] To the north-west is a rural property with a residence (the Hargreaves/Flint property), and beyond this are rural residential properties on Forest Hill Road. To the south and southwest are rural and rural-residential properties on Ridgeview Road, Harrison Hill Road and County Heights Drive.
- [11] An Airways Corporation radar dome is situated approximately 500 metres from the south-eastern corner of the site on the opposite side of North Range Road.
- [12] Access to the site (existing and proposed) is from North Range Road via Pahiatua Track.

THE DISTRICT PLAN

- [13] As noted, the site is within the Rural Zone. Under Section 9.9 of the District Plan Rule 9.9.2 states that:

"Sawmills, Rural Industries and Wind Farms are Discretionary Activities (Unrestricted)".

- [14] The rule further states that:

"In determining whether to grant consent and what conditions if any to impose, Council will in addition to the City View objectives in Section 2 and the Rural Zone objectives and policies, assess any application in terms of the following further policies:

- (a) *To avoid, remedy or mitigate adverse visual effects of any proposed building, structure or storage areas for products and waste, on the surrounding rural environment, and on the landscape values of adjoining areas.*
- (b) *To avoid, remedy or mitigate the effects of noise and other environmental disturbance, on the amenity of the surrounding area.*
- (c) *To avoid, remedy or mitigate the risk of contamination posed by hazardous substances.*
- (d) *To avoid, remedy or mitigate the adverse effects on the safe and efficient operation of the roading network from the traffic movements generated by activities.*
- (e) *To ensure the provision of adequate on-site parking, loading, manoeuvring and access space to avoid this taking place on roads.*

Explanation

All industrial activities in the rural areas, because of the lack of services, have the potential to create adverse effects on the rural environment. Their usually "one-off" location also increases their visual impact as does outdoor

¹ The Palmerston North City District Plan became partly operative on 18 December 2000. The Rural Zone provisions are operative.

storage of goods and waste. A Discretionary Activity consent process gives the Council the opportunity to assess any adverse effects to ensure that those effects are avoided, remedied or mitigated. In the case of wind farms, the largely unknown effects of the activity mean that it is essential that it be examined on a case by case basis.

In respect of these activities, it should be noted that horizons mw may have separate consent requirements".

[emphasis added]

REPORT STRUCTURE

[15] Against the above introductory background, I have structured my report as follows

Description of the Proposal
 Notification and Submissions
 Statutory Context
 Planning Instruments
 Council Officers' Report(s)
 Hearing
 Site Visit
 The Law
 Section 104 Evaluation
 Decision and Reasons

DESCRIPTION OF THE PROPOSAL

[16] Drawing on the information provided in the AEE and in the Applicant's evidence to the hearing, the key features of the proposal are:

- a total of 104 turbines are to be installed. The turbines will be Windflow 500 turbines. Each turbine will consist of a 28.5m high tubular steel tower and two 16m blades, giving a total height of tower plus blade of approximately 46m when the blades are vertical. A fibreglass housing ("nacelle") is situated at the top of each tower and contains the electrical generator and other control systems. The tower, blades and nacelle are to be painted a light blue-grey colour and finished in a matt finish to reduce light reflection as the blades turn;
- a site maintenance complex consisting of two buildings is to be established. One building will consist of a workshop/site maintenance building. This building will be 5.5m high and have a 200sqm floor area. The second building will consist of an office, kitchen and toilet building and will be 3.5m high and have a 100sqm floor area. Both buildings will be clad in 'coloursteel' and coloured dark green. Associated with the site maintenance building will be an outside yard/storage area to provide for storage of construction materials; and
- when the site is operational there will normally be 3 to 4 vehicle trips to the site per day.

[17] It is proposed to site the turbines generally in rows along a series of spurs radiating off the main Tararua ridgeline. Turbine rows are approximately 250m to 350m apart, with turbines in each row spaced 60m to 80m apart. All turbines are connected by a series of service tracks.

[18] It is proposed to complete the project in stages. Turbines 1 to 6 will be constructed initially, over approximately nine weeks. It is then intended to install a further 28 turbines during 2005, 30 during 2006 and 40 in 2007, although this programme could either be accelerated or delayed.

[19] Physical works will involve excavations, cut and fill earthworks and base preparation for site access tracks; access track culvert installations and surfacing materials; excavation for turbine base construction; installation of reinforced concrete pads; backfill and localised contouring of tower base areas; followed by the erection of the turbine towers. Each tower is assembled on the ground and then lifted by crane in one lift. The two blades are

then fitted to the nacelle on the ground and the nacelle with rotor lifted on to the top of the tower. This last phase will take about one week per turbine.

- [20] The access tracks will enable vehicle access to the sites of the individual turbines. At the time of construction the tracks will be 4.5m wide and include an open stormwater swale on one side. Some corners on the tracks will be widened to a maximum of 6m to allow access by larger trucks. Upon completion of the wind farm some tracks (primary tracks) will be maintained at their full constructed width; others (secondary tracks) will be narrowed to about 3m in width, plus stormwater swale; while still others will be allowed to 'revegetate' such that only the wheel tracks will be visible. Some temporary tracks will be topsoiled and grassed back to pasture after the construction phase. Primary and secondary tracks will require ongoing maintenance of the surface material and stormwater control, to ensure reliable all-weather 4WD access for ongoing maintenance.
- [21] The power from the wind farm will be transmitted to the national grid. It is proposed that a 33 kV line will be erected generally following along North Range Road, and, where it departs from legal road, over the adjoining forestry block to the north. The line would comprise standard power poles and would connect into the 33 kV network on the TrustPower's Tararua Wind Farm site to the further north.²

NOTIFICATION AND SUBMISSIONS

- [22] Following public notification of the application on 18 September 2004 a total of 71 submissions were received. A full schedule of the submitters is attached - refer Annexure 1.³
- [23] Among the various points made in the submissions, the following were the principal RMA issues raised:

Positive

"Clean and green" energy production
 Supports national and international policy for sustainable energy
 Consistent with Regional Policy Statement in terms of renewable energy
 Employment and economic benefits
 Tourism potential
 Positive visual amenity
 Improvements to North Range Road
 Allows for continued use of the land
 Protection of the QE II covenanted area of regenerating native bush

Negative

Noise
 Landscape and visual effects
 Transmission line routes
 Effects on bird life
 Effects on recreational use of North Range Road
 Effects on Airways Corporation radar facility
 Impacts on use of adjoining land (effects not internalised within the site)
 Defers future urban growth / restrictions on future development of lifestyle blocks
 Contrary to the objectives and policies of the District Plan and the Regional Policy Statement
 Cultural impacts
 Effects on electronic systems
 Effects on land values

² In addition to the 33 kV connection to the Tararua Wind Farm, it is proposed to install a new 220 kV substation on the Tararua Wind Farm and connect from there to the 220 kV lines near Fitzherbert East Road, the 'backbone' of the national grid. This proposal is not part of the present application and would be the subject of a separate (future) resource consent application or notice of requirement. Since the hearing I understand that an application for the transmission line has been made in association with an extension to the Tararua Wind Farm - the applicant being TrustPower.

³ Following the closure of submissions, four submitters opposing the proposal subsequently supplied the Applicant with written approvals. The submitters were - #65 Hargreaves/Flint, #58 Gapp/#59 Graham (one property), and #62 Boyle.

STATUTORY CONTEXT

- [24] As already noted, the proposal requires consent as a Discretionary Activity (Unrestricted) under Rule 9.9.2 of the District Plan, accordingly consent is required under s.104 of the Act.
- [25] Section 104(1) of the Act sets out those matters that I must have regard to in my consideration of the application. The relevant matters are as follows:
- (1) *When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part II of the Act, have regard to -*
 - (a) *any actual and potential effects on the environment of allowing the activity; and*
 - (b) *any relevant provisions of -*
 - (i) *a national policy statement*
 - (ii) *a New Zealand coastal policy statement*
 - (iii) *a regional policy statement or proposed regional policy statement*
 - (iv) *a plan or proposed plan*
 - (c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.*
 - (2) *When forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect.*
 - (3) *A consent authority must not -*
 - (a) *have regard to trade competition when considering an application;*
 - (b) *when considering an application, have regard to any effect on a person who has given written approval to the application ...".*
- [26] Other relevant sections of the Act are detailed in the introduction to the "Section 104 Evaluation" section of this report.

PLANNING INSTRUMENTS

- [27] The principal planning instruments relevant to an assessment of the application are the:
- Palmerston North City District Plan
Manawatu-Wanganui Regional Policy Statement

PLANNING OFFICER'S REPORT

- [28] A comprehensive officer's report on the application and submissions was prepared by the Council's Senior Planner, Rebecca Blyth. The report was supported by specialised appendices/reports prepared by:

Nigel Lloyd, Council's acoustic consultant, addressing noise issues
John Brenkley, Council's Senior Landscape Architect, addressing landscape and visual issues
Dr Mike Joy, Council's consultant ecologist, addressing ecological issues
Glenn Young, Council's Team Leader-Developments (Roading), addressing roading and traffic issues.

The report was pre-circulated in advance of the hearing and, with the agreement of all parties attending on the first day of the hearing, was taken as read.

- [29] Ms Blyth's report covered the following:
- Background
 - Application and Site
 - The District Plan
 - Resource Management Act 1991
 - Notification / Submissions
 - Issues

- Consideration of Effects
- District Plan Objectives and Policies
- RMA Part II Matters
- Recommendation

[30] It was Ms Blyth's recommendation that consent should be granted for the following reasons:

1. *The application will not result in any adverse effects on the environment that are more than minor.*
2. *Mr Glenn Young, Council's Team Leader-Developments (Roading), is satisfied that the proposal will have no more than minor adverse effects on the safe and efficient operation of the roading network.*
3. *Mr John Brenkley, Council's Senior Landscape Architect is satisfied that with the imposition of appropriate conditions the proposal will have no more than minor overall adverse effects on the visual amenity of surrounding viewing audiences.*
4. *Mr Nigel Lloyd, Acoustic Consultant, has concluded that with the adoption of appropriate conditions, the potential adverse noise effects will be no more than minor.*
5. *There will be an overall net gain in ecological values associated with the site as concluded by Council's consultant Ecologist - Dr Mike Joy.*
6. *The imposition of appropriate conditions will ensure that cultural and historic values on the site will be maintained and protected.*
7. *The proposal has significant positive effects and benefits for the provision of renewable and secure energy supply.*
8. *The proposal is consistent with the relevant objectives and policies of the District Plan and the Regional Policy Statement for the reasons outlined above.*

[31] Ms Blyth's report concluded with a list of recommended consent conditions.

THE HEARING

[32] The hearing commenced on Wednesday 15 December 2004, and continued on Thursday 16 and Friday 17.

[33] Legal counsel for the Applicant (Duncan Currie) presented opening submissions and called eight witnesses as follows:

Christopher Freear, CEO, NZ Windfarms Ltd
 Geoffrey Henderson, CEO, Windflow Technology Ltd
 Malcolm Hunt, environmental noise consultant, Malcolm Hunt & Associates Ltd
 Richard Mayer, landscape architect, Environments by Design Ltd
 Alistair Grieg, surveyor, Connell Wagner
 Professor Ralph Sims, Professor of Sustainable Energy, Massey University
 Isobel Gabites, consultant ecologist, Natural Textures
 Clare Barton, resource management planner, Environments by Design Ltd

[34] Mr Duncan Currie: in his opening for the Applicant Mr Currie submitted that climate change and power generation are key issues for New Zealand and that the project, if approved, would provide clean and renewable energy. It was, therefore, in full accordance with the sustainable management purpose of the Act.

[35] Mr Currie explained that NZ Windfarms Ltd was a wholly owned subsidiary of Windflow Technology Ltd, a New Zealand owned and operated company that was developing a locally built wind turbine designed to suit high and turbulent wind conditions such as those that prevail at the site.

- [36] Mr Currie referred to s.104(1)(c) of the Act which provides for a consent authority to consider matters it considers relevant and reasonably necessary to determine the application and submitted that the Kyoto Protocol, an international agreement under the United Nations Framework Convention on Climate Change, which New Zealand has ratified, aims to reduce total greenhouse gas emissions. Mr Currie told me that *“the New Zealand Government has highlighted Windflow and its New Zealand designed turbines as an important part of New Zealand’s participation in Kyoto”*.
- [37] Referring to Part II of the Act Mr Currie submitted that I should make an overall broad judgment about the proposal in the context of the Act, to decide whether the proposal will promote the sustainable management of natural and physical resources. Mr Currie’s position was that the evidence to be called by the Applicant would establish that the proposed wind farm was consistent with the purpose of the Act and that in terms of s.5(2)(c) any adverse effects on the environment could be avoided, remedied or mitigated so that the wind farm would come within the Act’s purpose of promoting sustainable management.
- [38] Mr Currie outlined the various matters covered in s.6 (Matters of National Importance), s.7 (Other Matters) and s.8 (Treaty of Waitangi). This included Mr Currie specifically drawing to my attention the following matters included in s.7 under the March 2004 Amendment to the Act, being:
- s.7(i) the effects of climate change
s.7(j) the benefits to be derived from the use and development of renewable energy.
- Mr Currie submitted that the 2004 Amendment was *“clear recognition by Parliament of both the importance of the use and development of renewable energy and in addressing climate change, both of which are key elements in the proposed wind farm”*.
- [39] Referring to the various matters raised in submissions, and commenting on noise from the operation of the wind turbines, Mr Currie submitted that I should place *“considerable weight”* on NZS6808:1998 Acoustics: *The Assessment and Measurement of Sound from Wind Turbine Generators* (hereafter “NZS6808:1998”).
- [40] Concluding, Mr Currie submitted that the site of the proposed activity was in an optimum location for a wind farm, which is an appropriate activity in the rural area; that the proposal meets the sustainable management purpose of the Act through promoting sustainable and renewable energy sources; and that the proposal was consistent with relevant District Plan objectives, policies and rules as well as with the Regional Policy Statement.
- [41] Mr Christopher Freear: Mr Freear, the CEO of the Applicant company NZ Windfarms Ltd and with qualifications in mechanical engineering, confirmed that he had worked in the energy industry throughout his career.
- [42] Mr Freear told me that the wind farm site was owned by Aeolian Property Company and was purchased over a decade ago with the express purpose of establishing a wind farm. Outlining the proposal Mr Freear confirmed that the turbines had been specifically designed for New Zealand conditions.
- [43] Referring to the proposed transmission lines, Mr Freear told me that because some submitters had expressed concern about the possibility of upgrading the existing 11 kV line on Pahiatua Track to 33 kV, *“NZ Windfarms can confirm that the Pahiatua upgrade option has been ruled out on the grounds of cost”*.
- [44] Concluding his evidence Mr Freear said that the application was the culmination of many years’ planning and was, in the Applicant’s opinion, an important and positive development for New Zealand and the region in developing clean, renewable electricity generation.
- [45] Mr Geoffrey Henderson: Mr Henderson, the CEO of Windflow Technology and with engineering qualifications, advised me that he had worked in the field of wind power since 1984. Mr Henderson also said that he had experience in addressing acoustic issues and was a member of the steering committee which drafted NZS 6808:1998.
- [46] Mr Henderson confirmed that the site was purchased in 1992 by the Aeolian Property Company. He said that a wind farm site needs to have consistently high winds, as well as good road and powerline access, adding that wind is by far the dominant criterion. Mr Henderson told me that the site was an *“optimal location for the wind*

farm, with prevailing winds from a westerly quarter, proximity to an existing transmission network and adequate site access".

- [47] Mr Henderson confirmed that when the site was purchased in 1992 the (then) neighbours had been briefed. He also produced a newspaper clipping (Evening Standard, 14/7/92) advising the intention to establish a wind farm on the site.
- [48] Mr Henderson told me that Windflow was a company established for the purpose of designing and selling wind power turbines using a patented torque limiting gearbox and a teetering 2-bladed rotor. He confirmed that NZ Windfarms was incorporated in 2002 and was a wholly-owned subsidiary of Windflow, adding that it was intended to raise capital for the Te Rere Hau wind farm by floating NZ Windfarms in 2005.
- [49] Mr Henderson described the Windflow 500 wind turbine and confirmed that the technology embodied in the design (torque limiting gearbox and teetering rotor) were particularly suitable for NZ conditions because they reduce fatigue loads in turbulent, high wind conditions.
- [50] Next Mr Henderson discussed the evolution of the Windflow 500 prototype erected at Gebbies Pass near Christchurch. He advised that there had been some initial noise problems, but that modifications to the turbine had been "successful in eliminating this vibration induced noise problem", with a 7 dBA reduction in sound levels and an elimination of any tonal components.
- [51] Mr Henderson said that he considered that the Gebbies Pass experience had been helpful and relevant to the Te Rere Hau proposal as it ensured that Te Rere Hau neighbours would get the benefit of the reduced sound levels and confirmed the Applicant's commitment to achieving the highest standards of environmental acceptability.
- [52] Ralph Sims: Professor Sims is the Professor of Sustainable Energy and Director of the Centre of Energy Research at Massey University, Palmerston North. He is a Board Member of the NZ Energy Efficiency and Conservation Authority. Professor Sims' curriculum vitae, which lists numerous scientific papers on climate change and renewable energy, establishes him as an eminent person in the field.
- [53] Professor Sims outlined the effects of climate change, including the probable increase in the frequency of extreme weather events, increased risks to agricultural production and associated environmental and economic consequences.
- [54] Professor Sims next referred to the benefits of the development and use of renewable energy citing security of energy supply, avoidance of future high prices of oil and other fossil fuels, reducing reliance on imported fossil fuels, and benefits for the New Zealand renewable energy industry and adding that the proposal would "... also help New Zealand meet its international objectives under the Kyoto Protocol". Professor Sims concluded his evidence by commenting that New Zealand could increase its share of energy that comes from renewable energy, "but this requires more wind farms etc to be constructed".
- [55] Mr Malcolm Hunt: Mr Hunt is an experienced consultant specialising in environmental noise. He confirmed that he had been involved with the measurement and assessment of noise from wind turbine generators for a range of sites in the lower half of the North Island, commencing in 1993 and had been a member of the technical committee which developed NZS6808:1998. Mr Hunt had previously prepared the noise assessment that formed part of the AEE submitted with the application.
- [56] Mr Hunt presented a comprehensive (36 page plus appendices) statement of evidence. At the commencement he stated that overall it was his assessment that "the impact of noise effects on surrounding land arising from the construction and operation of the proposed Te Rere Hau wind farm indicates that only a small number of rural residences will receive operational wind farm sound levels at around 30 dBA or more. Construction noise may be received up to 45 dBA during daytime but this is only for short periods during the construction phase".
- [57] Referring to the closest (existing) rural residences, Mr Hunt advised that:

"I understand the owners of the closest rural residential site affected by wind farm noise, the Hargreaves (adjoining the wind farm site to the northwest, Lot 1 DP20911 CT 8974/81) have signed a consent form and

therefore the effects on that property are not considered within the RMA process. The next closest dwellings will likely receive wind farm sounds around 10 dBA or more below the compliance limit recommended by NZS6808 and this will result in less than minor noise effects in my view"

adding that:

"My evidence includes recommended conditions of consent governing noise matters based around the recommendations of NZS6808:1998 which are intended as enforceable sound level limits. Residences located in Harrison Hill Road, Ridgeview Road, Pahiatua Track and Forest Hill Road will receive a very low level of noise from wind farm operation, well below the applicable guidelines and Standards".

[58] Mr Hunt explained that the sources of noise emitted from operating wind turbines can be divided into two categories: aerodynamic and mechanical. He described aerodynamic sound as principally that created by the movement of air over the wind turbine blades, adding that such noise varies as a function of tip speed, being negligible when the turbine is at rest, greater as the tip speed (rotational speed) increases, and generally constant once the rated power output is achieved. Mechanical sound was described as that associated with individual components, with the primary sources of such noise being the gearbox and generator. Mr Hunt advised that mechanical noise does not generally contribute a major component to the overall noise emissions from modern wind turbines.

[59] Mr Hunt next explained that there are four types of sound that have been linked to wind turbines: tonal, broadband, low frequency and impulsive. Referring to sound level measurements of the Windflow 500 turbine established at Gebbies Pass, and comparing the results with other documented noise emission levels for modern wind turbines, Mr Hunt said that:

"The results indicate that the Windflow 500 machine has a comparatively low noise output and can be classified as one of the quieter WTGs available"

adding that:

"Overall, the Windflow 500 has a moderate noise level output and does not emit sound possessing any significant tonal components".

[60] Mr Hunt told me that NZS6808:1998 dealt with any significant tonal noise emissions by the addition of a +5 dBA "penalty" which results in the assessment of wind turbine sounds at 5 dBA above their actual measured level of sound emission, adding that this is to "account for the potentially greater annoyance such sound may invoke and essentially penalises the source under assessment".

[61] Referring to the Gebbies Pass experience, Mr Hunt told me that:

"Pre-July 2004 measurements of sound from the Windflow 500 WTG at Gebbies Pass contained clearly audible tonal components at around 31Hz due to the coinciding gear mesh frequency; gear box resonance and efficient sound radiation by parts of the turbine. However, since that time Windflow has undertaken engineering re-design and gearbox engineering work and has eliminated the problem tone. Measurements have confirmed no significant tones exist. Sounds produced by Windflow 500 WTGs proposed for the Te Rere Hau site should be considered broadband in my view".

Mr Hunt defined broadband as noise characterised by an even distribution of sound pressure across the audible spectrum.

[62] Addressing wind turbine noise as an environmental effect, Mr Hunt advised that Rule 6.2.6.1 of the District Plan contained statements relevant to the measurement of noise and required all sound to be measured and assessed in accordance with NZ Standard 6801:1991 Measurement of Sound and NZ Standard 6802:1991 Assessment of Environmental Sound, "except where specific reference is made to other standards". Mr Hunt then stated that NZS 6801 and NZS6802 on their own were not suitable for the assessment of noise from wind turbines or wind farms.

- [63] Mr Hunt next told me that NZS6808:1998 was developed for the specific measurement and assessment of noise from wind turbines. He said that he had no doubt that NZS6808:1998 was an appropriate Standard to follow and its recommendations represent a reasonable and appropriate basis for assessing wind farm noise.
- [64] Mr Hunt then told me that NZS6808:1998 bases acceptability of predicted wind turbine sound levels on measured ambient sound levels at noise-sensitive receiving sites (measured as L95 background sound levels) to determine the impact of wind turbine sounds under a range of wind conditions. He said that a basic premise is that given that wind turbines only operate in windy conditions it is fair to predict that under such conditions even the most sheltered sites receiving wind turbine sounds would also receive ambient sounds that are elevated (to some extent) by near or far sounds generated by wind. Concluding the point, Mr Hunt added that it is not that NZS6808:1998 relies on masking effects of sounds from wind blowing across a wind farm site, as it is the ambient sound levels measured at sheltered receiving sites that is the focus for assessment.
- [65] Mr Hunt next addressed the issue of the ambient sound environment, commenting that it was important that the proposed wind farm be addressed in the context of its local environment. He outlined the monitoring of ambient sound levels that he had undertaken, which included collecting data from the four nearest rural residential locations and a representative location on the boundary of the application site. For the residential positions the measurements were taken at or near the 20m notional boundary to the dwelling location as per the recommendations of NZS6808:1998. Information on wind speed and direction was gathered concurrently. Mr Hunt said that *"the comprehensive data collection is adequate in my view to obtain a clear picture of the ambient sound levels occurring at critical locations in the area, under a range of wind conditions"*.
- [66] Based on his analysis of the collected information Mr Hunt told me that it was his assessment that the predicted levels of sound from the wind turbines were within the range of typical ambient sound levels measured in the area. Referring to the four closest rural residential sites, Mr Hunt summarised the position as follows:

| Rural Residential Location | Predicted Sound Level dBA | Ambient Sound Level (L95dBA) at 8m/sec Plus 5 dBA | Complies with NZS6808 by how many dBA? |
|----------------------------|---------------------------|---|--|
| Gapp Site | 35 | 45.2 | 10.2 |
| Beale Site | 29 | 42.5 | 16.2 |
| Hargreaves Site | 44 | 44.1 | 0.1 |
| Boyle Site | 36 | 48.1 | 12.1 |

- [67] Referring to his review of the predicted noise levels, Mr Hunt told me that:

"My review of predicted noise levels indicates (even with reduced terrain screening) only a small number of residential locations will likely receive potential wind farm noise levels of 30 dBA or more. Predicted levels under worse [sic] case conditions for the FOUR closest houses in the area are below the NZ Standard thresholds for significant adverse effects and houses in the wider area (including the Harrison Hill Road subdivision area) are even less affected. I have specifically looked at likely noise levels at rural dwellings to the north of the site near the end of Forest Hill Road and found the noise impact to be minor at around 28dBA. The presence of significant pine plantations results in high background sound levels during windy conditions, however the noise emissions from the Te Rere Hau wind farm do not rely on this masking effect as predictions indicate levels are genuinely low at existing rural dwellings in the area.

Closer rural residential sites to the area to the southwest of the wind farm are expected to receive a worst case noise level of 30dBA or less".

- [68] Mr Hunt then said:

"While low levels of sound are anticipated, this does not mean that WTG sounds will be inaudible at all times. No assurances about audibility can be given"

and that:

"It is important to acknowledge that there will be some additional sound generated in the area. However, such sounds will not be particularly noticeable or prominent"

and that:

"From time to time, it will be possible to hear wind farm sounds in some vacant rural sites at locations within and near boundaries of the wind farm site".

[69] Referring to the obligation under the RMA to incorporate the "best practicable option" to ensure emission of noise does not exceed a reasonable level, Mr Hunt said that notwithstanding that the prediction is that the wind farm sound levels will meet the NZ6808:1998 noise limits, if, however, higher noise than predicted was to be generated and this sound travelled into certain off-site areas around the wind farm to a noticeable degree, the wind farm operators would need to mitigate the noise effect, and would have a number of ways in which to manage noise to ensure compliance, including relocating wind turbines and mechanically modifying turbines to avoid operation under certain wind directions.

[70] Mr Hunt next referred to issues raised by submitters and advised, inter alia, that:

- some submitters requested that noise emitted from the proposed wind farm should not exceed 35 dBA or 45 dBA at the boundary of the wind farm site. Commenting that only a small number of wind turbines would be permitted under this scenario and would have to be centrally located on the site, Mr Hunt said that:

"... such restrictions are not required by the applicable NZ Standard and do not accord with the goal of addressing effects of the noise on the environment. This is why the Standard uses the concept of the notional boundary ..."

Mr Hunt advised that approximately 31 wind turbines would be possible under a 45 dBA level at the site boundary and 4 under a 35 dBA level

- the notional boundary method is adopted within many consents and district plans as a means of protecting dwellings and their immediate surroundings from noise effects, while at the same time providing for noise-generating activity in rural areas
- as there are some wind turbines located near the wind farm site boundaries, there would be some sound overspill onto adjacent land not owned by the Applicant.

[71] Mr Hunt also told me that he considered there were some factual reasons for not limiting noise to numerical limits at the site boundary, including that the natural ambient sound level would already exceed 35dBA before wind had increased in strength to cause the turbine to operate. Thus, the limit of 35 dBA at the site boundary is already exceeded by ambient sounds.

[72] Mr Hunt next addressed the recommended consent conditions, and suggested a number of amendments. He told me that in no case would he recommend departing from the recommendations of NZ6808:1998 in formulating conditions, such as conditions that require compliance with a single, specific numerical dBA limit.

[73] Concluding his evidence Mr Hunt told me that:

"Reductions in wind farm sound levels with distance under the range of expected operating conditions are such that the wind farm will not cause significant levels of noise within the local receiving environment around existing relevant rural residences in the area. The other important assessment factor is the existing ambient sound environment. Measurements have shown this environment is highly affected by ambient wind sounds with ambient L95 sound levels increasing significantly as wind speed increases".

Mr Hunt confirmed that he supported the granting of consent, subject to suitable consent conditions addressing noise.⁴

- [74] Ms Isobel Gabites: Ms Gabites is a consultant landscape ecologist. She told me that she was asked by the Applicant to undertake an assessment of the ecological effects on the Te Rere Hau property as a consequence of establishing the wind farm. She said that she considered the ecological issues of most relevance were the effects of construction on the freshwater catchments and the immediate and long-term effects of the wind turbines on the local native ecosystems.
- [75] Confirming that a 19.2 hectare block of native bush is to be fenced and covenanted by the QEII National Trust, she said that this would have a beneficial effect on this particular native ecosystem.
- [76] Referring to recognised threats to birdlife posed by wind farms, being birdstrike, bird displacement and habitat loss, Ms Gabites' overall conclusion was that any threats posed were unlikely to be significant. She did confirm, however, that she supported a consent condition which would provide flexibility to reposition turbines by up to 20 metres as this would be greatly beneficial for providing the ability to increase spacing for bird corridors.
- [77] In relation to terrestrial ecosystems, Ms Gabites confirmed that there would be no native habitat loss on the property. Referring to the native bush remnant, Ms Gabites said that it's covenanting and fencing was a major benefit, ensuring an improvement in native wildlife habitat, and by providing a permanent future link between remnant forest areas.
- [78] In relation to freshwater ecosystems, Ms Gabites told me that the site provides the source for a large number of streams that flow into four major catchments. Water quality and impact on freshwater ecosystems were, therefore, a concern during construction phases. She advised that measures to prevent runoff and siltation of small streams should be incorporated into the detailed design phase.
- [79] Concluding her statement, Ms Gabites said that:
- "In general, there is little immediate effect on the indigenous environment that cannot be mitigated or compensated for. It is my opinion that the potential adverse effects on local ecosystems by this wind farm proposal are no more than minor".*
- [80] Richard Mayer: Mr Mayer is a landscape architect with 26 years' experience and presently a consultant landscape architect and urban designer with Environments by Design Ltd. Mr Mayer presented a landscape and visual assessment of the proposal.
- [81] Mr Mayer confirmed that the wind turbines will be visible from many sites to varying degrees, within a 20 km or further radius from the site principally on the western side of the main Tararua ridgeline. He said that people whose properties were within 1 km of the wind farm site would experience the most dramatic changes to their visible landscape, but also said that not all turbines will be visible, as surrounding landforms will obscure views.
- [82] Mr Mayer told me that it was his opinion that close views of wind turbines make a positive and dramatic contribution to the immediate and wider landscape and that they add a contrasting and dynamic element that enhances (by way of contrast) the natural qualities of the Tararua Range landscape. Mr Mayer also told me that

⁴ Mr Hunt tabled a peer review of his noise assessment undertaken by the Christchurch office of Marshall Day Acoustics. The peer review concluded that the Malcolm Hunt Associates report *"provides a thorough assessment of the noise impact of the proposed Te Rere Hau wind farm. The basic calculations have been checked and we have not identified any systematic errors. Although the terrain screening model used in Malcolm Hunt Associates' assessment slightly deviates from the simplistic calculation procedure in NZS 6808 we believe that an appropriate technique has been used.*

The predicted WTG noise levels have been correctly assessed using the suggested criteria from NZS 6808. However, it remains to be confirmed whether the Windflow 500 has any special audible characteristics. A 5 dBA penalty would substantially change the results of the noise assessment".

I note that it was Mr Hunt's opinion that the Windflow 500 turbine does not have any special audible characteristics / tonal components.

he accepted that not all adjacent property owners agree with this view and that some see the turbines as a negative and visually intrusive element in the landscape.

- [83] He said that the proposed Te Rere Hau project needed to be considered in the context of the existing wind farms - Te Apati at the southern end of the Ruahine Ranges to the north of the Manawatu Gorge and the Tararua Wind Farm at the northern end of the Tararuas to the immediate south of the gorge.
- [84] Mr Mayer identified a number of factors that he considered assisted in mitigating potential adverse visual effects, including:
- the wind turbines are to be contained within a relatively small area thus creating potentially less visual disruption to the ridgeline of the Tararuas
 - the undulating and at times steep contours of the site prevent turbines from displaying a uniform mass grouping in the landscape
 - the nature and extensive scale of the landscape of the Tararuas is capable of absorbing the visual impact of the wind farm without adversely affecting the quality of the landscape
 - the undulating nature of surrounding properties and localised vegetation helps to limit the extent to which the wind farm is viewed from adjacent properties and view points up to 4.5 km from the site.
- [85] Referring to issues raised by submitters, Mr Mayer summarised his comments under three principal headings, which were: skyline and landscape/visual dominance; non-conformance with regional policy statement; and distraction for motorists.
- [86] Commenting on the 'dominance' issue, Mr Mayer said that within a distance of less than 1 km from adjacent properties the turbines have the potential to create a significant visual change to the outlook of the property owner; but viewed from a greater distance of 1 to 4.5 km only small numbers of turbines would be visible from properties and roads, as the balance of turbines will be obscured by the surrounding topography or vegetation. Mr Mayer identified the Polson Hill Drive subdivision, situated approximately 5 kms to the south, as the exception to this as it will observe the full width of the wind farm.
- [87] Mr Mayer said that he felt the nature and expansive scale of the landscape of the Tararuas was capable of satisfactorily absorbing the visual impact of the proposed wind farm without adversely affecting the quality of the landscape.
- [88] Noting that some submitters had commented on "positive visual effects", Mr Mayer told me that wind turbines are modern, aerodynamically designed sculptural and interactive elements within the environment that provide:
- "a positive visual contrast to the surrounding rural and natural setting".*
- [89] Addressing the submitters' concerns that the proposed wind farm was inconsistent with the Regional Policy Statement, Mr Mayer said:
- "The proposed wind farm will establish a development that is complimentary [sic] to the established wind farms on the Tararua Ranges. The presence of wind turbines in the context of the Ranges and existing land use activities ranges [sic] adds further interest and contrast to the Ranges and will serve to enrich the character of the northern end of the Tararua Ranges as part of the established regional wind farm landscape. The wind farm development will have less than minor effect on the skyline as few turbines are located on the upper most ridgeline while making a positive contribution to the over [sic] character of the wind farm sections of the Tararua Ranges. It is my opinion that the proposed development does conform with the Regional Policy Statement objective 8 and policies 8.2 and 8.3".*
- [90] Referring to the potential for distraction to motorists, Mr Mayer told me that neither the wind farm site nor any of its turbines are situated in close proximity to, or in direct alignment with, vehicle drivers' line of vision within any major roadway so as to create a visual detraction, noting that the closest major road to the site is the Pahiatua Track which is approximately 1.5 km at its closest point.

- [91] In conclusion, Mr Mayer said that he considered that the proposed development and surrounding environment contains a number of inherent factors that will help to mitigate potential adverse visual effects. These factors included turbine size and colour, minimal visual intrusion of the upper ridgeline, relatively small development area, undulating topography and steep side slopes with surrounding landscape.
- [92] Overall Mr Mayer said that he considered that:
- "The nature and scale of the development in the context of existing wind farm developments, surrounding rural land use activities, and the scale of the Tararua Ranges is such that any adverse visual effects will be no more than minor".*
- [93] Alistair Greig: Mr Greig is a registered surveyor with 22 years' experience. His specialised area is spatial data, including the preparation of photo-simulations of projects. He confirmed that he had prepared the photo-simulations that were used by Mr Mayer in his visual assessment.
- [94] Mr Greig told me that he considered that the photo-simulations provided an accurate and realistic visualisation of the project.
- [95] Clare Barton: Ms Barton holds a Bachelor of Regional Planning Degree (Hons) and is a senior planner with Environments by Design Ltd, with sixteen years' experience in planning.
- [96] Drawing on the evidence of the Applicant's technical advisers, in a comprehensive statement of evidence Ms Barton told me that she considered that consent should be granted and gave the following reasons:
1. *The adverse effects of the activities on the environment including visual, noise, roading and traffic, ecological, cultural and telecommunication effects will be no more than minor with the imposition of appropriate conditions of resource consent.*
 2. *The proposal is not contrary to the overall intent of the relevant objectives and policies of the Palmerston North City District Plan and Regional Policy Statement.*
 3. *The proposal provides positive effects particularly in terms of the production of sustainable energy.*
- [97] I will return to Ms Barton's evidence in the evaluation section of this decision.
- [98] At the conclusion of Ms Barton's evidence I next heard from submitters. Although the summary that follows is not strictly in the order that the submitters appeared, I firstly cover the submitters who appeared in support of the application, followed by those who either opposed the application or wished to see conditions attached if consent was to be granted.
- [99] Peter van Essen: Mr van Essen (submitter #25) resides at 118 Pahiatua Track. He confirmed that he supported the proposed wind farm on the grounds that it was "nationally significant" in terms of the benefits of renewable energy/reduction in CO² emissions, and it is to be sited on an already modified landscape. He also told me that he did not consider that the wind farm would be any more visually significant than the residential developments that have been moving higher up the slopes in recent years. Given the proposed covenant over the native bush remnant he said that he considered the site's natural values would be enhanced. He also told me that he considered that the Applicant had made good efforts to inform residents of the project and that he had known for ten years that the site had been bought for a wind farm.
- [100] John Bent: Mr Bent (submitter #53) spoke to his written submission. He confirmed that he supported the proposal with appropriate conditions. He told me that he considered that the proposed activity was compatible with the site. He said that it was the essence of his submission, for the reasons given by Professor Sims, that *"the positive benefits of the proposed wind farm far outweigh all adverse effects and in particular those arising from loss of visual amenity and increased noise"*.
- [101] Barbara Jackson: Mrs Jackson (submitter #9) told me that she had not intended to speak, but as a consequence of some points raised by submitters opposed to the application, particularly in relation to potential effects on horses, she wanted to make a brief statement. Mrs Jackson resides at Back Road, RD1. She advised that the access road and some of the Tararua Wind Farm turbines are located on her property and told me of her

experience with horsetrekking on her property, which at times had consisted of groups of 30 to 40 horses and riders. She said that the horses had not had a problem with the wind turbines in terms of noise or blade flicker and concluded by saying that there had been "no problems whatsoever".

- [102] Aeolian Property Company Ltd: Mr John McCartin presented a statement of evidence on behalf of the Aeolian Property Company (submitter #5), of which he is a director and shareholder. He told me that APCL is the owner of the property and that the company had been formed with the express purpose of securing a site suitable for wind farming. He said that he considered that it would be a "false economy" to deny the use of the site for wind energy, adding that he was a strong advocate of wind farms and that wind and not stock farming was a better fit for the site.
- [103] Energy Efficiency and Conservation Authority: Selwyn Blackmore, a senior advisor with EECA (submitter #32) and a qualified planner presented a written statement of evidence in support for the Authority's submission. Mr Blackmore summarised the Government's energy policy framework which he said included two key policy directions: a continuing improvement in energy efficiency; and, a progressive transition to renewable sources of energy. Commenting further on the later direction, he said that increasing the supply of renewable energy by a further 30 petajoules (PJ) per annum by 2012, which was a 22% increase in the current level of energy generated from renewable sources was the target and that the 0.8 PJ contribution that the Te Rere Hau project would make was a "valuable contribution".
- [104] Mr Blackmore draw my attention to the Resource Management (Energy and Climate Change) Amendment Act 2004, which introduced three new matters into section 7 (Other Matters) of the Act:
- (ba) the efficiency of the end use of energy
 - (i) the effects of climate change
 - (j) the benefits to be derived from the use and development of renewable energy
- and noted that the definition of "renewable energy" (section 2 of the Act) includes energy produced from wind.
- [105] Referring to the Kyoto Protocol, which Mr Blackmore said was the main international collective response to climate change, Mr Blackmore told me of the "Projects to Reduce Emissions" programme which supports initiatives that will reduce emissions of greenhouse gases by awarding them emission units (or 'carbon credits') adding that:
- "Through this programme the Government has already recognised the role this proposal could play in reducing the impact of energy use on New Zealand's greenhouse gas emissions. The proposal was awarded 518,000 tonnes of emission reduction credits in the first tender round in 2003".*
- [106] Mr Blackmore said that the EECA had published a number of reports that had investigated New Zealand's wind energy resource potential, and stressed that the "Manawatu Gorge has been identified as an area in New Zealand with an excellent wind energy resource".
- [107] Concluding, Mr Blackmore said that he considered that the project's positive effects should hold sway, and that under s.5 of the Act the project overall was sustainable notwithstanding some potential noise and visual effects and that accordingly consent should be granted.
- [108] Fiona Beale: Mrs Beale (Submitter #29) advised that she lived at 104 Harrison Hill Road. She told me that she and her husband (Robert Beale) had purchased their original 10ha property in May 1999 and that they wanted a piece of land that had character and the room to graze the horses she had at the time. She also told me that at the time of purchase she was looking at the possibility of working from home and that as she had spent the previous 15 years involved in the equine industry, predominantly involved in riding lessons and horsetrekking, this was the path she chose to follow.
- [109] Mrs Beale next told me that the 10ha was not really of sufficient size to establish her proposed horsetrekking venture. Accordingly an adjoining 26ha was purchased in August 2002. At the same time she also acquired access rights over an 18ha pine forest on an adjoining neighbour's property which provided an overall 55ha for the venture. Mrs Beale confirmed that she and her husband had commenced establishing tracks and had also constructed a dressage arena close their house which they had shifted onto the site.

- [110] Mrs Beale told me that along with horsetrekking she could see that retreat accommodation would become a very good prospect, and she and her husband had designed purpose-built lodges which would also have facilities to stable horses. She told me that the aim was for people to access the lodges by horse, tramping or by being ferried out in a purpose-designed all-terrain vehicle. Mrs Beale said that:

"On a whole we felt that this approach to the tourism venture would be of great appeal as it can either be seen as an adventure or a relaxing getaway. We currently have a building consent in place for the first lodge, there are three in total".

- [111] Mrs Beale next told me that they were in negotiations with an adjoining neighbour to purchase 23 further hectares as an extension to the back of their existing property, thus allowing for greater scope for the horsetrekking/tourism venture and also the ability to build a "dream home" in 5-10 years. She said that the identified house site was approximately 30 metres from the boundary of the proposed wind farm.

- [112] Given their intentions for their property, Mrs Beale told me that the impact of the wind farm on their future economic wellbeing would be immense. The horsetrekking venture would not be viable. The estimated noise levels at the lodges would be totally unacceptable. She concluded by telling me that she considered the concept she had in mind:

"... simply would not work with a wind farm over the fence, and wind turbines located as close as 30 metres from the boundary".

Accordingly, she asked me to decline the application.

- [113] For the record I note that among the reasons stated by Mrs Beale in her written submission was:

"The application will adversely affect the use of my land, prevent me from developing my land in accordance with the intentions with which it was purchased, and which are permitted under and pursuant to the District Plan".

There was no specific mention of the intention to establish a horsetrekking/tourism business or her concern about effects on horses from the wind farm.

- [114] Robert Beale: Mr Beale (submitter #11) next gave evidence. He told me that he was an A Grade Automotive Electrical Engineer and that he had been involved in high-end car audio installations. His evidence primarily addressed the Applicant's assessment of noise contained in the AEE. Mr Beale, referring to NZS 6808:1998, told me that he had concerns about the sound level measurements undertaken by the Applicant and the validity of the data used as a basis for constructing the ambient noise levels. Mr Beale expressed concern at the possibility of strong impulsive sound being created by the wind farm at night. He also asked me to decline the application.
- [115] Alucard Holdings Ltd: Mr Ross Gibson presented evidence on behalf of Alucard Holdings Ltd (submitter #4), a land development company owning 45ha of land immediately adjacent to the wind farm's south west corner. Mr Gibson told me that Alucard originally purchased 193ha of land in 1996 for the purpose of land development and the 45ha block is the balance of land remaining after the subdivision and sale of 17 lifestyle blocks to date. Fourteen of the blocks have had dwellings established on them.
- [116] Mr Gibson told me that he considered it was unreasonable that the wind farm should be allowed to use land owned by Alucard as a noise buffer zone, and that the District Plan noise standard for the Rural Zone should apply, and not that recommended by NZS 6808:1998. Noise effects should be measured at the legal boundary.
- [117] Mr Gibson told me that Alucard has a Council approved house site (RM1248 - 17 October 1997), which has been identified as likely to be exposed to noise levels that would exceed those set down in NZS6808:1998, and that a further seven potential sites have been identified if road access upgrading was undertaken.
- [118] Referring to the Windflow 500 turbines, Mr Gibson said that he considered the technology was unproven and that it was inappropriate to install 104 turbines on the site on a trial basis.

[119] Concluding his evidence, Mr Gibson said that any consent should include conditions requiring the Windflow 500 to undergo full testing for sound assessment and reliability over at least a 12 month period; that the proposed 15 turbines in the southwest corner should be removed from the proposal; and that all noise assessments should be measured at the true boundary and the maximum acceptable noise level should be set at 35dBA.

[120] Aokautere Guardians Inc: several people made statements under the 'umbrella' of the Aokautere Guardians Inc. (submitter #61). They were:

Mr Quentin Poole *
 Mrs Sally Poole
 Mr Deltief Klein *
 Mr Stephen Parlane * (tabled statement)
 Mr Rodney Tombleson *
 Mr Harvey Jones (tabled statement)
 Mr Edwin Cywinski
 Mr James Gordon *
 Mr David Argyle *
 Mr Steve Hall (tabled statement)
 Mr Richard Napier (tabled statement)
 Mr Alan Titchener

* Also an individual submitter.

The Aokautere Guardians Inc was represented by counsel (Mr Mark von Dadelszen) who presented submissions and the end of the statements made by the above persons.

[121] Quentin Poole: Mr Poole confirmed that the Aokautere Guardians Inc (the "Guardians") was incorporated on the 15 October 2004 in response to the application. The purpose of the Society is recorded as: to protect the unique environment and natural resources of the Tararua Range; to maintain the existing benefits and characteristics of the land for future generations; and to oppose development of any further proposed wind powerstations in any area of the Manawatu where in the members' opinion such development will compromise the unique environment and natural resources of the Tararua Range.

[122] Mr Poole outlined what he called "public safety issues" relating to the proposed Te Rere Hau wind farm, including the potential risks to the public associated with possible wind turbine failure. He backgrounded the process to establish the Windflow 500 turbine at Gebbies Pass and told me that he considered that the turbine could only be classified as commercially unproven and in the prototype phase of development. He also said that he was concerned about the requested eight year period for construction and the doubts that the Guardians had about the Applicant's ability to perform as *"it would appear that the company will not have any substantive funds available"*.

[123] Mr Poole requested that the application be declined totally, but added that if consent were granted it should be subject to conditions that required that turbine models that have been proved with more than one year's continuous running be installed; that the wind farm be completed within one year of starting construction activities on the site; and that a financial bond be imposed that is large enough to restore the site to its original condition.

[124] Sally Poole: Mrs Poole, a member of the Guardians and a registered dietician and company director, presented evidence addressing visual impact issues. She told me that the Tararuas were the most outstanding natural scenic feature of the city. She described the proposed wind farm as *"an industrial estate"*, which because of the closeness and sheer number of the turbines would have an *"enormous impact on the visual landscape"*, specifically mentioning the grid like pattern of the turbines on the lower slopes.

[125] Mrs Poole said that the Guardians were in favour of wind power stations in principle, but not in such close proximity to a built-up area and in full view of a city. She asked that I reject the application totally *"for its visual intrusion on this landscape"*.

[126] Deltief Klein: Mr Klein a member of the Guardians and also an individual submitter (submitter #42) lives at 349 Forest Hill Road. Mr Klein told me that he brought his lifestyle block in January 2000. He said that the application

- should be declined for a number of reasons. He considered that the wind turbines proposed were noisy, inefficient and unreliable, adding that only 35 modern turbines are needed to produce the equivalent energy of the 104 Windflow technology turbines, thus creating significantly less noise and being more efficient.
- [127] Mr Klein told me that he felt the visual impact of the project will have a severe and compounding detrimental effect on the appreciation of the Tararua Ranges as a largely unspoilt natural asset for all visitors and residents in the Manawatu and posed the rhetorical question - "*when is enough enough*"?
- [128] Mr Klein also told me that he was concerned that the wind farm site was adjacent to residential property developments that had occurred in good faith in the past 5 years, adding that he felt "*this development would not have progressed if developers or residents had been aware of the planned windfarm and its impact*". He also said that he felt there had been inadequate consultation by the Applicant and that his property was less than 1 km from the site, and yet there had been no noise testing or direct consultation. Mr Klein requested that if the application was granted consent, conditions covering noise testing and the complete removal of all turbines if the site is de-commissioned should be imposed.
- [129] Mr Klein also tabled a written statement on behalf of Mr Joerg Raupach, owner of a property and house site at 350 Forest Hill Road. Mr Raupach, a member of the Guardians, but not a submitter in his own capacity, was overseas at the time of the hearing. Endorsing the points made by Mr Klein, Mr Raupach's written statement also expressed concern at adverse cumulative effects of further wind farm developments on the visual and amenity value of the Tararua and Ruahine Ranges.
- [130] Rodney Tombleson: Mr Tombleson a member of the Guardians and an individual submitter (submitter #44) expressed concern about the location of the necessary transmission lines. He told me that he considered that there had been a clear lack of planning in relation to the transmission lines and that he was concerned about the visual impact of the lines, particularly on the skyline. He told me that he considered any upgrade of the existing Pahiatua Track transmission line would be entirely unacceptable, with many residents living in close proximity to the existing line.
- [131] Mr Tombleson concluded his statement by requesting that the application be declined on the grounds of inadequate analysis, research and presentation of the transmission line issues.
- [132] Edwin Cywinski: Mr Cywinski lives at 205 Polson Hill Drive. He told me that he had a degree in engineering and some experience with wind turbine production. In his statement on behalf of the Guardians he told me that he questioned the Windflow 500 technology and its efficiency levels, and said that in comparison with established suppliers the Applicant appears to have a significant lack of track record in terms of installed units. He recommended that an evaluation of the proposed turbine and its suitability in comparison with other available units be undertaken in relation to environmental compliance, reliability, efficiency, quality/suitability of the generated power, and track record.
- [133] David Argyle: Mr Argyle a farmer from Tokomaru who lives approximately 12 to 15 km south of the site told me that in his opinion wind turbines were "ugly". He also raised concern about shadow flicker and blade glint and spoke of concerns he had about ecological effects and bird strikes.
- [134] James Gordon: Mr Gordon told me of his concern about the proposed earthworks and consequent effects on streams in the area. He told me that a stream that is feed from watercourses crossing the site is the habitat of the rare native fish the banded kokopu. He stressed the need for conditions to protect the stream from any soil runoff / siltation from the site and recommended the establishment of a group to administer a management plan for the environmental protection of the stream and the fish.
- [135] Speaking to his personal submission (#48), Mrs Gordon had also lodged a submission (#47), Mr Gordon told me he lived at 102 Harrison Hill Road and that he was concerned about noise from the wind turbines and the degradation in his quality of life
- [136] Several other written statements were tabled on behalf of the Guardians. These included statements by:

1. Stephen Parlange which expressed concern about noise and drew attention to a number of scientific papers addressing the inter-relationship between noise and health.
2. Steve Hall which expressed concern about potential noise impact on his existing house site and potential house sites on his 20ha block of land which adjoins the wind farm site.
3. Harvey Jones which expressed concern about noise levels, distraction to motorists and further visual impact upon the skyline.
4. Richard Napier which expressed opposition to the proposed wind farm due to the effects on the Tielcey Park Equestrian Centre on Fitzherbert East Road, of which he is the owner. The statement identified as a principal concern the effects the wind farm would have on horses due to noise, light and shadow flicker and the sight of rotating blades. In the statement stated Mr Napier said that Tielcey Park's commercial viability would be adversely affected by clients' real or perceived concerns regarding safety issues whilst competing. A letter from a veterinarian with Southern Rangitikei Veterinary Services (Mr Tim Pearce) was also tabled. The letter stated that the project which was understood to involve a cluster of wind turbines within 1.5 km of Tielcey Park (later amended to 3.6 km) was likely to have a major impact on horses' behaviour. Mr Napier's statement concluded by stating that *"any disturbance at Tielcey Park real or perceived will result in the complete closure of the business"*.

[137] The Guardians also called Mr Alan Titchener (consultant landscape architect).

[138] Mr Titchener has close on thirty years' experience as a landscape architect. He told me that he was engaged by the Guardians (jointly with another submitter, County Heights Trust) to prepare an independent assessment of the landscape and visual effects of the proposed development. He presented a comprehensive (41 page) statement. Firstly outlining his methodology for preparing his assessment, he told me that he had not had time to prepare and submit computer-generated photomontages. He accepted nevertheless that the visual simulations prepared on behalf of the Applicant were a satisfactory aid to identifying which turbines would be visible from the viewpoints selected. However, he also said that the simulations were of limited value in assessing the full extent of the adverse visual effects of the wind farm because they did not show the proposed development in relation to the existing Tararua Wind Farm and were unable to show the turbines in an operational state (i.e. moving), which he said was vital to a consideration of visual effects.

[139] Under the heading of "Context" Mr Titchener told me that the section of the Tararua Ranges that he considered was particularly relevant to the application was the 12km stretch between the Manawatu Gorge to the north and the Pahiatua Track in the south. He said that the Tararuas were a prominent feature identified in the Manawatu-Wanganui Regional Policy Statement as an outstanding and regionally significant landscape feature.

[140] Referring to the existing Te Apiti and Tararua Wind Farms, Mr Titchener told me that they had a significant influence on the appearance and character of the landscape and one that he considered to be largely positive. He said:

"In my opinion, the effect of these two existing wind farms on the landscape is largely positive. While the landscape is significantly affected, the existing turbines appear as an industrial / sculptural element which enriches the landscape through their strong visual contrast with the landscape, together with their positive renewable energy implications".

He said that these existing wind farms provide a strong lead as to how any future wind farm development in this landscape ought to occur.

[141] Following a brief description of the Tararua and Te Apiti Wind Farms, referring to the latter Mr Titchener said that it was much more prominent visually that the Tararua Wind Farm, but that the more rugged underlying landform of the Ruahine Ranges provides a:

"... landscape context which is sufficiently impressive to absorb and provide a counterbalance for the scale of the turbines"

adding that:

"The turbines take on a surreal, sculptural appearance - in my opinion, they are a positive element in the landscape, albeit a totally unnatural one".

Then, referring to the Tararua Wind Farm, Mr Titchener said:

"The Tararua Wind Farm turbines in their current configuration also sit comfortably in their host landscape".

[142] Based on his observations of the Te Apiti and Tararua Wind Farms Mr Titchener said that he considered that they raised a number of questions which were of vital importance to the hearing on the Te Rere Hau proposal. The questions were:

- *can this landscape accommodate any more wind turbines without creating significant adverse visual and landscape effects?;*
- *if there are to be more, how many would be acceptable visually?;*
- *where?; and*
- *of what materials, design and density?*

[143] Mr Titchener next spoke of the relationship between the two existing wind farms, and told me that the developments exhibit significant differences in scale, spacing, speed of blade rotation, materials used in turbine construction and landscape backdrop, adding *"Yet there is a degree of complementarity between the two fields"*. He then said:

"In my opinion, the significant element that allows one to rationalise these factors is their separation by a major landscape / landform feature - ie the Manawatu Gorge. This separation allows an observer to put the two different developments into separate compartments and accept that the taller, slower, Te Apiti development (despite being the more recent of the two) acts as a kind of protector and sentinel for the busier, more numerous, scaled down Tararua version. The consistency of blade numbers per turbine is crucial in making this connection and visual adjustment.

Differences in tower design (and therefore visibility) between the two existing developments is less of an issue, given the number of turbines involved. The Te Apiti turbines gain some of their visual strength from the consistency of materials and colours between their component parts. The Tararua development benefits from the relative inconspicuousness of its towers against its less imposing landscape".

[144] Mr Titchener next described the site of the proposed Te Rere Hau wind farm noting that it was presently 3 km south of the southernmost turbine of the existing Tararua Wind Farm.⁵

[145] Mr Titchener next outlined the statutory framework highlighting: the definition of "amenity values" (s.2); the meaning of "effect" (s.3); "the protection of outstanding natural features and landscapes from inappropriate subdivision, use and development" (s.6(b)); and two s.7 matters - "maintenance and enhancement of amenity values" and "maintenance and enhancement of the quality of the environment". He referred me to the requirements of s.104, the Manawatu-Wanganui Regional Policy Statement and the District Plan. Referring to the Regional Policy Statement (RPS), Mr Titchener highlighted Issue NCF1, which relates to the "Loss or degradation of regionally significant natural features and landscapes" and to the following two policies:

Policy 8.1

To consider the following matters when identifying which natural features and landscapes are outstanding and regionally significant:

⁵ Mr Titchener said that he understood that TrustPower were planning to extend the existing Tararua Wind Farm by a further 48 turbines, six of which would be located on the skyline between the existing wind farm and the proposed Te Rere Hau wind farm, noting that if resource consent were granted, the distance between the enlarged Tararua site and the northernmost turbine in the Te Rere Hau development would be approximately 1.2 km.

- a. *With respect to major geographical and geological features and landscapes, the degree to which it contributes to the Region's character in terms of:*
 - i. *visual prominence; and*
 - ii. *scenic characteristics, including views, vistas and backdrops ...*
- e. *the degree to which the feature or landscape has recognised national or regional protection.*

Policy 8.3

To protect, from inappropriate subdivision, use and development, the specific values associated with the following features which are both outstanding and regionally significant:

- p. *the skyline of the Tararua Ranges, specifically:*
 - i. *its scenic qualities provided by its prominence throughout much of the region and its backdrop vista in contrast to the region's plains.*⁶

- [146] Mr Titchener next noted that the RPS recorded that district councils should provide for the protection of outstanding natural features and landscapes in district plans, and also when considering applications for resource consents. He then referred to the reasons stated in the RPS for Policy 8.3, which are:

"These policies address Issue NCF1 and reflect Section 6 of the Resource Management Act (1991). The Regional Council has prepared the list in Policy 8.3 in consultation with District Councils and the Department of Conservation. In doing this, the Council has taken the word 'outstanding' to mean natural features and landscapes which are of regional significance. In some cases these features and landscapes may also be of national and/or international significance.

Each feature of landscape on the list has been assessed in terms of the criteria in Policy 8.1. The outstanding natural features and landscapes identified in the list have been included for the following reasons:

The Skyline of the Tararua Ranges

The Tararua Ranges extend from north of Upper Hutt to the Manawatu Gorge. The skyline is prominent throughout the lower North Island, and provides a scenic vista separating east and west coasts.

The skyline of the Tararua Ranges is an outstanding natural feature or landscape of regional significance⁷ as it meets the criteria of Policy 8.1. The values and attributes of the Ranges which contribute to its significance, and are to be protected, are listed in Policy 8.3. The skyline is defined as the boundary between land and sky at the crest of the highest points along the ridge. The skyline of the Tararua Ranges is the land/sky boundary as viewed at sufficient distance from the foothills so as to see the contrast between the solid nature of the land at the crest at the highest points along the range and the sky"

- [147] Mr Titchener next discussed public perception of wind farms. Drawing on overseas studies he said that while a significant majority of people approve of windpower as a method of energy generation, there is a diverse range of opinions regarding the visual impact of wind farms on the landscape, although the majority (70%) 'accept' wind farms and approximately 10% think they improve the landscape. Referring to a New Zealand survey,⁸ Mr Titchener said that wind power and hydro electricity were identified as the most preferred types of energy generation. He noted that 25% of the survey respondents said that the main disadvantage of wind power was that the 'turbines are ugly and unsightly' and that 18% were against the idea of having a wind farm built in their area. Referring to 34% percent of the survey respondents who had said that they moved from being not 'strongly in favour' to being 'strongly in favour' if they could not see or hear the wind farms from their house, Mr Titchener said that this shift appeared to indicate that despite general support for the harnessing of wind energy, *"the design and placement of turbines raises issues that need to be considered very carefully"*.

⁶ Referring to the term "backdrop vista" Mr Titchener told me that he felt the use of the term was inaccurate in this statement, in that (in his opinion) a vista is generally defined as a snapshot of a view between frames (eg looking down a street). He said that he felt that a better term to describe the Tararua Ranges would have been "visual backdrop".

⁷ Mr Titchener's emphasis.

⁸ A survey undertaken on behalf of EECA which comprised a national telephone survey of 750 persons aged over 18.

- [148] Against the background he had established, Mr Titchener next told me of his assessment of landscape effects. Introducing his assessment he told me that it was his opinion that:

"... given the significant (and largely positive) impact of the existing developments on the landscape, and the possible extension of the Tararua development further south (as discussed above) there is a case for further wind farm development along much of the remainder of the landscape unit that is defined at one end by the Manawatu Gorge, and at the other by the Pahiatua Track. However, the acceptability of such further development would be subject to consideration of other potential adverse effects including ecological effects and the visual and noise effects on existing and potential residential properties in the vicinity".

- [149] The first point that Mr Titchener highlighted in his assessment was the need, in his opinion, to adopt a holistic approach and take into account the 'bigger picture' aspects of the landscape. Thus, he considered that whilst it was necessary to consider the specific effects of the Te Rere Hau proposal, this should be in the context of the effects of wind turbines on the landscape of the Tararua Ranges as a distinct landscape unit, a landscape unit that has a consistency of "landform, land use and texture".

- [150] Referring to the meaning of 'aesthetic coherence' Mr Titchener said that it would be very important that "further wind turbine development be designed in keeping with the style of the adjoining development on this landscape unit".

- [151] Mr Titchener told me that he accepted that there is room for some additional turbines. He said that the creation of a consistent visual connection of turbines of the same type and similar spacing along the skyline would be desirable, adding that:

"Whilst it is obviously beyond the control of the applicants, a more holistic, aesthetically coherent approach to wind farm development on this distinct and discrete landscape unit would be to close the gap between the Tararua Wind Farm and the proposed site with more turbines (of the same type, at no closer spacing than the Tararua Wind Farm and predominantly sited on the skyline) and to terminate wind farm development at a point no further south than the southern boundary of the Applicant's property.

This regionally significant landscape would then achieve a sense of balance and continuity, further enhancing its distinctiveness as a significant landscape unit".

- [152] In visual assessment terms Mr Titchener stressed that overseas research had indicated that consistency of turbine type, design and spacing within a given landscape was the most important consideration. He told me that although there were significant differences between the two existing wind farms (Te Apiti and Tararua), particularly with regard to the size, tower design and number and spacing of turbines, the "two developments can effectively be considered complementary" and that in this regard of particular relevance was the number of turbine blades per turbine (despite the discrepancy in size), the separating effects of the Manawatu Gorge and the scale and nature of the respective landforms. He then said "in contrast, the proposed Te Rere Hau development raises some serious concerns".

- [153] Mr Titchener listed the significant differences between the existing wind farms and the proposed development as:

- number of blades per turbine
- rotation speed of turbine blades
- height of turbines
- density of turbine spacing (and the related issue of extent of access tracks)
- relationship of turbine to skyline and landform
- tower design
- turbine colour and reflectivity; and
- the need for transmission lines.

- [154] He then made the following points:

Number of Turbine Blades

- the difference in number of blades results in a significant change in the turbine's sculptural form
- ... wind turbine blade numbers should be consistent within a distinct landscape unit
- the two bladed turbine would be inappropriate and contrary to the concept of aesthetic coherence

Rotation Speed

- a slower rotating turbine contributes to a sense of measured gracefulness, whereas a faster turbine registers as busier and more frenetic⁹

Turbine Height / Projection above the Skyline

- the difference in height between the Tararua turbines and those proposed for the Te Rere Hau development is not significant and the visual effect of the difference in height between the turbines in each wind farm on the landscape would be no more than minor.
- ... of greater importance is the extent to which the turbines protrude above the skyline.

[155] Referring to the extent of the protrusion above the skyline, Mr Titchener said that while it would be standard practice when assessing the visual effect of any built element that protrudes above the skyline of a significant natural landscape feature to have reservations about the impact on the landscape, he told me (nevertheless) that:

"... the highly visible and strongly sculptural character of the wind turbines of both Te Apiti and Tararua constitute an exception to the rule ... it is the way in which they contrast with the landscape that makes them, for most people, a positive element in the landscape, and all the more so for their complementarity in that landscape.

This sense of the surreal, of seeming to tumble along the skyline is a large part of their appeal. It is noticeable in the cases of the few turbines that are located further down the slopes, the strong vertical element of the tower and the rotating blades tend to conflict with the landscape and their sculptural qualities are diminished as a result".

Mr Titchener concluded this point by telling me that he considered that it would be more desirable to position turbines so that their blades protrude above the skyline when viewed from most viewpoints and that (specifically) turbines 72 to 104 would have a landform backdrop from nearly all available viewing positions, thereby disrupting the aesthetic coherence of the landscape.

- [156] Referring to tower structure design, Mr Titchener said that he concurred with Mr Brenkley the Council's landscape architect who recommended that a lattice tower and not a tubular tower should be used, adding that this would be in the interests of aesthetic coherence.
- [157] Mr Titchener identified density and layout as another key difference between the Tararua Wind Farm and the proposed Te Rere Hau development. He said that the Tararua Wind Farm with its linear layout across the skyline and seemingly random spacing between the turbines manages to achieve a balance between order and variety and a good fit with the landscape by reflecting the contours of the landform on which the turbines stand; whereas, the Te Rere Hau proposal in contrast, with its many rows of turbines and varying bases heights across the site would highlight the geometric shape of the wind farm. Mr Titchener also said that he had considered that from some viewing points 35 turbines would protrude above the skyline and that this represents a density of turbines on the skyline significantly greater than the existing Tararua Wind Farm, and that this difference was a "significant adverse visual effect".
- [158] Referring to the colour proposed for the turbines Mr Titchener told me that given the need for continuity with existing turbines in this landscape, the colour should match that of the Tararua turbines.
- [159] Mr Titchener confirmed that the proposed location for the site buildings was acceptable in that they would not be visible from the western (Palmerston North) side. He did however query the selection of 'dark green' as the colour

⁹ Mr Titchener advised that the blades of the Te Apiti turbines complete a revolution in 3 seconds, the Tararua turbines in 2.1 seconds and the proposed Te Rere Hau turbines in approximately 1.2 seconds.

proposed for the coloursteel cladding, saying that a more neutral hue which matches the predominant surface geology would be less conspicuous in the subject landscape.

- [160] Acknowledging that 33kv transmission lines were permitted activities under the District Plan, Mr Titchener nevertheless said that any transmission line in this area should be carefully positioned to avoid adverse visual effects on the skyline.
- [161] Referring to the proposed access tracks and earthworks, Mr Titchener said that he considered that the proposed network of tracks would be visible on the landscape and, as such, would have a significant impact. He also said that the alignment down the crests of the radiating spurs would increase their visibility. He considered the way to reduce this adverse effect would be to reduce the number of rows of turbines, thus reducing the extent of tracking necessary, or to redesign the access track network and the positioning of the remaining turbines in such a way as to minimise the visibility of the tracks from viewpoints below.
- [162] Noting that his visual assessment had focused principally on the effects of the proposed development when viewed from 5 to 10 kms from the site, Mr Titchener also briefly commented on visual effects on near neighbours. Referring to the County Heights Trust property, Mr Titchener told me that only turbines in the lower two rows of the proposed development would be visible from viewpoints on the County Heights Trust property, and that the extent of visibility of the development from other lifestyle properties in the vicinity would vary from viewpoint to viewpoint. Referring to viewpoints further away (eg along Fitzherbert East Road) he said that he felt the visual effects would be significantly greater.
- [163] In summary, Mr Titchener said that the most significant adverse landscape effects would be the "*discordant element*" that the proposed development would impose on what is a recognisably distinct landscape unit which features an existing wind farm as a significant visual effect within that landscape. He said that the proposed development:
- " ... contrasts and conflicts with the existing established elements in the landscape - both the natural elements and the man-made elements which can be seen to have a positive effect on the landscape".*
- He said that the proposed development would cause significant adverse landscape and visual effects and for this reason would constitute inappropriate development on an outstanding natural feature and landscape.
- [164] Mr Titchener concluded his statement by saying that the fundamental issue, in his opinion, was that of consistency with the existing wind farm features on the Tararua Ranges' landscape. This required, in his opinion, that any further wind turbine development in the Tararua landscape should exhibit turbines of the same or similar height, same number of blades (three), same or similar blade length and tower construction, same colour, same or similar spacing between turbines and arrangement in relation to the ridgeline, and minimal tracking and earthworks.
- [165] County Heights Trust: Mr Quentin Poole a trustee for County Heights Trust (submitter #15) advised me that the Trust owned 154ha of land, which was purchased in February 2004, and that the intention was to subdivide the property into lifestyle units of varying sizes. He confirmed that the Poole family would retain several blocks to establish a home which would enable the family to continue to experience a rural lifestyle. Mr Poole also told me that a major part of the family's lifestyle was supporting the children as top pony showjumpers and that it was the intention to have ponies on the property.
- [166] Mr Poole then drew my attention to a number of points in the Planning Officer's Report which he considered required attention. In particular he drew my attention to the District Plan provisions for the development of rural-residential subdivisions. Mr Poole tabled an indicative (freehand) subdivision proposal for the property prepared by Kevin Judd, a registered surveyor, which identified a total of 58 rural-residential lots.
- [167] Other issues that Mr Poole raised related to: consultation, visual effects (at both the micro and macro levels), noise, transmission lines and economic effects. Referring to micro visual effects and to the evidence of Mr Titchener, who was jointly engaged by the Guardians and County Heights Trust, Mr Poole said that he felt that the two-bladed turbines displayed a lack of "naturalness" in that they have a symmetry that is foreign to a rural environment. He said that a three-bladed turbine was more in keeping with the rural environment.

- [168] Mr Poole said that he felt that light flicker had not been canvassed in the application or Council Officer's Report, and that this could have potential effects on residents and/or livestock, adding that this effect *"will upset any horse or pony - their natural response is flight"*.
- [169] Referring to visual effects at a macro level, and drawing attention to Policy 8.3 of the RPS, Mr Poole said that felt that the *"industrial nature of the proposed power station with its grid-like pattern is totally at odds with the statement in the RPS regarding the backdrop vista of the Tararua Ranges"*.
- [170] Mr Poole next spoke about noise. Referring to wind direction data which identified that wind would blow out of the NE to S vector approximately 28% to 30% of the time, he said that this is the most conducive period that noise will be a problem on the western side of Te Rere Hau. He said that he was concerned about the noise effect on horses.
- [171] Referring to "economic" effects, Mr Poole told me that the County Heights Trust trustees considered that:
- "They will not be able to proceed with the planned subdivision of the property as the adverse effects will deter purchasers"*.
- With a reduced purchaser demand he considered that the property would be uneconomic to develop and subdivide.
- [172] Concluding his statement, Mr Poole said that the application should be declined as the visual effects (both macro and micro), noise effects and economic effects would all be substantial.
- [173] James Fowler: Mr Fowler is an Australian based environmental noise consultant. On behalf of County Heights Trust he prepared a preliminary assessment "Te Rere Hau Wind Farm Environmental Noise", an 18 page report plus appendices, which was prepared in response to a brief to:
- "... prepare a desk review of available information and prepare a report concerning the noise to The Trust and nearby properties"*.
- Mr Fowler also prepared a two-page corrigenda following his review of Mr Hunt's statement of evidence.
- [174] Mr Fowler was unable to attend the hearing. Accordingly, his report was tabled rather than presented as a statement of evidence. I did, however, have an opportunity to speak to Mr Fowler by telephone (in the presence of representatives of Council, the Applicant, the Guardians and County Heights Trust) to clarify some points raised in his report.
- [175] As could be expected of a report of the type prepared by Mr Fowler, there was discussion of the nature of wind turbine noise and people's response to such noise, and also on recent developments in wind turbine noise assessment. In relation to wind turbine noise assessment, the report referred to the characteristics of night-time noise and the possibility of strong "impulsiveness".
- [176] The report noted that NZS6808:1998 was specifically developed for the measurement of noise from wind turbines.
- [177] In the section of the report which addressed noise from the Te Rere Hau wind farm at the County Heights Trust property and other residential properties, the report recorded that no site inspection had been undertaken, nor had any allowance been made for the screening effects provided by hills or ridges between the turbines and residential premises.
- [178] Summary conclusions reached (recommendations made) in the Fowler Report included:
- i) the amenity of Stage 1 and Stage 2 of the County Heights Trust development will not be significantly affected by noise from the Te Rere Hau wind farm

- ii) Trust lots 18 to 22 and 25 are likely to be exposed to excessive noise from the wind farm, both in regards to amenity and compliance with NZS6808:1998. Background sound level monitoring is required to confirm these possible excesses
 - iii) for the rest of the Trust properties, the amenity of lots greater than about 1km from the nearest wind turbine will probably not be changed by the wind farm, and are therefore be suitable for development. Lots nearer than 1km to the wind farm are likely to have some amenity loss, although noise emissions may conform to NZS6808:1998. Additional background sound level monitoring is required to establish limits in this region
 - iv) noise from the wind farm at the Boyle, Gapp and Beale residential sites would result in some loss of amenity as wind turbines will be audible at times, however emissions would probably be acceptable
 - v) noise at a proposed tourist lodge located 100 to 300m from the wind farm will be excessive.¹⁰
- [179] Referring to a request from County Heights Trust to identify which turbines would need to be removed if all lots on the Trust property were to be suitable for residential use, the Report said that allowing a +5dBA penalty for special audible characteristics and adopting a criteria of 45dBA, 17 of the nearest turbines would need to be removed, but added that this is, however, likely to be excessively conservative as screening of more distant turbines is likely to significantly reduce predicted levels.
- [180] Mr M von Dadelszen: at the conclusion of the witnesses for the Guardians and the County Heights Trust, Mr von Dadelszen presented comprehensive legal submissions on behalf of both submitters. He advised me that while time constraints had imposed difficulties on the submitters in briefing and obtaining expert evidence, it was accepted that a decision must be made on the evidence presented.
- [181] Mr von Dadelszen said that his clients did not raise issue with the desirability or otherwise of alternative energy sources, such as wind farms (adding that they did not dispute the evidence of Professor Sims or the EECA). However, he said that there were a number of issues relevant to the Te Rere Hau proposal that needed to be addressed. He listed these issues as:
- noise
 - landscape and visual
 - future of Aokautere land zoned rural-residential; and
 - other adverse effects.
- [182] Referring to the planning instruments (RPS and District Plan), Mr von Dadelszen firstly submitted that the RPS was fundamentally important given that it recognises the wind farm site as in an area recognised as an outstanding and regionally significant feature, and hence the importance of s.6(b) of the Act, and also because s.104(1)(b)(iii) requires me to have regard to the RPS. Mr von Dadelszen also drew my attention to Chapter 29 of the RSP which addresses "Energy" issues and noted that at section 29.5 there is a cross reference to Objective 8, which is *"To protect natural features and landscapes which are outstanding and regionally significant from inappropriate subdivision, use and development"*.
- [183] Referring to the District Plan, which he noted had no separate section on landscape issues, Mr von Dadelszen drew my attention to Objective 1.6 in Part 7.3 which seeks to "enable the subdivision of rural land for rural-residential purposes".¹¹ He stated that:
- "The County Heights Trust property is zoned Rural in the District Plan, but is identified as a "Rural Residential Area" by the cross-hatching on the District Plan Maps. The Trust may therefore subdivide for rural-residential purposes down to 1 hectare lots in accordance with Rule 7.16.1.1(1) of the District Plan, creating some 58 new lots, and a scheme plan for the next stage of the road and a further five lots has been approved by the Council. Prior to the Trust's purchase in September 2003, the first 11 rural-residential lots had already been subdivided off at the beginning of a road known as County Heights Drive, close to the Pahiatua Track"*.

¹⁰ This refers to one of the lodges planned to be established by the Beales in association with the proposed tourist/horsetrekking business - refer para 110 above

¹¹ Note: Part 7 which relates to "Subdivisions" is not yet operative.

[184] Mr von Dadelszen next outlined the legal framework. Referring to *Ngati Kahu Ki Whangaroa Co-op Soc Ltd v Northland Regional Council*, Mr von Dadelszen submitted that when making a decision on a resource consent application for a discretionary activity, the discretionary judgment was to be exercised for the single purpose of the Act set out in section 5. Thus, what is required is an overall judgment of whether the activity will promote the sustainable management of natural and physical resources.

[185] Referring to the issues he had identified (refer para 181 above), Mr von Dadelszen made the following points (among others):

- i) Noise: there is concern about the "character" of the wind farm noise. Any conditions relating to noise assessment must include procedures that enable any such characteristics to be adequately identified. Mr Fowler is of the opinion that County Heights Trust land closest to the proposed wind farm is above acceptable noise limits, and the Applicant's and the Council's witnesses have not taken into account adverse effects of the proposed wind farm on future rural-residential houses. In respect of the last point Mr von Dadelszen drew my attention to the High Court decision in *Wilson v Selwyn District Council*.
- ii) Landscape and Visual Issues: referring to the Environment Court's decision in *Pigeon Bay Aquaculture Ltd v Canterbury Regional Council*, Mr von Dadelszen said that the questions formulated in that case in relation to an application for a discretionary activity consent, which were:
 - Is the area in question already affected by the loss of natural character?
 - Is the natural character of the environment preserved and protected in terms of section 6(a) notwithstanding development?
 - Is the location and scale of the proposal on this site appropriate?

were pertinent in the present case.

He submitted that the issues in the present case were in relation to the skyline of the Tararua Ranges, an outstanding and regionally significant feature which, as a matter of national importance, is to be recognised and provided for and protected from inappropriate subdivision, use and development; on a more local level, effects on nearby residents and visitors; and effects on Tielcey Park.

Mr von Dadelszen submitted that in terms of landscape and visual issues, the Te Rere Hau wind farm would dominate and intrude on the surrounding landscape; would constitute an overdevelopment by wind farms; and would introduce discontinuity and incongruity by virtue of the break between the existing and proposed wind farms. He submitted that the location and scale of the proposal was inappropriate.

- iii) Future of Rural-Residential Zoned Land: Mr von Dadelszen submitted that the Te Rere Hau wind farm would severely inhibit rural-residential development due to adverse visual and acoustic effects and, as a consequence, would encourage the spread of rural-residential development into areas further away from existing development, putting further pressure on City services such as roading and stormwater disposal.
- iv) Other Adverse Effects: other adverse effects that Mr von Dadelszen submitted were of concern included ecological effects and concerns about traffic effects on the Pahiatua Track if, during the construction of the wind farm, the Manawatu Gorge (SH2) was closed, such that traffic was diverted to the Pahiatua Track.

[186] Mr von Dadelszen concluded his submissions by stating that relevant section 104 matters indicate that consent should not be granted, submitting that while wind farms in general may be admirable and consistent with the objectives of the RMA, may assist towards meeting the challenges of the effects of climate change and be beneficial by virtue of their use and development of renewable energy, the Te Rere Hau proposal is fatally flawed and ill-conceived.

[187] Department of Conservation: Mr Clint Cameron, a qualified planner, presented a statement of evidence on behalf of the Department (submitter #33). He discussed three matters: the conservation values of the area; potential for adverse effects; and relief sought. Referring to the conservation values of the area he told me the Department commended the proposal to covenant the 19.2 ha block of native bush. Referring to the potential adverse effects

from wind farms, Mr Cameron told me that there is a distinct absence of information on the direct and indirect impacts of wind farms on avian species and regional ecology within the New Zealand context. He said that the potential cumulative effects of continued wind farm development along the southern Ruahine and northern Taranaki axial ranges was an issue that the Department was concerned about and was interested in exploring in more detail. He said that information collated from a long term study of both existing wind farms and the Te Rere Hau wind farm, if consent was granted, may lead to enhanced capabilities in providing more informed advocacy advice on potential ecological effects for any future wind farms in the area.

- [188] In terms of the relief sought by the Department, Mr Cameron confirmed that the consent conditions being offered by the Applicant relating to recording and monitoring bird strikes and instituting an on-going pest control programme would satisfy the Director General's submission.
- [189] Daric Manssen: Mr Manssen (submitter #39) told me that he lived at 20 Ridgeview Road, which is approximately 1.4km south of the proposed wind farm. He said that he believed he would see about nine turbines and was concerned about the visual impact. He also told me of his concerns about noise and understood from information provided in the AEE that noise at his home would be approximately 29dBA, which he did not want. He told me that if the proposal went ahead he would sell up and leave Palmerston North.
- [190] Chris Baker: Mr Barker (submitter #71) told me that he lived on a rural lifestyle block on the Pahiatua Track approximately 2 kms from the site, where he enjoys a peaceful and unobtrusive family lifestyle. He told me that his concerns were around the significant impact the windfarm would have on his family, both during construction and operation. He said he was concerned about health effects (from low frequency noise) and referred me to research by Dr Geoff Leventhall. He also told me of his concern about noise amplification due to the position of his house, which he described as being in an 'amphitheatre'. Mr Barker also told me of his concern about the visual impact of powerlines and that he was not happy that this matter was being dealt with separately from the present application. He expressed concern at the requested 8-year implementation period and construction noise, dust and traffic. Other concerns he raised were in relation to impact on bird flight paths, impact on the use of North Range Road for recreational activity, increased traffic on Pahiatua Track during construction, and the negative visual impact on the Taranaki Ranges skyline, which he described as a unique local natural feature. Mr Barker also told me that he was concerned about the use of an unproven prototype technology.
- [191] Other Submitters: written statements were tabled during the hearing on behalf of three other submitters who did not attend. Those submitters were:

Airways Corporation of New Zealand Ltd: a letter from Opus International Consultants was tabled on behalf of the Corporation (submitter #18) advising that since lodging the submission the Applicant and Airways had further discussed the potential adverse effects that the proposed turbines may have on the Ballance radar station and other navigational sites. The letter stated that:

"As it has not been possible to accurately identify potential adverse effects at this stage, both Airways and the Applicant consider that it is essential that a condition requiring further investigation be included as a condition of any consent granted. In addition, it is considered necessary to include a review condition to ensure any adverse effects not contemplated at this time can be addressed".

The letter confirmed that the Applicant and Airways had agreed on a replacement condition for that recommended in the Officer's Report, and confirmed that on the basis of the replacement condition, which was attached to the letter, the submitter withdrew its request to be heard.

John Freebairn: in a written statement Mr Freebairn (submitter #64) confirmed that he opposed the wind farm and supported the Guardians. Visual effects, noise effects and cultural, historical and spiritual aspects were issues mentioned, as was the recreational use of North Range Road.

Geoffrey Irvin: in a written statement Mr Irvin (submitter #55) of 38 Ridgeview Road said that while he had no objection to the visual appearance of the wind farm and that transmission issues had been satisfactorily addressed by the Applicant, he was concerned about noise and any impact that it would have on their lifestyle.

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[192] At the conclusion of the submitters' statements I asked Ms Blyth, the Council's Reporting Officer, if there were any points she or the other Council officers wished to make in response to issues raised by the Applicant and/or submitters. She said that there were and that she wished to ask Mr Brenkley (landscape architect) and Mr Lloyd (noise consultant) to also comment.

[193] Mr Brenkley: in response to issues raised in the visual effects evidence of Mr Mayer (for the Applicant) and Mr Titchener (for Aokautere Guardians and County Heights Trust), Mr Brenkley confirmed that he had employed what he described as a standard landscape and visual assessment methodology to assess the proposal. This involved:

- assessing the existing landscape to determine the baseline character of the landscape and determine how strong or typical that character was;
- assessing the proposed development to determine the level of impact and whether the existing landscape would be able to assimilate the change, or whether the landscape character would be eroded; and
- considering whether any mitigation measures can effectively overcome the adverse impacts.

In assessing the baseline character of the site, Mr Brenkley confirmed that he had relied heavily on the RPS and accepted that the skyline of the Tararua Ranges is an outstanding natural feature and landscape of regional significance. He told me that he considered it important that the visual integrity of the skyline and the slopes of the Tararuas be protected.

[194] Mr Brenkley told me that he considered that the visual impact of the two existing wind farms was minor, saying that the turbines were visually subordinate to the skyline and slopes of the Tararua Ranges. Commenting on the principal differences between the two existing wind farms (which he listed as the size of turbine, number of blades, tower type and spatial arrangement of the turbines), and referring to the issue of spatial arrangement, Mr Brenkley said:

"The Te Rere Hau wind farm proposal is located on a compact site that is oriented down the north west facing slopes of the Tararua Ranges. As a result, the turbines are densely arranged on the site with less turbines intruding into the ridgeline but more turbines extending lower down the slopes than the existing wind farms. This will result in less ridgeline disturbance than the existing wind farms but greater turbine visibility against the slopes of the Tararua Ranges".

[195] In his assessment circulated with the Officer's Report, Mr Brenkley had concluded

- the audience with the highest visual impact are the near neighbours to the site. They are small in number, but the visual impact in terms of the physical size of the turbines and the movement of the blades will be high
- due to the landform the near neighbours will see only part of the wind farm at any one time. However, due to the density of the turbines on the site and the location of the turbines lower down the slopes, this will still be a significant visual intrusion and will result in a change of character in the surrounding landscape
- the roadway audience will have only minor visual impact due to the alignment of roads adjacent to the wind farm site
- from Palmerston North and surrounding roads the level of visual intrusion will be minor.

Mr Brenkley concluded that:

"the overall visual impact of the Te Rere Hau Wind Farm proposal is therefore in my opinion no more than minor".

[196] Referring to Mr Mayer's evidence and the comment that *"At close viewing distances the lattice towers would take on a more bulky and industrial character resulting in a more visually intrusive and less visually appealing element in the landscape"*, Mr Brenkley told me that as the turbines are already visually intrusive at close range, he remained of the opinion that the benefits of the lattice tower would be that they would be less visually intrusive from a distance, adding that:

"Given the nature of this site where the majority of turbines will be visible against the hillside, the galvanised, unpainted lattice towers will be less reflective and more transparent which will help the turbines recede visually into the surrounding landscape.

Added to this, the closest wind farm to the Te Rere Hau site the Tararua Wind Farm already uses the lattice towers and therefore this would be a consistent design element between the two wind farms".

[197] Referring to Mr Titchener's evidence, Mr Brenkley made a number of points in response. Firstly he said that while he accepted that the wind farm would have significant adverse landscape and visual effects at the micro level (ie for 'near neighbours'), he did not accept Mr Titchener's view that macro level effects would also be adverse. He said that he considered that the undulating landform which partially obscures the turbines and the distance from roads and urban areas will offset macro effects.

[198] Referring to Mr Titchener's comment that the most significant adverse landscape effect would be the 'discordant element' that the Te Rere Hau wind farm would impose on what is a recognisably distinct landscape unit, Mr Brenkley said that while accepting that the existing wind farms are a significant visual element within the landscape, he still considered that the Tararua Ranges remain the dominant element and have not (yet) been compromised by the existing wind farms. He said that he considered that the two existing wind farms were separate entities and visually different from the proposed Te Rere Hau development, which he said:

"... would be assimilated into the landscape far better than either of the two previous developments which are sited along the ridgeline to capture the best windflow. My approach to assessing the application was to assess the degree to which the proposed Te Rere Hau Wind Farm will assimilate into the existing landscape, for the reasons outlined in my report the vast majority of the viewing audience will have no more than minor visual effects".

[199] Referring to Mr Titchener's evidence addressing the issue of 'aesthetic coherence' Mr Brenkley said that he considered that the Te Rere Hau proposal will assimilate visually into the existing landscape, adding that the 17 Te Rere Hau turbines that will penetrate the skyline will help continue the visual pattern established by the Tararua Wind Farm.

[200] Concluding his comments Mr Brenkley said that:

"In my opinion if the Te Rere Hau Wind Farm resource consent is granted the Tararua Ranges will have reached saturation point for wind turbines. My reasoning is that there will be three wind farms within the landscape that will be quite different visually. However they will be visually and physically separate, with no overlapping or different styles. They will all have relatively minor visual impact and the integrity of the Tararua Ranges will be intact, the skyline will be punctuated by turbines but the Tararua Ranges and the skyline will still be the dominant visual feature".

[201] Mr Lloyd: Mr Lloyd an experienced acoustical consultant prepared the noise assessment report for Council, which had been circulated as part of the Officer's Report. Mr Lloyd attended for the three days of the hearing. As part of the Council's response to issues raised during the hearing, Mr Lloyd made a number of points including:

- Mr Hunt (for the Applicant) had undertaken an extensive assessment of likely wind turbine noise. In his assessment he had considered the downwind effects of noise. He had also factored out the screening effects of topography to give a worst case scenario. Mr Lloyd noted that Mr Hunt had concluded that (except for the Hargreaves dwelling) noise levels will comply with the recommendations of NZS6808:1998 for existing dwellings
- Mr Fowler's report had been useful. Mr Lloyd noted that the report 'mirrored' a number of concerns he had expressed in his assessment. Mr Lloyd referred to concerns expressed in the report relating to the noise levels from the wind turbines being greater than those predicted (by between 0.4 and 3.1 dBA) and concerns about "impulsive" noise from the phase effects of the wind turbines that may result in higher subjective noise levels. Mr Lloyd advised that he had drafted a recommended consent condition to provide a method by which noise will be controlled in the event that noise levels are greater than those predicted by Mr Hunt.

Referring to the discussion during the phone conference call with Mr Fowler, Mr Lloyd confirmed that he understood that Mr Fowler accepted that the 'impulsive' sounds might not be an issue with the proposed wind farm.

[202] Referring to the summary table of adverse effects included at page 16 of the Fowler Report, Mr Lloyd confirmed that he agreed that the table *"appears to be fair and is generally consistent with Mr Hunt's evidence and predictions"*.

[203] Referring to the issue of noise spill beyond the site boundary, Mr Lloyd told me that:

"I admit to struggling with the fact that WTG noise will inevitably spill over the boundary of the wind farm site and how to deal with that adverse effect. You have heard from Mr and Mrs Beale that the noise of the WTGs will conflict with their future plans for their land and Mr Fowler identifies that the noise at the Beale's proposed lodge site would be "clearly excessive". Mr Fowler also identifies six lots on County Heights' Trust Land: Trust lots 18 to 22 and 25 that he describes as "probably noise excessive, possibly not suited to residential development". Mr Fowler has assumed some reduction in terrain screening when coming to this conclusion because the County Heights Trust land is all outside the 40dBA contour line predicted by Mr Hunt.

The building site identified by Mr Gibson on his land will also receive noise that is predicted to be marginal as it is very close to Mr Hunt's 40dBA line.

At the end of the day though, if consent is given then it will be inevitable that the wind farm will cause restrictions on future residential development within the 40dBA contour. The commissioner will be required to consider the benefits of the wind farm weighed against the loss of amenity of nearby land and the future aspirations of surrounding land owners".

[204] Concluding his comments Mr Lloyd advised that his recommended conditions were split into three parts:

- construction and decommissioning
- noise from non WTG activities, measured in terms of the District Plan noise limits at or beyond the site boundary; and
- WTG noise.

Mr Lloyd confirmed that he had 'borrowed' the WTG noise conditions from Mr Hunt's preferred methodology with additional conditions recommended in the Fowler Report (modified to remove discretion and vagaries). He said that:

"The conditions are firmly based on NZS6808 and the limit is 40dBA or background +5 whichever is the greater. I had originally proposed the noise limit would be 40dBA alone at locations further from the site (where background sound levels had not been measured) but Mr Hunt has explained why this is inappropriate and Mr Fowler's recommended conditions are similar to Mr Hunt's in that regard".

[205] Ms Blyth: in her response to issues raised during the hearing Ms Blyth focused her comments principally on:

- concerns regarding future subdivision and development of adjoining land(s); and
- Tielcey Park as an 'affected party'.

[206] Referring to issues raised regarding future subdivision and development (by Alucard Holdings, County Heights Trust and Mrs Beale), Ms Blyth advised that based on advice from the Council's Subdivision Engineer, it was her opinion that in relation to the County Heights Trust land it was *"very unlikely that any subdivision consent of the County Heights land could provide that all lots would meet the stable land provisions without earthworks – thereby requiring consideration as a Discretionary Activity (Unrestricted)"*. She also advised that any further subdivision of any properties accessing Harrison Hill Road via Creek Flat Lane (including Alucard's land) would also not comply with the District Plan access standards, thereby defaulting to a Discretionary Activity (Unrestricted).

- [207] Ms Blyth next referred to the High Court decision in *Wilson v Selwyn District Council* and drew on advice she had received from the Council's legal adviser.¹² Drawing on that advice Ms Blyth said that an assessment of effects under a full discretionary activity was bound to consider all effects, including reverse sensitivity matters for such future subdivision consent applications.
- [208] With regard to Mrs Beale's submission and her intention to develop horsetrekking and tourist (retreat) accommodation, Ms Blyth confirmed that Council had issued a building consent for one of the retreats (as it was legally bound to do), but that the consent was 'tagged' in that it could not be implemented before a resource consent was obtained. Ms Blyth confirmed that the development of a horsetrekking and retreat accommodation enterprise would require a Discretionary Activity (Unrestricted) consent under the Rural Zone provisions of the District Plan, and that the Beales had been so advised in August 2004. Ms Blyth confirmed that to date no resource consent application had been made. If and when an application were made, Ms Blyth said any assessment would involve consideration of all effects, including reverse sensitivity effects.
- [209] Referring to the tabled statement from Mr Richard Nelson of Tielcey Park (a witness for Aokautere Guardians), Ms Blyth said that Council did in fact consider carefully the extent of serving notice. Given the distance of the complex from the wind farm, which she said was at least 3 kms from the nearest portion of the wind farm site, and the intervening landforms, Council had determined that Tielcey Park would not be potentially affected to a greater extent than the general public. She told me that she remained of the opinion that Tielcey Park would not be adversely affected by the proposal.
- [210] Concluding her comments in response to the statements made by the Applicant and submitters, Ms Blyth confirmed that it was her opinion that "on balance effects are overall minor". She recommended that consent be granted with appropriate consent conditions.

Applicant's Right of Reply

- [211] Mr Duncan Currie exercised the right of reply on behalf of the Applicant. He requested that the Applicant's technical witnesses also be provided an opportunity to reply to points raised. I agreed to his request, as I considered this would be of assistance to the hearing.
- [212] Mr Currie referred me to the *Wilson v Selwyn DC* decision. He told me that it was no authority for the proposition that future activities, other than permitted activities, must be taken into account. He also noted that both Ms Blyth and Ms Barton had assessed the likely impacts of the proposed wind farm development on future dwellings on adjoining properties, with both concluding that future subdivision and development for residential development under the 'rural-residential overlay' in the Rural Zone would in all probability require consent as a minimum for a controlled activity (in relation to subdivision) and a discretionary activity (restricted) in relation to access, and very likely in respect of both matters for a discretionary activity (unrestricted).
- [213] Referring to the suggestion put by Mr Cowper (legal counsel for Mrs Beale)¹³ that a bond should be imposed as a consent condition relating to decommissioning, a point also made by Mr Poole, Mr Currie said that he considered it would be unreasonable to require a bond in perpetuity. He also informed me that Mr Henderson would table a letter advising that the scrap value of the turbines was of sufficient value for companies to be willing to remove the turbines free of charge. Therefore, Mr Currie considered that there was no need for a bond.
- [214] Referring to submitters' concerns about the possibility of an upgrade of the existing 11kV transmission line on Pahiatua Track to 33 kV, Mr Currie confirmed that this has been ruled out by the Applicant on the grounds of cost. Nevertheless, Mr Currie also said that: (a) the transmission lines form no part of the application; and (b) in any case, 33 kV lines are permitted activities in the District Plan. Mr Currie submitted that case law does not support the imposition of conditions on a resource consent preventing activities which are a permitted activity. He also drew to my attention s.104(2) which states that a consent authority may disregard an adverse effect of an activity if the plan permits an activity with that effect.

¹² The advice Ms Blyth referred to was a letter dated 12 December 2004 prepared by Mr John Maassen, Partner, Cooper Rapley. The letter was circulated to all parties attending the hearing.

¹³ Mr Cowper did not attend the hearing. However a written submission from Mr Cowper was tabled by Mrs Beale.

- [215] Mr Currie referred to the expressed concern about effects on horses. He said that no evidence was brought on the issue by the Applicant as it had not been raised as a potential effect in Mrs Beale's submission on the application, nor by the Aokautere Guardians who had subsequently tabled at the hearing the written submission from Mr Richard Nelson of Tielcey Park, and also a letter from Mr Pearce. Referring to the letter from Mr Pearce, Mr Currie submitted that it should be accorded little weight, as it had not established why a wind farm 3.6 km from the complex will have a 'major impact on horses'. In Mr Currie's submission, the evidence of Mrs Jackson, which he submitted was based on 'her actual experience with horses and wind turbines' should be preferred.
- [216] In conclusion, Mr Currie submitted that with some suggested amendments to the proposed consent conditions, the proposed wind farm would meet the purpose of the Act, being the sustainable management of natural and physical resources, and would contribute in a significant way to the use and development of renewable energy in New Zealand, while avoiding, remedying or mitigating any adverse effects of activities on the environment.
- [217] Malcolm Hunt: Mr Hunt referred to comments made by Mr Gibson (Alucard Holdings) and Mr Beale, and statements made in the Fowler Report. In relation to Mr Gibson's building site for a rural residence, Mr Hunt said that it was his judgment that the wind farm would be likely to comply at this site, but the recommendations of NZS6806:1998 indicate that to be a relevant assessment point, the dwelling must exist at the time of undertaking the assessment. Referring to Mr Beale's evidence which concerned the noise assessment method that Mr Hunt had followed, Mr Hunt said that he considered that the readings he had put forward were carried out in accordance with professional practices, using correct equipment which was properly calibrated, were a reasonable representation of the ambient sound climate, and were in no way skewed in favour of the Applicant.
- [218] Referring to the Fowler Report, Mr Hunt said that he felt the "flat earth" approach¹⁴ adopted failed to take account of the hilly terrain and consequent wind shear prevailing at the Te Rere Hau site. He considered that Mr Fowler had failed to acknowledge the advantage of the higher cut-in wind speeds of the Windflow 500 turbine, which meant that potentially problematic noise emissions during low wind speeds are avoided. Mr Hunt also said that he did not accept the proposed consent conditions contained in the Fowler Report because they did not reflect prevailing conditions at Te Rere Hau.
- [219] Richard Mayer: in his response Mr Mayer focused on the evidence of Mr Titchener. He noted that Mr Titchener had confirmed that there is a case for additional wind farms to be established within the section of the Tararuas which includes the Te Rere Hau site. Mr Mayer also noted the agreement between himself and Mr Titchener regarding the scale of the Tararua Ranges and their ability to absorb the impact of a wind farm without creating any adverse visual effects.
- [220] Mr Mayer said that he did not accept Mr Titchener's view that the proposed Te Rere Hau wind farm lacks coherence with the existing wind farms, and drew my attention to paragraphs 27(a) to (c) of his evidence. Mr Mayer said that he considered the only real differences between the Te Rere Hau wind farm attributes and those of the existing wind farms were the number of blades and the relationship of the turbine towers to the landform and skyline. Mr Mayer also said that it was important for me to note that Mr Titchener's assessment of visual effects of the Te Rere Hau wind farm was based in part on his advocacy for perpetuating the number of turbines on the skyline and minimising turbine numbers on side slopes, commenting that:
- "Advocating additional turbines on the upper most ridgeline as preferable to side slopes is contrary to the objectives and policies of the Regional Policy Statement. Policy 8.3 clearly puts an emphasis on the protection of the skyline and not side slopes, although effects on such clearly still need to be considered".*
- [221] Referring to Mr Titchener's preference for lattice towers at Te Rere Hau, which Mr Titchener considered were significantly less obtrusive on the landscape than tubular towers, Mr Mayer noted that Mr Titchener had responded to one of my questions by agreeing (nevertheless) that tubular towers were more sculptural and visually appealing than lattice towers. Mr Mayer also expressed concern about the potential for lattice towers to encourage perching by birds.

¹⁴ Mr Hunt's use of the term "flat earth" was in the context of his discussion of the Fowler Report and the report's reference to overseas experience (particularly European experience), which is based on sites with a flat topography and not topography similar to New Zealand's hilly terrain.

- [222] Referring to the suggestion that the Te Rere Hau wind farm will present a grid like industrial pattern, Mr Mayer said that the photo-simulations show that the geometric pattern of the turbine layout is difficult to perceive, that the undulating contours of the site prevent towers from exhibiting a uniform tower height and mass across the site, and the turbines from various aspects and distances are visually non intrusive.
- [223] Finally, referring to the comments made by Mr Titchener in relation to the Ermslaw forestry block, Mr Mayer said that while he considered that the trees provided some mitigating measure their removal would not significantly alter the extent of visual effects. Mr Mayer said that he considered the physical break that exists between wind farms was the critical mitigating effect, and not the trees alone.
- [224] Ms Barton: in her response Ms Barton made brief comment on several points made by submitters. In relation to the District Plan noise rule she noted that the Plan contemplates that in assessing a resource consent there is reliance on "the New Zealand Standard appropriate to the activity" - which in the case of wind turbines is NZS 6808:1998.
- [225] Ms Barton reaffirmed her acceptance of the importance of Policy 8.3 of the RPS which requires protection of the skyline from inappropriate development. She said that she considered that the preference put forward by Mr Titchener for more turbines on the skyline was inconsistent with the policy.
- [226] With regard to potential effects on horses, Ms Barton noted that Mrs Beale had suggested a distance of 200 to 300 metres as a distance what would mitigate potential effects as purported on horses. She also told me that she understood that the dressage facility adjacent to the proposed Awhitu wind farm that some submitters had referred to,¹⁵ was approximately 100 metres away at the closest point. Referring to Mr Pearce's tabled letter regarding Tielcey Park, she noted that the distance was more in the order of 3.6 km.
- [227] Ms Barton referred to the point made by Mr Poole (and also by others) that the Windflow 500 turbine was not proven technology. She said that the only effect of relevance for consideration was ensuring that any potential effects associated with any necessary decommissioning be avoided, remedied or mitigated. Ms Barton said that she considered that one of the recommended consent conditions would more than adequately mitigate potential decommissioning effects.
- [228] Referring to the potential for rural-residential development in areas covered by the rural-residential overlay on adjacent properties, Ms Barton said that because of an inability to comply with relevant performance conditions in relation to required contiguous land areas for buildings, sewage and also in relation to access, it was her opinion that resource consent would be required for a Discretionary Activity (Unrestricted). Related to this point, and referring to the *Wilson v Selwyn District Council* case, Ms Barton said that it was therefore her opinion that rural-residential development around the site would not a permitted activity.

SITE VISIT

- [229] Following the hearing a site visit was held on Thursday 20 January 2005. Attending the site visit were representatives of the Applicant (Mr Freear and Mr Henderson), Mr Poole and Mr and Mrs Beale. Also attending for part of the visit were Mr Klein, Mr Napier and Mr Bent, Mr Napier being the owner of Tielcey Park. Mrs Virginia Watson, the Council's Principal Planner also attended. Mrs Watson had not been involved in any reporting role at the hearing.
- [230] The site visit commenced at Tielcey Park, and included a walk-over of some of the park's equestrian facilities. It also included visits to properties in Forest Hill Road, Harrison Hill Road, Ridgeview Road and several vantage points to view the County Heights Trust property and other properties adjacent to the wind farm site. This included a visit to two of the locations for the lodge facilities proposed to be established as part of the Beale's horse-trekking venture. The final part of the site visit was to points of interest on the wind farm site itself, including the 19.2ha area of native bush to be covenanted.

¹⁵ The decision referred to was on an application by Genesis Power Limited for a resource consent to establish 19 turbines on a property at Awhitu in the Franklin District. Independent commissioners declined to grant consent.

- [231] The site inspection was very helpful and enabled me to view many of the physical locations that had been mentioned during the hearing.
- [232] I am grateful to Mr and Mrs Beale and Mr Poole for convening arrangements for the transport. Without question, the quad motorbikes were ideally suited to the task in hand!

THE LAW

- [233] The proposed wind farm is a Discretionary Activity (Unrestricted) under the District Plan (Rule 9.9.2).
- [234] As a discretionary activity consent is required under s.104 of the Act, subsection (1) of which sets out the matters a consent authority must, subject to Part II, have regard to when considering an application for resource consent. The matters are:
- (a) *any actual and potential effects on the environment of allowing the activity; and*
 - (b) *any relevant provisions of –*
 - i) *a national policy statement*
 - ii) *a New Zealand coastal policy statement*
 - iii) *a regional policy statement or proposed regional policy statement*
 - iv) *a plan or proposed plan*
 - (c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.*
- [235] After considering an application for a discretionary activity, a consent authority may, under s.104B, grant or refuse an application, and if it grants the application, may impose conditions under s.108.

SECTION 104 EVALUATION

- [236] In response to the above I have structured this evaluation section of my report as follows:

Effects
Policy Statements
District Plan
Other Matters

EFFECTS

- [237] Drawing on my review of the application documents, the submissions, the Officers' Reports, the evidence presented at the hearing and my site inspection, I have concluded that the effects I should have regard to are:
- visual and landscape effects
 - noise effects
 - ecological effects
 - earthworks
 - effects in relation to the future subdivision and development of adjacent lands
 - traffic and parking effects
 - effects on horses
 - cultural effects
 - recreational effects
 - effects in relation to the Airways Corporation radar facility
 - other potential adverse effects
 - positive effects

Landscape and Visual Effects

- [238] The issue of visual and landscape effects was a significant issue for the hearing. Three experienced landscape architects gave evidence and a number of other submitters also commented on anticipated visual and landscape

effects. While there was some measure of agreement among the landscape architects, including the view that the existing wind turbines in the Te Apati and Tararua wind farms are a positive addition to the landscape of the Ruahine and Tararua Ranges, there was no consensus over the specifics of the Te Rere Hau wind farm in terms of turbine type, layout and therefore the overall 'environmental outcome' from a visual and landscape perspective.

- [239] Having considered all the evidence and opinions canvassed at the hearing I have come to some conclusions. Firstly, I accept that there will be visual intrusion. This is undeniable. Some turbines will be positioned on the skyline (the evidence was that there would be 17 turbines on the main upper ridge - ie the skyline). These will be apparent from more distant viewing points. This in turn raises policy issues (especially Policy 8.3 of the RPS, which I will comment on in the section where I discuss the RPS). Other turbines on other spurs on the lower slopes will also be seen from closer-up view points, including some rural-residential properties. Mr Mayer (the Applicant's landscape architect) accepted that the level of visual intrusion from some close-up viewpoints would be significant. However, he considered that from more distant viewpoints any visual effects would be no more than minor. Mr Brenkley (the Council's landscape architect) was generally of the same opinion as Mr Mayer and concluded that the overall visual impact of the wind farm would be minor.
- [240] Mr Titchener was strong in his view that the overall outcome would be significantly adverse in visual and landscape terms. One of the concerns he articulated was that many of the turbines would have a landform backdrop and would not be viewed against the skyline. He was also concerned about the density and layout and the particular design of the Te Rere Hau turbines, which he considered would result in an environmental outcome inconsistent with the patterns established by the existing wind farms to the north. He spoke of the discordant element that the wind farm would introduce into what he regarded as a recognisably distinct landscape unit.
- [241] What became very apparent during my site inspection is that a view of the total site is only available from more distant viewing points. From close up viewpoints you only see a portion of the site (generally the lower parts). You have to be some distance / several kilometres back before you see the skyline.¹⁶ I consider Photo-simulation 7 presented at the hearing, which is a view from Polson Hill Drive, to be reasonably 'representative' of what might be called the 'closer in view' where most of the site, including the skyline, can be seen.
- [242] I accept that from some close up view points there will be significant visual change as the result of some, but in most cases only a small number, of turbines being clearly visible. Reflecting the difference of opinion as to whether wind turbines are something to be admired and appreciated (in visual terms) or whether they are an 'alien' element in the natural landscape, there was also a difference of opinion as to whether such change constitutes an adverse effect or one that is 'acceptable'. I accept that some submitters consider that such a visual change will be adverse in the context both of their amenity and in the context of the values they attach to the Tararua Ranges.
- [243] Whether it is possible to mitigate these visual effects by other than the removal of any 'offending' turbines is debatable. I consider that some submitters felt it would not be possible to mitigate the adverse effects other than by complete removal.
- [244] I have concluded that there will be visual effects that are significant from a number of existing rural-residential properties within a short distance of the site. Equally though, from a number of other rural residential properties, there will be no line of sight to any of the turbines and therefore no visual effect. This reflects the nature of the topography of the lower slopes of this part of the Tararuas. However, from more mid-range views (eg SH57/Fitzherbert East Road or Polson Hill Drive), notwithstanding that the site and therefore the majority of turbines will be visible, I consider that given the wider view context and the viewing distance the visual effect will not be significant. From even further away (eg from viewpoints in the Palmerston North urban area itself), I consider any adverse visual effects will be less than minor.
- [245] I acknowledge that for some submitters the visual and landscape effects are not only 'visual', but are also seen as being adverse in the wider context of "amenity values", which the Act defines as:

¹⁶ During the hearing a number of witnesses I felt tended to use interchangeably 'ridgeline' and skyline'. When I use the term skyline I am referring to the top ridge of the Tararuas, within the meaning of the 'definition' contained in the RPS (Policy 8.3), which is: "the boundary between land and sky at the crest of the highest points along the ridge".

"... those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes".

Some submitter's posed the rhetorical question: when is enough enough? I return to this point when discussing the policy context for assessing wind farm development(s) on the Tararuas.

Noise Effects

[246] The issue of noise was also a significant issue for the hearing. Having worked through the expert evidence (including the Fowler Report) I have concluded that there is a significant measure of agreement. There was agreement that NZS6808:1998 has been specifically developed for the measurement of noise from wind turbines. The District Plan provides for the use of specific standards appropriate to the activity - in this case NZS6808:1998 for wind turbines/wind farms.

[247] There was, however, disagreement between the noise experts over some of the detailed assessment methods and results, but, in the end, I believe there was general agreement over the most probable outcomes, outcomes that were nevertheless "predicted" outcomes. In relation to potentially adverse noise effects on adjoining and nearby 'rural / rural-residential' land, drawing on statements to the hearing, I accept that:

- i) for some of the potential (future) lots in the County Heights Trust property (identified in the Fowler Report as Lots 18 to 22 and 25) noise would probably be excessive (ie noise levels greater than a limit of 40dBA or background sound level of +5dBA) and therefore not suited to residential development;
- ii) for the balance of the County Heights Trust property generally acceptable for residential development;
- iii) for the Boyle, Gapp and Beale dwellings, Mr Hunt's view was that wind farm noise received at these sites would be a worst case of 30dBA or less (refer to para 66 above). The Fowler Report described the noise situation at these properties as "probably acceptable".¹⁷

Other potential developments (proposed residences by Mr Gibson and Mr and Mrs Beale and proposed lodges by Mr and Mrs Beale) would either be in situations where noise would be excessive (the Beale residence and lodges) or be on the margins of the 40dBA noise level (the proposed Gibson residence).

[248] Aside from the above, there was no evidence to suggest that there would be any adverse noise effects that would be more than minor in relation to other existing residences, including those at the top end of Forest Hill Road for which Mr Hunt predicted a maximum noise level of 28 dBA.

[249] While not denying the efforts of Mr Beale to come to grips with NZS6808:1998 and in particular the recommended assessment methods, in terms of the application of NZS6808:1998 I accept the evidence of Mr Hunt that correct equipment and procedures were used to establish the predicted noise levels.

[250] In the end result therefore, and subject to further comment I make when addressing the issue of future rural-residential subdivision and development, I have concluded on the evidence before me that adverse noise effects in relation to all existing rural-residential dwellings will no be more than minor. This does not mean that there will not be additional sounds generated in the area. Clearly there will be.

Ecological Effects

[251] In relation to ecological effects the principal evidence was that of Ms Gabites. Also before the hearing as part of the Council's Officer's Report was a peer review of Ms Gabites' initial assessment report included in the AEE prepared by Dr Mike Joy. Dr Joy is a lecturer in ecology and environmental science at Massey University. Dr Joy found that the Gabites' ecological assessment was thorough and had included all potential ecological effects from the wind farm construction and operation. Noting that the ecological values of the property had been severely

¹⁷ At the hearing the Applicant tabled written consent forms in respect of the Boyle and Gapp properties. Thus, in accordance with s. 104(3)(b) I have had no regard to any adverse noise effects (or indeed any other effects) on these properties.

compromised by the removal of native bush and the planting and grazing of exotic grass, Dr Joy concluded that the covenanting of the 19.2 ha of native bush would result in a net increase in ecological values.

- [252] In addition to Dr Joy's peer review and Ms Gabites' evidence, the evidence of Mr Cameron on behalf of the Department of Conservation was also supportive of the proposal from an ecological viewpoint, subject to a recording and monitoring programme being established in relation to bird strikes.
- [253] I also note that although the Manawatu Branch of Forest and Bird (submitter #26) did not attend the hearing it did in its submission on the application support the proposal on grounds which included covenanting the bush remnant and also the measures proposed to minimise any negative impact on native birds.
- [254] Accordingly, and subject to the mitigation measures recommended by Ms Gabites, I have concluded that any adverse effects in relation to the ecological values of the site will be less than minor. Indeed, given the proposed covenanting of the 19.2 ha bush remnant and the future role it will play in providing habitat for native flora and fauna, I see positive (ecological) gains being achieved.

Earthworks

- [255] There are two potential adverse effects that might be associated with earthworks: visual effects and effects on watercourses and any in-stream aquatic values as a result of sedimentation.
- [256] Mr Titchener was concerned about the extent of the proposed earthworks associated with the required tracking and the establishment of the wind turbine platforms and consequential adverse visual effects, while Mr Gordon (submitter #48) told me of his concern about potential adverse effects on a stream that is fed from watercourses on the site that is the habitat of the rare native fish the banded kokopu.
- [257] Ms Barton the Applicant's planning witness confirmed that the amount of topsoil to be excavated was 95,000m³. In terms of visual effects these were considered by the Applicant to be no more than minor, particularly once ground cover had been reinstated and access tracks sealed etc.
- [258] Taking into account the various opinions expressed at the hearing, I consider that any visual effects associated with the temporary construction phase, while evident from a number of viewing points will, in the overall scheme of things, not be significant. As I have already noted, it is not possible to see the whole site unless the viewing point is quite some distance away (say around 3 to 4 kilometres) and from this distance I consider that the impact of the earthworks on the site's visual amenities will be no more than minor.
- [259] Concerning the possible impact on watercourses and in-stream values, Ms Barton confirmed that these are matters that fall under the jurisdiction of the *horizons* Regional Council and that consultation has been undertaken with that Council to establish an appropriate basis for avoiding or mitigating any potential adverse effects associated with the necessary earthworks. Ms Barton recommended what she considered to be appropriate consent conditions.
- [260] With the implementation of mitigation measures along the lines recommended by Ms Barton I am of the opinion that any adverse effects on natural watercourses and any associated in-stream ecological values will not be significant, indeed will be less than minor and probably no more than the level of effect(s) that might arise from development on adjoining lands for other permitted purposes, including rural-residential development.

Effects in Relation to the Future Subdivision and Development of Adjacent Lands

- [261] This was an issue brought to the hearing principally by the County Heights Trust, Alucard Holdings and Mrs Beale. The concern arose in relation to turbine noise not being internalised within the site such that for some adjacent lands, which may be developed in the future for rural-residential purposes, or in the case of Mrs Beale for accommodation purposes in association with the proposed horsetrekking/tourist venture, there was the potential for excessive noise levels.

- [262] Mr von Dadelszen (for County Heights Trust) submitted that inhibiting rural residential development land adjacent to the wind farm would encourage the spread of such development into areas further away from existing development. It would also create a "no go" area around the site.
- [263] A similar position was adopted in written submissions tabled on behalf of Mr and Mrs Beale in which counsel (Mr Cowper) submitted that the District Plan contemplates that landowners should be able to use their land up to their site boundaries without suffering the intrusion of noise from adjacent activity and that the proposed wind farm should internalise the adverse effects of its operations within its own site. Mr Cowper's submission referenced the decision of the Environment Court in *Winstone Aggregates v Matamata-Piako District Council*, drawing attention to the following observations on the principles to be applied when reviewing the effects of industrial and other activities in a rural environment:
- " ... There are some discernable principles. First among them is the view that in every case activities should internalise their effects unless it is shown, on a case by case basis, that they cannot reasonably do so" [para 7]*
- " ... It is our view that new activities are also subject to society's progressively higher expectations of improved environmental performance. If those expectations impose higher entry costs, then in the end, society will probably pay for those expectations through higher prices for whatever is produced at the relevant site" [para 8]*
- "That said, it is recognised that having done all that is reasonably achievable, total internalisation of effects within the site boundary will not be feasible in all cases ..." [para 9].*
- [264] I accept that due to excessive noise there may be some restrictions on landowner's aspirations for developments on immediately adjoining lands - eg on 'sites' inside the 40dBA contour established by Mr Hunt. However, and with reference to the requirement of the *Wilson v Selwyn District Council* decision to the possible establishment of permitted activities, given the applicable District Plan provisions I consider it 'fanciful' to contemplate rural-residential activities establishing as permitted activities. As a minimum, a controlled activity consent (for subdivision) will be required.
- [265] For rural-residential development of adjoining County Heights Trust land, particularly in the southwest corner of the property, given the topographic characteristics of this part of the property it is highly probable that a discretionary activity (unrestricted) consent will be necessary to enable rural-residential dwellings to establish. The evidence from the Council (Ms Blyth) was that consent would, in all probability, be necessary under Rule 7.16.3.1 due to an inability to meet the controlled activity performance standards for a minimum of 5,000m² contiguous stable land of less than 11 degrees. In these circumstances all potential adverse effects, including reverse sensitivity effects, would require assessment.
- [266] In reference to the Alucard Holdings property, Mr Gibson confirmed that a house site was approved under resource consent RM1248 on 17 October 1997. I understand that no house has yet been built on the site, which is close to the 40dBA contour predicted by Mr Hunt. Mr Gibson for Alucard Holdings also said that seven other potential house sites have been identified as being able to fully comply with the District Plan, if further upgrading was undertaken on Creek Flat Lane. From the evidence to the hearing I understand that any upgrading of Creek Flat Lane would require a discretionary activity (unrestricted) consent due to non-compliance with the District Plan's controlled activity access standards under Rule 7.16.1.2(c).
- [267] In reference to the proposed horsetrekking/tourism venture and the associated lodges, it was accepted by the Beales that resource consent will be required for a discretionary activity (unrestricted) under Rule 9.9.4.
- [268] Given that the various subdivision and/or development opportunities being identified by County Heights Trust, Alucard Holdings and the Beales are (in all probability) going to require resource consent for a discretionary activity (unrestricted), or at 'best' in terms of subdivision, a controlled activity consent, I accept the view put forward by both the Applicant and Council that development of the adjoining land does not fall within the *Wilson* decision.
- [269] This brings me back to the point as to whether it is reasonable, or indeed feasible, in the circumstances of this application to require that all effects (including noise) be internalised within the site. Mr Hunt advised that if a 45dBA noise limit were to apply at the site boundary, the project would be restricted to approximately 31 turbines.

In the circumstances of the activity status of future development of adjoining lands, and therefore the degree of uncertainty that attaches to the establishment of those activities, it would be unreasonable, in my opinion, to require all noise (and also other potentially adverse effects - eg visual intrusion) to be internalised within the site. In relation to wind farms, I consider that it will not always be feasible to fully internalise such effects. I also take into account the approach of the NZS6808:1998 to measuring the level of noise from a wind farm, which is to adopt the 'notional boundary' approach rather than the site boundary approach.

- [270] I accept that following the establishment of the wind farm future resource consent applications for discretionary activities on adjacent properties would need to address any reverse sensitivity effects.

Traffic and Parking Effects

- [271] Traffic issues raised either in submissions or at the hearing were effectively limited to any conflicts with recreational traffic using North Range Road, possible safety issues associated with vehicle turning movements at the North Range Road / Pahiatua Track intersection, and conflict with construction traffic and other traffic using Pahiatua Track, particularly during circumstances when the Manawatu Gorge was closed to traffic.
- [272] I accept that there might be some temporary inconvenience for various road users from time to time, including recreational cyclists on North Range Road. However, I also note that the Council's Team Leader - Developments (Roading), Mr Glenn Young, in a report circulated with the Planning Officer's report, concluded that subject to identified upgrading works and additional road maintenance during the construction period, no issue of concern in relation to traffic safety arose. The additional vehicle movements as a result of the wind farm construction would have little impact on the safe and efficient operation of the Pahiatua Track.
- [273] Post construction the wind farm related traffic will be 3 to 4 service vehicles per week.
- [274] Based on the above, and with the proposed mitigation measures/upgrading works, I am of the opinion that any traffic and/or parking related effects will be less than minor.

Effects on Horses

- [275] At the hearing a written statement by Mr Richard Napier was tabled by the Aokautere Guardians Inc. Mr Napier is the owner of Tielcey Park on Fitzherbert East Road. Neither Mr Napier nor Tielcey Park were submitters on the application.
- [276] In the tabled statement, Mr Napier described Tielcey Park as the first indoor arena in New Zealand. It has a high reputation nationally in dressage. From my site inspection I was able to confirm that Tielcey Park is a very significant equestrian facility which is being extended by the establishment of an additional outdoor area and various ancillary and other supporting facilities. It is specifically provided for in the District Plan as a permitted activity in the Rural Zone.
- [277] As previously noted, Mr Tim Pearce of Southern Rangitikei Veterinary Services, and a Showjumping New Zealand International Selector, in a letter dated 14 December 2004 tabled at the hearing, expressed the opinion that the wind turbines, which he understood to be within 1.5 km of Tielcey Park, and particularly:

"... the movement of their propellers any accompanying noise, is likely to have a major impact on horses' behaviour"

adding that:

"With Tielcey Park hosting a large number of visiting horses at equestrian events the impact of such a development would be detrimental to the functioning of this centre".

After it was pointed out during the course of the hearing that Tielcey Park was more like 3.6km from the wind farm, the letter was amended to change 1.5km to 3.6km, but that was the only change.

- [278] In his right of reply, Mr Currie on behalf of the Applicant said that I should place "very little or no weight on the letter", adding that:

"The new letter not actually signed by Mr Pearce, merely changes '1.5km to 3.6km' without making any other changes. Not being available for questioning, he does not explain how effects at 1.5km appear to be identical at 3.6km, and in both cases, the wind farm is 'likely to have a major impact' so far away. Still less does he state what that 'major impact' is, or why a wind farm 3.6km from the complex would have a 'major impact on horses' behaviour'. Nor does he address the effect if any, the Tararua Wind Farm, which Clare Barton will state is 4.5 km for the park, has on horses at present. In our submission the evidence should be given no weight and the direct evidence of Ms Jackson is to be preferred".

- [279] At the hearing some submitters referred to the decision of independent commissioners on the proposed wind farm to be established at Awhitu in the Franklin District. That decision, which was to refuse consent to the application was issued on 9 September 2004 and therefore before the notification of the Te Rere Hau application on 18 September 2004. However, as Mr Currie noted the Guardians' submission did not cite effects on horses as being of concern (nor had any other submission), hence the Applicant had not called any evidence to address such effects.

- [280] I have had the opportunity of reading the Awhitu decision. In that case the closest wind turbine was proposed to be located 80 metres from the property boundary of an equestrian centre and 100 metres from the position where horses are regularly exercised and trained. The commissioners stated that they accepted that:

"... the siting of the proposed wind farm in close proximity [my emphasis] is likely to adversely affect the economic viability of the existing commercial equestrian activities. This effect is likely to include the perception by both existing and possible new clients that the two activities are such that if they are carried out in close proximity to each other, that this would result in the possibility of injury to their horses or riders".

The commissioners added that they did not have the same concern for horses being ridden along the road or upon the beach where they would be more distant from the turbines and also subject to a number of potential distractions.

- [281] It is clear that there are very significance differences in the distances between the wind farm(s) and the equestrian facilities at Awhitu and Te Rere Hau - a 100 metres or so compared to 3.6km.

- [282] On the evidence before me I am unable to conclude that there will be effects on the ongoing operation and viability of Tielcey Park, given what is obviously a significant separation distance between the wind farm and the park. Given the distance, I feel that any effects on horses' behaviour due to wind turbine noise, shadow flicker or blade movement etc will not be significant. In arriving at this decision I am conscious of Mr Napier's written statement that "any disturbance at Tielcey Park real or perceived will result in complete closure of the business". Consequently I have not made this decision lightly given the obligation to adopt a precautionary approach to RMA decision-making. However, I consider that any adverse effects are unproven.

- [283] Mrs Beale also raised the possibility of effects on horses, as did Mr Poole. In response to a question, Mrs Beale said that she felt a 200 to 300 metre separation distance from a wind turbine to a horse would be necessary, but added that given the contour of the land adjacent to the wind farm site it would be impracticable to provide this 'buffer zone'. It may have been that Mrs Beale was taking some guidance from the British Horse Society's policy statement on wind farms, which she appended to her evidence. The policy includes a statement that all developers and planners recognise a 200 metre safety margin as being the absolute minimum for limiting the potential impact on equestrian interests. The Awhitu decision had also referred to the British Horse Society's guidelines, stating that:

"These guidelines advise a distance equivalent to three times the height of the turbine from the tower base to maximum blade height. The commissioners consider, in the absence of other guidelines, that those of the British Horse Society are applicable to this proposal".

- [284] Taking all of the above into account, and also the evidence of Mrs Jackson, I have concluded that any effects on horses and the possible future horsetrekking business will not be such that consent should be declined. Given that

the horsetrekking business is yet to be established, and will require a resource consent before it is able to do so, I consider that there is insufficient evidence to enable me to find that there will be significant adverse effects on horses.

Cultural Effects

- [285] Tanenuiarangi Manawatu Incorporated (submitter #46), the mandated iwi authority, lodged a submission opposing the application. The submission said that:

"We are opposed to this application, as at this point in time the cultural and spiritual effects of the project have not been fully investigated and any concerns mitigated."

The submission further said that TMI be given the opportunity to comment on and create consent conditions that ensure archaeological and Tangata Whenua sites of significance are protected. The submission also confirmed that a cultural impact assessment was being prepared and if TMI had continuing concerns then TMI would like to be heard in support of its submission.

- [286] Ms Barton attached to her statement of planning evidence a Cultural Impact Assessment (2004) report prepared by TMI. Referring to the assessment, Ms Barton said:

"The specific recommendations contained in the cultural impact assessment report are rightly matters for the applicant and TMI to implement and are not considered to be matters that can be imposed as conditions on the resource consent. The applicant has accepted the recommendations contained in the report on the understanding that any Pou would be a matter for discussion with TMI particularly given the potential for effects on other iwi."

Ms Barton also advised that:

"Recommended consent conditions 20 and 21 contained in the Council Planner's report are considered appropriate to ensure the avoidance or mitigation of potential effects associated with the excavation of any potential historic artefacts, cultural remains or koiwi items."

- [287] I have read the Cultural Impact Assessment and considered the recommendations contained therein. I have concluded that appropriate provision can and will be made to ensure that there are no adverse effects on cultural or spiritual values associated with the Te Rere Hau wind farm site. I accept that there will be on-going consultation with TMI.

Recreation Effects

- [288] Although it was not a matter that featured during the hearing, a number of written submissions did raise concern about impact on North Range Road as a local recreational facility (mountain biking and walking), particularly during the construction phase. Yes, I accept that there may be some inconvenience to some recreational users of North Range Road during the construction of the wind farm. However, such inconvenience is not likely to be other than intermittent. Any such inconvenience (adverse effects), including any perception of a change in the 'character' of North Range Road, which, in any event is a public road available for use by motor vehicles, will not, in my opinion, be more than minor. It is probable that other activities that could occur in the future (eg heavy haulage vehicles associated with the harvesting of the adjacent forestry block) could have a significantly greater impact.

Radar Facility

- [289] Airways Corporation of New Zealand submitted with respect to potential adverse effects that the proposed wind turbines may have on the Ballance radar station and other navigational sites. As already noted, I was advised by Opus International Consultants (on behalf of Airways) that agreement had been reached between the Applicant and Airways over consent conditions that should be set if consent were to be granted.
- [290] On the basis that these requested consent conditions are imposed, any effects on the safe and efficient operation of the facility will be avoided.

Other Potential Adverse Effects

- [291] A number of other potential adverse effects were identified in the submissions. They included effects on electronic systems, distraction to motorists and effects on land values. There was no evidence that the turbines would have any effects on electronic systems. In relation to effects on motorists through being distracted by the presence of the turbines, given the distance from the principal roads I do not consider that this will be a significant effect, any more so than distraction caused by other activities including the existing wind turbines on the Tararua Wind Farm. In reaching this conclusion I have taken into account the evidence of Council's Mr Glenn Young, who stated that:

"Visual distractions while driving" - the windmills are located remote from any adjoining roads. The windmill site is only visible along parts of the surrounding road network with limited direct lines of sight. The windmills themselves are less than half the size of the Te Apiti windmills and are less likely to cause additional visual/driver distraction with respect to the existing wind farms".

There was no other expert traffic evidence presented to the hearing. Nor was there a submission from Transit New Zealand expressing concern about any driver distraction on state highways within the visual catchment of the wind farm

- [292] In relation to land values, I accept the 'position' advanced by the Applicant that property values are a reflection of all effects on a particular property. As was stated by the Environment Court in *Chen v Christchurch City Council* and also noted by the Court in *Foot et al v Wellington City Council*, to 'separately' consider any potential reduction in value of certain properties as a consequence of effects on amenity values can lead to "double-weighting". In other words, if adverse effects are not significant, then it follows that any impact on a property's valuation should not be significant.
- [293] I record that no expert valuation evidence was presented at the hearing.

Positive Effects

- [294] Section 3 of the Act, in defining the meaning of "effect", states that the term includes any **positive** or adverse effect. Several submitters drew attention to a number of positive effects that would result from the establishment of the proposed wind farm at Te Rere Hau, including:

- renewable energy generation / contribution to national energy objectives
- regional employment and economic opportunities
- potential tourism benefits
- ecological benefits (due to the QEII covenanting of the 19.2ha of native bush)

Several submitters (in their written submissions) referred to positive amenity value, with some saying that they considered wind turbines a positive 'symbol'.

- [295] Referring to the evidence of Professor Sims and the Energy Efficiency and Conservation Authority, Mr von Dadelszen said that his client's submissions were not:

"about the desirability or otherwise of alternative energy sources, such as wind farms"

adding that they do not dispute the evidence of Professor Sims or the EECA.

- [296] I record that I have taken into account the various positive effects as part of my overall assessment of effects. To not do so would have resulted in an 'unbalanced' assessment. The reference to 'unbalanced' is a reference to the statement made by the High Court in *Elderslie Park v Timaru District Council* in which the Court said:

"To ignore real benefits that an activity for which consent is sought would bring necessarily produces an artificial and unbalanced picture of the real effect of the activity. In determining whether an effect is minor it is appropriate to evaluate all matters which relate to the effect. These matters would include counterbalancing benefits and possible conditions".

Although the Court's comments were made in relation to an assessment of a non-complying activity under the (then) s.105(2b) of the Act, I consider that the same point is applicable in assessing effects under s.104(1) of the Act.

- [297] In my opinion there will be significant positive effects ('benefits') associated with the establishment of the Te Rere Hau Wind Farm, particularly in relation to the contribution that will be made to the generation of electricity from a renewable energy source.

POLICY STATEMENTS

National

- [298] Section 104(1)(b) states that I should have regard to any relevant provisions of 'a national policy statement' and 'a New Zealand coastal policy statement'. I confirm that I do not consider that there are any RMA endorsed national policy statements that I should have regard to, nor do I consider that the New Zealand Coastal Policy Statement (1994) to be relevant, as the Tararuas do not comprise part of the coastal environment.
- [299] There is relevant (non-RMA) national policy relating to energy. I will comment on this matter when I refer to s.104(1)(c) "Other Matters".

Regional

- [300] In terms of s.104(1)(b) the relevant regional policy statement is the Manawatu-Wanganui Regional Policy Statement (RPS). As will already be apparent from my summary discussion of the evidence presented at the hearing, there was reference to several RPS objectives and policies, and in particular Objective 8 and Policy 8.3, to which I will return in a moment.
- [301] Firstly though, I record that the RPS does include a number of objectives and policies in Chapter 29 "Energy", which I should have regard to. Those objectives and policies are:

Objective 28

To promote the sustainable management of energy sources.

Policy 28.1

To promote the sustainable supply and use of energy resources to meet the needs of the regional community.

Policy 28.2

To promote the increased use and development of renewable energy sources where practicable.

Objective 29

To avoid, remedy or mitigate the adverse effects of energy generation in the Region.

Policy 29.1

To ensure the proposals for development of energy generation undertake full Environment Impact Assessments in accordance with the requirements of Section 88(6)(a) and the Fourth Schedule of the Act prior to consideration by relevant authorities.

- [302] The proposed wind farm is consistent with Objective 28 and Policy 28.1 and Policy 28.2. Also, a full assessment of effects on the environment (AEE) was prepared and submitted with the application (Policy 29.1). Thus, the remaining matter I must have regard to is whether (or not) any actual or potential adverse effects have been appropriately and sufficiently avoided, remedied or mitigated (Objective 29). As will be apparent from the discussion above I have had regard to this matter, to which I return when I provide my overall summary (see below section headed "Summary: Part II and Section 104 Matters").
- [303] Section 22 of the RPS includes objectives and policies in relation to "Natural and Cultural Features", including Objective 8, Policy 8.1 and Policy 8.3, being:

Objective 8

To protect natural features and landscapes which are outstanding and regionally significant from inappropriate subdivision, use and development.

Policy 8.1

To consider the following matters when identifying which natural features and landscapes are outstanding and regionally significant:

- a. With respect to major geographical and geological features and landscapes, the degree to which it contributes to the Region's character in terms of:
 - i. visual prominence; and
 - ii. scenic characteristics, including views, vistas and backdrops ...
- e the degree to which the feature or landscape has recognised national or regional protection.

Policy 8.3

To protect, from inappropriate subdivision, use and development, the specific values associated with the following features which are both outstanding and regionally significant:

- p. the skyline of the Tararua Ranges, specifically:
 - i. its scenic qualities provided by its prominence throughout much of the region and its backdrop vista in contrast to the region's plains.

Explanation**The Skyline of the Tararua Ranges**

The Tararua Ranges extend from north of Upper Hutt to the Manawatu Gorge. The skyline is prominent throughout the lower North Island, and provides a scenic vista separating east and west coasts.

The skyline of the Tararua Ranges is an outstanding natural feature or landscape of regional significance as it meets the criteria of Policy 8.1. The values and attributes of the Ranges which contribute to its significance, and are to be protected, are listed in Policy 8.3. The skyline is defined as the boundary between land and sky at the crest of the highest points along the ridge. The skyline of the Tararua Ranges is the land/sky boundary as viewed at sufficient distance from the foothills so as to see the contrast between the solid nature of the land at the crest at the highest points along the range and the sky".

- [304] I have had regard to the above objective and policies. I have discussed the evidence of Mr Titchener, who specifically drew these regional policy statements to my attention, as did other witnesses, including Mr Mayer, Mr Brenkley, Ms Blyth and Ms Barton. I accept that they are important policy statements in the context of this application.
- [305] I accept that the Tararua Ranges is an outstanding and regionally significant natural feature. Objective 8 and the related policies highlight the need to protect such features from inappropriate subdivision, use and development. Specific attention is drawn to the prominence of the skyline of the Tararuas.
- [306] The immediate 'challenge' for me is to come to some conclusion as to whether wind turbines are an appropriate or inappropriate development on the skyline. I found the comments of Mr Titchener most interesting. He said that while it would be standard practice when assessing the visual effect of any built element that protrudes above the skyline of a significant natural landscape feature to have reservations about the impact on the landscape, he told me (nevertheless) that:
- "... the highly visible and strongly sculptural character of the wind turbines of both Te Apiti and Tararua constitute an exception to the rule ... it is the way in which they contrast with the landscape that makes them, for most people, a positive element in the landscape, and all the more so for their complementarity in that landscape".*
- [307] I accept that Mr Titchener went on to say that he had strong reservations about the particular design of the proposed Te Rere Hau turbines, and that he considered that they should be more consistent with the existing Tararua turbines. But he also said that he considered that more turbines should be sited on the skyline. This was

because he saw turbines on the skyline being less concerning than turbines on the lower slopes, although he did express concern about too many turbines on the skyline resulting in a more 'dense' pattern than that established by the existing Tararua Wind Farm turbines.

[308] Drawing the issue to some conclusion, I confirm that I have had regard to:

- Objective 8 and Policies 8.1 and 8.3
- the RPS's highlighting of the importance of the skyline of the Tararuas
- the 'definition' of skyline contained in the explanation to Policy 8.3
- the fact that only 17 of the proposed 104 turbines will generally be visible on the skyline
- the evidence of Mr Titchener, Mr Mayer and Mr Brenkley in relation to landscape and visual assessment

and I have also had regard to the existence of the Tararua Wind Farm turbines on the skyline, which are clearly established as part of the 'existing environment'.

[309] I have also had regard to the fact that the *horizons* Regional Council did not make a submission. Thus, there was no evidence from the Regional Council in relation to the RPS.

[310] I have given careful consideration to all these matters and have concluded that what I will call the 'integrity' of Objective 8 and Policy 8.3 in relation to the issue of wind turbines on the skyline of the Tararuas is not so 'solid' as it would have been prior to the establishment of the Tararua Wind Farm. In the end I have concluded that wind turbines do not constitute an inappropriate use and development on this northern part of the Tararua Ranges. In reaching this conclusion I also acknowledge that the lay persons' view seems to be divided, with some submitters considering that the turbines are a positive feature which add an element of visual interest and enhance the amenities of the Tararuas, whereas other submitters consider that the turbines are "ugly" and significantly detract from or destroy those amenities.

[311] Finally on this issue I note Ms Barton's response to the preference put forward by Mr Titchener for more turbines to be placed on the skyline (and less on the lower slopes), which was that it would be not be consistent with Policy 8.3, given that it requires the protection of the skyline from inappropriate development.

[312] Two other points I need to comment under the heading of 'impact on the Tararuas' are:

- (a) is there the risk of the northern Tararuas becoming 'host' to too many wind turbines, or as Mr Klein put it: "*when is enough enough*"; and
- (b) my response to Mr Titchener's recommendation about the re-design of the turbines (eg they should be three-bladed, use lattice towers and be of the same colour as those in the Tararua Wind Farm).

[313] In respect of the first point, I have focused on the application before me and assessed it in the context of the existing Tararua Ranges environment, which includes an existing wind farm. I have concluded that the Te Rere Hau wind farm, given the physical separation from the Tararua Wind Farm, is acceptable, and will not detract from the overall strength of character of the northern Tararuas, which are clearly modified by the presence of wind turbines. I am aware that since the hearing an application has been submitted for an extension of the Tararua Wind Farm. I do not know the detail, nor do I need to. That application in due course will be subject to its own assessment. I am aware that at least one of the expert landscape architects (Mr Brenkley) considered that if the Te Rere Hau proposal proceeded the "*Tararua Ranges would have reached saturation point for wind turbines*". I also note, however, that Mr Titchener said that he felt that subject to consideration of potential adverse effects in terms of ecological effects and visual and noise effects on existing and potential residential properties in the vicinity, then given the significant (and largely positive) impact of the existing developments on the landscape, and the possible extension of the Tararua Wind farm further south, "*there is a case for further wind farm development along much of the remainder of the landscape unit that is defined at one end by the Manawatu Gorge, and at the other end by the Pahiatua Track*".

[314] With reference to the suggestion that the Te Rere Hau turbines should be two-bladed etc, I do not consider that I can impose this condition. Nor do I consider it to be necessary. Similarly, I do not consider that there should be a condition requiring the towers to be lattice as opposed to tubular. During my site inspection I viewed the lattice

towers used on the Tararua Wind Farm site. Firstly, I agree with Mr Titchener when, in answer to a question I put to him, he responded by agreeing that the tubular tower is generally more elegant. I feel the lattice tower would only serve to highlight a more 'industrial character'. Secondly, and not withstanding the above comment, at least when viewed from a greater distance I do not consider that the difference will be readily distinguishable.

- [315] In the end, I have concluded that the Te Rere Hau proposal (turbine size, blade number, tower type) can be absorbed into the landscape unit of the Tararuas without adverse effects that are more than minor, when a 'comparison' is made with the Tararua Wind Farm to the north. In short, I do not consider that the particular style of the Windflow 500 turbine is so radically different that it brings an unacceptably significant discordant note into the distinct landscape of the northern Tararuas. In respect of the colour, yes I do consider that it could be a better outcome if the colour of the Te Rere Hau turbines was the same as that used on the Tararua Wind Farm turbines.

District Plan

- [316] In relation to my obligations under s.104(1)(b)(iv) I confirm that I have had regard to the various provisions, including the relevant objectives and policies as listed below, and to the fact that the provisions for the Rural Zone makes specific provision for wind farms as a discretionary activity (unrestricted).
- [317] In relation to the objectives and policies, those I have had particular regard to are contained in Section 9 (Rural Zone), being:

Objective 2

To encourage the effective use and development of the natural and physical resources of the rural area.

Policies

- 2.1 *To avoid, remedy or mitigate the adverse effects of activities on land of high productive capacity.*
- 2.2 *To ensure that the adverse effects of activities in the rural area are avoided, remedied or mitigated such that the amenities of the area and nearby urban areas are maintained.*
- 2.3 *To control the actual and potential environmentally adverse effects of activities in the rural area, including the adverse effects of:*
- *Odour*
 - *Noise*
 - *Traffic*
 - *Visual impact*
- 2.4 *To encourage the maintenance of sustainable land uses in the rural area.*
- 2.5 *To identify areas subject to natural hazards, and to ensure the adverse effects of the natural hazard are avoided, remedied or mitigated and, where appropriate, prohibit use and development of hazard prone areas.*

Objective 3

To enhance the quality and natural character of the natural environment.

Policies

- 3.1 *To provide for the health and safety of rural dwellers by establishing specific noise limits for the rural area.*
- 3.2 *To encourage the adoption of sustainable land use practices.*
- 3.3 *To control the adverse visual effects on the rural environment (including effects on rural dwellers) of activities that disturb the land surface, introduce buildings, remove and/or process natural materials.*
- 3.4 *To encourage the protection of the in-stream values of spawning rivers and streams.*

Objective 4

To recognise and enhance the diversity of the rural community

Policies

- 4.1 *To permit a variety of land-based activities subject to control of their adverse environmental effects.*
- 4.2 *To provide for community and leisure facilities to serve rural and urban communities.*
- 4.3 *To allow a range of other activities where their adverse effects can be avoided or mitigated.*

[318] Referring to the objectives and policies to which I have had regard, I make the following comments:

- (a) establishing a wind farm on the site will enable the harnessing of a natural resource (wind) while at the same time enable the continuation of farming practices on the land, which I add, however, is not land of high productive capacity;
- (b) this potential 'dual' use of the property (for land-based farming and wind farming) represents an efficient use of resource(s); and
- (c) there is no evidence that any part of the property is subject to natural hazards.

In terms of Policy 2.2. and 2.3, there will be no adverse effects on Palmerston North (ie urban areas) that will be more than minor, and these will be limited to visual effects, which a number of submitters consider to be positive in any case. In respect of adverse effects on the "rural area" these will be limited to potential noise and visual effects, which for the reasons discussed above (paragraphs 238 to 250) are not considered to be significant, other than in relation to visual effects for some close-up rural residential properties.

[319] In terms of the 'overall scheme of the plan' in relation to the objectives and policies for the Rural Zone, I am of the opinion that the wind farm is not inconsistent with those objectives and policies. On this point I consider the observation of the Environment Court in the recent case *Doherty v Dunedin City Council*, which was that:

*"... in providing for the activity as a discretionary activity in the zone it cannot, by definition, be contrary to the objectives and policies of the Plan. As a discretionary activity it is accepted as being generally appropriate within the zone but not on every site"*¹⁸

to be pertinent.

[320] In the end, and without in anyway wishing to oversimplify the issues before the hearing, I consider that the ultimate approval or otherwise of the proposed wind farm 'rests' on an assessment of whether any actual or potential effects in terms of noise and visual impact are sufficiently avoided, remedied or mitigated, which in turn raises the more site specific issues (ie generally appropriate in the zone but not on every site).

Section 104(1)(c)

[321] Section 104(1)(c) states that I must have regard to any other matter that I consider relevant and reasonably necessary to determine the application.

[322] There are two such matters that I consider I should have regard to:

- (a) statements of Government policy on energy, including the Energy Policy Framework, the National Energy Efficiency and Conservation Strategy, and the Kyoto Protocol. These were referred to in the statement of evidence of Selwyn Blackmore on behalf of the Energy Efficiency and Conservation Authority (EECA) - refer paragraphs 103 to 107 above; and
- (b) NZS6808:1998 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators.

[323] Referring to the various statements of Government policy on energy, as already noted there was no 'debate' at the hearing that the benefits associated with the promotion and development of renewable energy sources are 'questioned' or challenged.

[324] Referring to NZS6808:1998 I accept that the standard is particularly important and relevant. In the 'forward' to the standard it is stated that:

¹⁸ *Doherty v Dunedin City Council*, C6/2004, p11.

"The purpose of this Standard is to aid both windfarm development and territorial Local Authority planning procedures by providing a suitable method for the measurement and assessment of sound from Wind Turbine Generators (WTGs). The Standard also provides guidance on the limits of acceptability for sound received at residential and noise sensitive locations emitted from both wind farms and WTGs. This Standard may be applied to confirm compliance with resource consent conditions covering sound levels, and for the investigation and assessment of noise complaints arising from WTGs".

I also note that the District Plan states that:

*"Activities that generate noise that exceeds the limits in the noise Performance Rules may also be appropriately located in the Zone, provided that the effects of the activity are minor. Such an activity would not comply with the District Plan and would require a resource consent. An Assessment of Environmental Effects would need to be undertaken for the resource consent application and any assessment would **rely on the New Zealand standard appropriate to the activity** ...". [my emphasis]*

- [325] I consider that it is appropriate to adopt NZS6808:1998 as the basis for measuring noise from the Te Rere Hau Wind Farm. NZS6808:1998 deals specifically with the measurement of sound from WTGs in the presence of wind. The standard states that other acoustic standards should not be used as these require the assessment of sound levels in the absence of wind, a situation that does not apply for operating WTGs.
- [326] I accept that the adoption of NZS6808:1998 is a matter of concern to some submitters for the reason that it adopts the concept of the "notional boundary" rather than the site boundary:

4.5.1

*This standard recommends that background sound level measurements be carried out where predicted sound levels of 35dBA or higher are calculated for the relevant locations. It is recommended that measurement positions be selected to include locations at or within the nearest affected residential property boundary, **(the notional boundary – if a rural property) – my emphasis – and near the location of representative positions for any other residential locations within the vicinity of a WTG or wind farm**".*

NZS6808:1998, page 9

Part II

- [327] Section 104(1) states that the matters which I have discussed above (in paragraphs 237 to 326) are subject to Part II, which covers s.5 through s.8 inclusive.
- [328] Section 5, sets out the purpose of the Act as follows:

"The purpose of this Act is to promote the sustainable management of natural and physical resources".

In turn "sustainable management" means:

"... managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-

- (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

- [329] Sections 6 to 8 set out other relevant matters that should be recognised and provided for or taken into account as follows:

Section 6 - Matters of National Importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

- (a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development:*
- (b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development:*
- (c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
- (d) *The maintenance and enhancement of public access to an along the coastal marine area, lakes and rivers:*
- (e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*
- (f) *The protection of historic heritage from inappropriate subdivision, use and development.*

Section 7 - Other Matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to-

- (a) *Kaitiakitanga:*
- (aa) *The ethic of stewardship:*
- (b) *The efficient use and development of natural and physical resources:*
- (ba) *The efficiency of the end use of energy:*
- (c) *The maintenance and enhancement of amenity values:*
- (d) *Intrinsic values of ecosystems:*
- (e) *Repealed.*
- (f) *Maintenance and enhancement of the quality of the environment:*
- (g) *Any finite characteristics of natural and physical resources:*
- (h) *The protection of the habitat of trout and salmon:*
- (i) *The effects of climate change:*
- (j) *The benefits to be derived from the use and development of renewable energy.*

Section 8 - Treaty of Waitangi

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi)

- [330] The proposal will harness a natural resource (wind) for the purpose of electricity generation. In addition the site can still be used for productive (land based-purposes) such as grazing and stock rearing. Thus, in this sense there is a positive outcome of multiple land use.
- [331] As a renewable energy project, the proposed Te Rere Hau wind farm will make a contribution to and support the Government's energy policy and the Kyoto Protocol. The proposal therefore is in accordance with s.7(i) - *the effects of climate change* and s.7(j) - *benefits to be derived from the use and development of renewable energy*. It will enhance economic and social wellbeing through the development and use of a renewable energy source.
- [332] Referring to the energy-related s.7 matters, Ms Blyth said that they:

"... are not to be considered in isolation from other matters listed in s.7, however, I believe that this is a directive to consider not only the local environmental effects such as noise and visual aspects of the wind farm but also the wider national level benefits that can be derived from the construction, operation and maintenance of such an activity.

Other s.7 matters focus on the *maintenance and enhancement of amenity values* and the *maintenance and enhancement of the quality of the environment*.

- [333] The present application also brings these s.7 matters into consideration. A number of submitters were of the opinion that the development of the wind farm would be detrimental to the amenity values they associate with the Tararua Ranges and therefore detrimental to the quality of the environment. Noise and visual impact were the principal concerns.
- [334] The 'existing environment' of the northern Tararuas includes an operating wind farm. The turbines are clearly visible. They have been described in terms ranging from "*an industrial/sculptural element which enriches the landscape through their strong visual contrast with the landscape*" - to quote Mr Titchener, to "*ugly*" - to quote Mr Argyle. While not going so far as to say that the proposed wind farm will 'enhance' amenity values and the quality of the environment (although clearly some submitters consider that it will), I nevertheless consider that in the overall context of the northern section of the Tararuas (ie north of the Pahiatua Track) the proposed wind farm is more supported by s.7 matters than not. In my opinion, developments such as a wind farm can give rise to some inevitable 'tension' between various s.7 matters, given that they are not necessary all mutually compatible or reinforcing. The proposal is supported by s.7(b) - *the efficient use and development of natural and physical resources*.
- [335] In respect of s.6, and matters of national importance, I note the following:
- (a) the site is not within the coastal environment, nor does it adjoin any wetland, lake or river;
 - (b) the Regional Policy Statement does recognise the skyline of the Tararua Ranges as an outstanding natural feature or landscape of regional significance;
 - (c) the proposed QEII Trust covenanting of the 19.2ha of native bush will result in an overall ecological benefit;
 - (d) not being in the coastal marine area or on the margins of any lake or river, s.7(d) is not applicable;
 - (e) consultation has been undertaken with the tangata whenua and a full cultural impact assessment report prepared by the mandated iwi authority; and
 - (f) there are no listed items of historic heritage on the site. Protocols agreed between the Applicant and the tangata whenua will ensure an appropriate process is in place if any archaeological or tangata whenua site is uncovered.

I consider that the proposed wind farm appropriately recognises and provides for s.6 matters.

- [336] Section 8 requires that I should take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). Based on my reading of the cultural impact assessment report, and my knowledge that no land within the wind farm will be affected by any settlement by the Crown with the tangata whenua, and given the Applicant's commitment to on-going consultation with the mandated iwi authority, I consider that appropriate recognition has been given, and will continue to be given, to the principles of the Treaty of Waitangi.
- [337] Turning now to the overall purpose of the Act, that is the promotion of the sustainable management of natural and physical resources, I make the following further comments:
- (a) I consider that the development and use of a renewable energy source is consistent with the purpose of sustainable management;
 - (b) the generation of 0.8 petajoules of electricity using wind will make a contribution to overall national, and therefore regional (Manawatu) wellbeing; and
 - (c) the natural and physical resources of the Te Rere Hau site (wind, land and ecological resources) will all be sustained.

This leaves s.5(2)(c) and the obligation to avoid, remedy or mitigate any adverse effects of activities on the environment.

[338] This application, in my opinion, brings into sharp focus s.5(2)(c). The evidence of the Applicant and the Council was that any actual or potential adverse effects on the environment, given the proposed and recommended mitigation measures, can be appropriately and sufficiently avoided, remedied or mitigated, such that any remaining adverse effects will not be more than minor. On the other hand, various submitters, supported by expert evidence, particularly in relation to visual and landscape effects, considered that only by the removal of a significant number of the proposed turbines, and their 'redesign', could the effects be adequately mitigated to point where they would be no more than minor.

[339] Based on the evidence to the hearing, I accept that there will be some adverse effects that are (potentially) going to be more than minor. These effects could include:

(a) visual impact for near neighbours: whether the impact is considered to be negative and therefore adverse could very well depend on the 'attitude' of the viewer, with some submitters saying that they consider the turbines will be a positive element or at least not one that they find to be unduly offensive. From more distant viewing points, notwithstanding that the turbines will be visible, including some on the skyline, I am of the opinion that in the context of the northern Tararuas this impact and the consequent adverse effects on the environment (ie visual 'change') will not be more than minor overall; and

(b) excessive or intrusive noise: the evidence is that for existing rural-residential properties the level of noise is predicted to comply with the NZS6808:1998 recommended noise levels; or where there is the potential for those levels to be exceeded (eg Hargreaves/Flint property) a written approval has been provided such that s.104(3)(b) applies. In relation to future (potential) developments and activities on adjoining properties (eg rural residential development on the County Heights Trust and Alucard properties, and the proposed horsetrekking and associated lodges proposal of the Beales) I accept that under a full discretionary activity consent application it will be necessary to consider any adverse effects, including reverse sensitivity effects. I also accept the 'outcome' could be some restrictions and/or mitigation measures that may not have been necessary if the wind farm had not been established.

[340] Other effects on the environment are either positive (eg ecological effects), or where there is the potential for them to be adverse (eg earthworks, traffic, cultural, effects on horses, effects on birds), based on the evidence to the hearing I am of the opinion that they will be no more than minor.

[341] Overall, therefore, in respect of the obligations under s.5(2)(c) I accept the evidence of the Applicant and the Council that given the imposition of appropriate consent conditions the overall result will be one where adverse effects on the environment can be adequately avoided, remedied or mitigated.

[342] In arriving at this conclusion I have taken into account the point(s) made by the Environment Court in *Trio v Marlborough District Council (103/96)*, including the point that if adverse effects cannot be avoided altogether, the question then follows as to whether they can be mitigated sufficiently to still enable the concept of sustainable management of the site's natural resources to occur. The Court said:

"The idea of 'mitigation' is to lessen the rigour or severity of effects. We have concluded that the inclusion of the word in s.5(2)(c) of the Act, contemplates that some adverse effects from developments such as those we have now ascertained may be considered acceptable, no matter what attributes the site may have. To the extent that the adverse effects are acceptable, is, however, a question of fact and degree".

On the evidence before the hearing, and based on my assessment of that evidence (and the various submissions) I have concluded that while there may remain some residual adverse effects on the environment, even with the proposed mitigation measures (consent conditions), given the accepted national benefit that will accrue from the project's contribution to the generation of energy from a renewable resource, I consider that the adverse effects are not of a scale that consent should be refused.

[343] If the application before me had been the first application for a wind farm on the northern Tararua Ranges, the decision would have been even more difficult than it has been. This is because I could well have found the

apparent contradiction of wind turbines on the skyline of the Tararuas to be more difficult to rationalise, given the statements made in the Regional Policy Statement (here I am referring particularly to Policy 8.3). However, wind farms with wind turbines prominently located on the skyline are part of the existing environment of the northern Tararua Ranges. It is principally for this reason that I said earlier in this decision that I consider the 'integrity' of Policy 8.3 has been somewhat eroded. In other words, I have not attached as much importance to it as I might otherwise have.

Summary

Part II and Section 104 Matters

| Section | Concerning | Determination |
|---------|---|--|
| 5 | Purpose | Covered in 327-343. Consistent with the promotion of sustainable management |
| 6(a) | Preservation of natural character (coastal environment, wetlands, lakes and rivers) | Not relevant to this consent |
| 6(b) | Protection of outstanding natural features | Covered in 303-315, 335 |
| 6(c) | Protection of significant indigenous vegetation and fauna | The covenanting of the 19.2ha of native bush will enhance the ecological values of the site |
| 6(d) | Maintenance and enhancement of access (coastal marine area, lakes and rivers) | Not relevant to this consent |
| 6(e) | Relationship with Maori | Covered in 285-287 |
| 6(f) | Protection of historic heritage | Cultural impact assessment prepared. Covered in 285-287 and 335 |
| 7(a) | Kaitiakitanga | The proposed wind farm is not considered to interfere with the ability of iwi to undertake their kaitiaki role |
| 7(aa) | Ethic of stewardship | The establishment of the wind farm on the site is considered to be consistent with the ethic of stewardship |
| 7(b) | Efficient use of resources | Using wind, a renewable energy source, to generate electricity is an efficient use of resources |
| 7(ba) | Efficient and end use of energy | Electricity generated by the wind farm can subsequently be used efficiently |
| 7(c) | Maintenance and enhancement of amenity values | Covered in discussion on "effects" and 333-334 |
| 7(d) | Intrinsic values of ecosystems | Net overall benefit in terms of ecosystems will result |
| 7(e) | Repealed | |
| 7(f) | Maintenance and enhancement of the environment | Covered in discussion on "effects" and 333-334 |

| | | |
|--------------|---|--|
| 7(g) | Finite characteristics of resources | The wind farm can be removed and hence does not compromise the finite characteristics of the site |
| 7(h) | Trout and salmon | Not relevant to this consent |
| 7(i) | The effects of climate change | Will make a positive contribution through generating energy from a non-fossil fuel resource. |
| 7(j) | Use and development of renewable energy | Will make a positive contribution |
| 8 | Treaty of Waitangi | Covered in 336 |
| 104(1a) | Actual and potential effects on the environment | Covered in 237 to 297. Overall conclusion is that effects on the environment will not be more than minor given the proposed mitigation measures (consent conditions), and also having regard to positive effects |
| 104(1b)(i) | National policy statement | No relevant RMA based national policy statements identified |
| 104(1b)(ii) | NZ coastal policy statement | Not relevant to this consent |
| 104(1b)(iii) | Regional policy statement | Covered in 300 to 315 |
| 104(1b)(iv) | District Plan | Covered in 316 to 320 |
| 104(1)(c) | Other matters considered relevant and reasonably necessary to determine the application | Covered in 321 to 326 |

Conclusion

[345] Having reviewed the application documents, all the submissions, taken account of the evidence to the hearing, and taken account of all the relevant provisions of the Act and statutory instruments, I have concluded that the establishment of the proposed 104 turbine wind farm at Te Rere Hau on the Tararua Ranges would be consistent with Part II and section 104 of the Act.

DECISION AND REASONS

Pursuant to the powers delegated to me by the Palmerston North City Council:

I **GRANT** consent, pursuant to sections 104, 104B and 108 of the Resource Management Act 1991, to New Zealand Windfarms Limited for land use consent for the development, construction, installation, operation, maintenance and decommission of 104 wind turbines at Te Rere Hau Wind Farm on North Range Road, to generate electricity and associated ancillary activities, including earthworks, for the following reasons:

1. The proposed wind farm is an appropriate use of the site which is in the Rural Zone under the Palmerston North District Plan, in which zone wind farms are a discretionary activity (unrestricted).
2. Any actual or potential adverse effects on the environment, given the proposed mitigation measures, will not be more than minor.

3. The proposed wind farm will make a contribution to national energy policy through making a contribution to the provision of renewable energy supply.
4. The northern end of the Tararua Ranges has proven to be an appropriate location for wind farms.
5. The proposed wind farm development is consistent with relevant objectives and policies of the District Plan and the Regional Policy Statement.
6. The proposal is in accord with the "sustainable management" purpose of the Act.

The grant of consent is subject to the following **CONDITIONS**

General

1. The proposed Te Rere Hau Wind Farm be constructed and operated generally in accordance with all the information, site plans and drawings accompanying the application or submitted as additional information. Each turbine shall be located within a 20m radius of its nominated coordinates as outlined in the Application (contained on File No: N21/PLN - Plans drawn by Connell Wagner drawing number 101E, 3A).

Advice Note: (a) the ability to alter the specific location of each turbine within a 20m radius is to provide for likely movement related to detailed design layout and the recommendations made in the Applicant's ecologist's report; and (b) this condition also includes the colour and finishes of the turbines and site buildings. In relation to the colour of the wind turbines, the colour should be changed from that proposed in the application to match the colour of the Tararua Wind Farm turbines. Non-reflective finishes shall be used and be maintained in such a manner to prevent blade glint and to assist in reducing the prominence of the turbines when viewed from a distance.

Noise

2. Noise from all construction and decommissioning work including (but not limited to):

- (a) site works;
- (b) wind turbine generator (WTG) foundation construction;
- (c) WTG assembly and placement;
- (d) WTG removal;
- (e) foundation demolition and removal; and
- (f) land reinstatement

shall be measured, assessed and controlled using NZS6803:1999 *Acoustics - Construction Noise*. The noise limits shall be those set out in Table 2 of NZS6803:1999 for works of a "long term" duration.

3. Noise from all other activities (other than WTG operation and construction activities) shall not exceed the following limits at or within the boundary of any land (other than the wind farm site or a road):

7.00am to 10.00pm 50dBA L10

10.00pm to 7.00am 40dBA L10 and 70dBA Lmax

Sound levels shall be measured in accordance with New Zealand Standard NZS6801:1999 *Acoustics - Measurement of Environmental Sound* and assessed in accordance with NZS6802:1991 - *Assessment of Environmental Sound*.

4. WTG sound levels shall not exceed:

- the best fit regression curve of the A-weighted background sound level (L95) plus 5dB; and
- 40dBA

whichever is the higher.

5. The sound levels shall be measured and controlled using NZS6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* but with the following additional requirements to be met.
- a) The 10 minute background sound levels (L95,10) shall be measured at the notional boundary of the dwelling existing at the date of this consent (other than the dwellings on Lot 1 DP 20911 (130 Harrison Road), Lot 2 DP 85413 (629 Pahiatua Track) and Lot 1 DP 85413 (631 Pahiatua Track), the principle that if the WTG noise was excessive, then the largest difference between the post-installation noise level and the acceptable limit would be obtained.
 - b) The 10 minute average wind speeds shall be measured at a height of 10 metres, and 30 metres along with the wind direction and these measurements shall be made at the same time as the 10 minute background L95,10 measurement (and called data pairs).
 - c) The wind speed and wind direction measurements shall be made near to where the wind turbines are located. In any case these are not to be taken at a distance further than 1.5km from the measurement point.
 - d) Background sound level L95,10 shall be correlated with wind speed, and wind direction and time of day.
 - e) The size of each class in each parameter shall not be more than:
 - wind speed – 1m/s bins
 - wind direction – 45° arc
 - time of day – night-time (1 hour after sunset to 1 hour before sunrise) and daytime
 - f) The following effects shall be excluded from the analysis:
 - seasonal sounds (eg of seasonal cicadas, crickets and frogs etc);
 - other identifiable noise sources (eg tractors working at night, pumps, periods of precipitation, etc)
 - g) Sufficient data shall be gathered such that accurate best-fit regression curves can be obtained.
 - h) Post-installation compliance testing shall be carried out at the same location as the background sound monitoring within 6 months of completion of the wind farm. If the wind farm is installed in stages then compliance testing shall be undertaken after each stage or annually if there is more than one stage each year.
 - i) The same parameters as required for the background noise monitoring shall also be measured for post-installation compliance testing. The cut-in operation times of the WTG shall also be recorded and this shall be indicated on the results.
 - j) The best fit regression curve shall be provided for:
 - the times WTGs are operating above cut-in;
 - wind speeds up to 14m/s at 10m height;
 - wind directions including adequate samples for the 45° arc from the nearest wind turbines to the measurement location; and
 - day and night.
 - k) The best fit regression curve of the L95,10 of the WTG's is not to exceed the noise limit under the same wind speed, wind direction and time of day.
 - l) If noise is judged to be tonal then the tonal correction as contained in NZS6808:1998 shall be applied except the assessment technique is that contained in IEC61400-11(2002) *Wind Turbines – Part 11 – Acoustics – Noise Measurement Technique*. No correction is to be applied to a measured noise level for the additive affect of the background noise.
 - m) Where reasonable doubt exists regarding compliance at any other dwelling (at the notional boundary) existing at the date of this consent (other than the dwellings on Lot 1 DP 20911 (130 Harrison Road), Lot 2 DP 85413 (629 Pahiatua Track) and Lot 1 DP 85413 (631 Pahiatua Track), then monitoring shall be repeated at that location.

- n) Sound monitoring equipment shall conform to the following requirements:
 - the complete measurement and analysis measurement system shall conform to the requirements of NZS6808:1998 and the Standards referred to by NZS6808, and
 - microphones shall be fitted with a wind shield such that the noise generated by wind on the wind shield is, to the extent practicable, at least 10dBA below the noise being measured.
 - o) All results shall be provided in a timely manner to the Principal Planner, City Contacts Unit, Palmerston North City Council.
 - p) All sound monitoring shall be carried out by suitably qualified and experienced persons.
 - q) The consent holder shall provide all necessary data required to carry out the compliance testing including:
 - wind speeds at 10m and 30m and direction during periods of compliance testing;
 - the times at which individual wind turbines are operating above the cut-in wind speed;
 - any other information required by the Principal Planner, City Contacts Unit, Palmerston North City Council.
 - r) The operator of the wind turbines shall pay all costs associated with compliance testing.
 - s) Where compliance is not achieved then the consent holder shall propose and implement remedies within three months. If the sound levels have not been remedied within that time then the consent holder shall cease operation of the WTG's until modifications are made to reduce the noise. Further operation of WTG operation shall only be for sound measurement checks as specifically agreed with Council's Principal Planner to demonstrate compliance.
6. The post-installation testing required under Condition 5(h) must include a minimum period of 3 months' operation of the Stage 1 turbines. "Operation" means the actual operation of the turbines on a minimum of 60 days and involving at least 240 hours over a 3-month period at times when the wind is above the turbine's cut-in speed.

Advice Note: at the hearing the Applicant made it clear that the proposed wind farm would be constructed in stages, with Stage 1 involving 6 turbines. This condition is directed toward ensuring that the installed turbines have a 'history' of reliable operation. If a valid testing of the Stage 1 turbines does not eventuate within the 6 months referred to in Condition 5(h), then any subsequent stages shall not proceed (refer Condition 28). The requirement for a minimum of three months' actual operation is to establish and verify the 'in-the-field track record' of the Windflow 500 turbine.

Roading and Traffic

- 7. Prior to any construction works commencing, the Consent Holder shall submit and have approved by Council's Roading Manager, a Traffic Management Plan including a construction timetable, detailing vehicle movements to and from the site and which includes consideration of traffic management practices at times that the Manawatu George Road is closed.

Advice Note: The Plan is to be prepared in accordance with the PNCC Traffic Management Guidelines (2000) and should provide for safe and practical access to and from the site during the construction phase of the wind farm.
- 8. The Consent Holder shall submit engineering plans for approval by Council's Roading Manager, for the required upgrading of North Range Road in accordance with ARRB Unsealed Roads Manual, Guidelines to Good Practices (August 2000) or similar standard. Such plans shall include a minimum carriageway width of 4 metres, appropriate passing opportunities and a sealed ingress/egress area at the intersection of Pahiatua-Aokautere Road for a length of no less than 30 metres to prevent gravel overspill onto the adjoining carriageway.
- 9. The Consent Holder shall complete the roading works required and specified in the approved engineering plans (condition 8) prior to the commencement of the construction works on the wind farm.
- 10. Following the completion of the required roading upgrade works (Condition 9) the Consent Holder shall regularly carry out sufficient roading maintenance works to maintain the length of North Range Road from Pahiatua-Aokautere Road to the wind farm site to the same standard (or better). The maintenance works are to be carried out until all

construction works for the wind farm have been completed, at which time the maintenance liability will revert back to the Council.

Ecological

11. The Consent Holder shall record any birds found killed or injured resulting from the operation of the wind farm. This record shall include the time, location, date and species of any birds found dead on the site. This recording should include coverage of all turbine areas and shall be undertaken as part of the regular duties of the staff. This recording shall be undertaken from the installation of the first turbine and continued for a period of five years. Once every 12 months for the duration of the specified period of recording, the information shall be forwarded to the Principal Planner, City Contact Unit, Palmerston North City Council. A copy of the record is also to be forwarded to the Department of Conservation Area Office in Palmerston North.

Advice Note: In developing the recording approach it is understood that the Consent Holder will consult with the Department of Conservation. The Consent Holder will cooperate with any other party that may want to undertake a monitoring strategy of bird life. If any dead native bird species are found on the site, then these birds shall be placed in a freezer as soon as practicable and the Department of Conservation informed. Where injured birds are found the Veterinary Department at Massey University should be contacted.

12. The Consent Holder or its nominated agent shall ensure that there is ongoing pest control of magpies, rabbit and hare within the application site; and of cats, possums and mustelids within the QEII covenanted area.

Advice Note: The Consent Holder should contact *horizons* - Regional Council for advice on appropriate methods of pest control.

Landscaping and Earthworks

13. The Consent Holder shall submit for approval to Council's Senior Landscape Architect detailed landscape contour plans for all cut and fill earthworks. These plans must identify the disposal sites for fill.

Explanation Note: Approval of these plans is based on the integration of the cut and fill earthworks that are visually prominent with the surrounding landforms, and on disposal sites for fill not being in visually prominent locations.

14. The Consent Holder must ensure that all cut and fill earthworks and disposal of fill is undertaken in accordance with the approved landscape and contour plans required by Condition 13.
15. The *horizons* - Regional Council shall be notified prior to any on-site earthworks being undertaken to ensure compliance with the relevant regional plan provisions.
16. The consent holder shall ensure that the proposed development of the access tracks and rehabilitation of this system after construction is completed (within the first planting season following each stage of the construction works) including topsoiling and appropriate hydro-seeding of the areas around all concrete foundations flush to all outer edges of the concrete foundations, and the topsoiling and grassing of the secondary tracks, farm tracks and temporary tracks be undertaken in accordance with the detail outlined in the application.
17. The Consent Holder shall submit for approval to Council's Senior Landscape Architect a landscape plan detailing proposed landscaping around the site office buildings and associated outdoor yards to provide visual screening such that the works integrate the buildings with the site when viewed from the west and south west of the site.
18. The Consent Holder shall complete the landscaping works proposed in plans certified pursuant to Condition 17 within the first planting season after initial occupation and use of the buildings.

Ballance Radar Station

19. The Consent Holder shall prepare a report which:

- (a) Takes into account the experimental work done by New Zealand Windfarms Ltd and Airways Corporation of NZ Ltd (Airways) on 10 November 2004 and involves further experimental work following the installation and operation of the first turbine situated on the skyline in the line of site of the Ballance Radar Station.
 - (b) Identifies and assesses potential and actual adverse effects of the wind farm development on the operation of Airways' Ballance Radar Station and any other navigational sites and facilities which are deemed by Airways to be potentially affected by the wind farm, as defined at the time the report is prepared.
 - (c) Includes measures as necessary to avoid, remedy and/or mitigate any such adverse effects to ensure the safe and efficient operation of the air transport network other than remove or relocate any turbine which is 500m (or more) away from the Ballance Radar Station or not in direct line of sight of the flight path into Palmerston North Airport when viewed from the Ballance Radar Station.
20. The report required under Condition 19 shall be prepared by Airways or a company expert in radar systems and shall be provided to the Principal Planner, City Contacts Unit, Palmerston North City Council for approval within 6 months from the date of installation of the first turbine in line of sight of the Ballance Radar Station.
 21. The Consent Holder shall as a precaution install the first six turbines in such a way that the towers are either clearly separate or completely aligned radially (ie fully overlapping) as seen by the Ballance Radar Station.
 22. The Consent Holder shall implement the mitigation measures detailed in the report prepared in accordance with Condition 19 within 1 month of the report being provided to the Principal Planner, City Contacts Unit, Palmerston North City Council. Turbine numbers 1 to 6 may have been installed prior to the completion of the report in which case the Consent Holder shall not be required to remove or relocate any of these 6 turbines, unless there is evidence to indicate that their operation is resulting in actual adverse effects to the safe and efficient operation of the air transport network and other mitigation measures have not proved to be effective.
 23. Within 12 months of the date of commencement of this consent and within 3 months of the first, second, fifth, and eight anniversary of the commencement of this consent, the Palmerston North City Council may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice of its intention to review the conditions of consent if there is documented evidence that adverse effects on the safe and efficient operation of the air transport network beyond the limits contemplated by the granting of this consent have been generated by the activities on the site, or that the measures implemented to avoid, remedy and/or mitigate any such adverse effects have not been effective (see Note 1 below).

Note 1: The operation of this consent relies on the adoption of measures to ensure any adverse effects on the Ballance Radar Station and any other navigational sites and facilities which are deemed by Airways (as defined at the time the report required by Condition 19 is prepared) to be potentially affected by the wind farm are avoided, remedied and/or mitigated. As the timing of the commissioning of the entire wind farm is to be progressive, actual effects may not be identified until some time after the granting of the consent.

Consent has been granted on the basis that the potential effects of the wind farm on the Ballance Radar Station will be able to be identified and avoided, remedied, and/or mitigated. In the event that the actual effects differ from those contemplated by the granting of this consent, adjustments in the conditions to address such adverse effects could include, amongst other things, a requirement for the removal of any turbines that are within 500m of the Ballance Radar Station to ensure that those adverse effects are adequately avoided, remedied or mitigated.

Cultural

24. If at any time during the site excavations authorised by this Consent potential historic artefacts or cultural remains or koiwi items are discovered, then all work shall stop and the Consent Holder shall immediately advise the Palmerston North City Council's Principal Planner and Tanenuiarangi Manawatu Inc. The Consent Holder shall also call its archaeological advisor to the site to verify whether or not the objects form archaeological evidence. Further excavation work at the site shall be suspended should Tanenuiarangi Manawatu Inc wish to carry out their procedures and tikanga for removing taonga. Work at the site shall not recommence until approval to do so has been given by the Palmerston North City Council's Principal Planner.

Advice Note: The Consent Holder is reminded of its obligations under the Historic Places Act 1993.

In the event that any artefact or any object which may be of Maori or historic significance is uncovered or disturbed during the course of the earthworks, the contractor, supervising engineer, or Consent Holder shall immediately cease work and inform the Palmerston North City Council's Principal Planner and contact the New Zealand Historic Places Trust to determine whether an archaeological authority is required. In the interim the contractor, supervising engineer or Consent Holder shall secure the site until approval to proceed has been granted. If an archaeological authority is required, work may only recommence once the written approval of the New Zealand Historic Places Trust has been obtained and a copy provided to the Principal Planner.

25. Where Rangitane o Manawatu have nominated that sites of significance exist in relation to this site, the Consent Holder shall invite Rangitane o Manawatu as represented by Tanenuirangi Manawatu Inc, Ngati Hineaute Hapu Authority and Te Rangimarie Marae to be present at times excavations are being undertaken in these nominated sites, in order that they may observe the excavations to identify if any historical artefacts or cultural remains or koiwi are uncovered.

Note: Any discussion regarding reimbursement for representatives of Rangitane o Manawatu being present on site is a matter that is between the Applicant and Rangitane O Manawatu

Implementing Consent

26. Upon completion of the work required by conditions 5, 7, 8, 9, 13 and 17 above and prior to the operation of the wind farm, the Consent Holder shall give written notice to the Principal Planner, City Contacts Unit, Palmerston North City Council, or their nominee, that the conditions that have been complied with. On receipt of that notice the Principal Planner or their nominee will carry out an inspection of the site, if necessary, to ensure that the conditions have been complied with. Once the conditions have been fully met a performance certificate will be issued and the operation of the wind farm may be commenced.
27. This consent shall lapse eight years after the date of commencement, unless the consent is either given effect to before that lapsing date, or unless the Palmerston North City Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Staging

28. Stage 2 and any subsequent stages of the construction programme shall only proceed upon the successful installation and operation of the wind turbines in Stage 1, including the Stage 1 turbines achieving compliance with the predicted noise levels in accordance with Condition 5(h) and Condition 6.

Advice Note: the construction programme is as outlined in the evidence of Mr Chris Freear, Chief Executive, NZ Windfarms Ltd, being Stage 1 (6 turbines), Stage 2 (28 turbines), Stage 3 (30 turbines) and Stage 4 (40 turbines).

Wind Farm Decommissioning

29. Within 12 months of the wind farm ceasing to operate all structures associated with the operation of the wind farm (including all turbine structures, turbine platforms and accessory buildings) shall be removed completely from the site by the Consent Holder.

Consent Monitoring

30. A monitoring fee of \$430.00 (GST inclusive) shall be paid at the time the resource consent is granted to cover the cost of monitoring compliance with the above conditions. This fee covers four monitoring visits.
- (i) A fee will be payable by the Consent Holder if any non-compliance with the conditions of this consent are discovered as a result of monitoring. This fee is set in accordance with Section 36(1)(c) of the Resource Management Act 1991 and Section 690A of the Local Government Act 1974.

Note: Currently the monitoring fee is \$108.00 (GST inclusive) per inspection. This amount may alter in the future if fees are reviewed. The monitoring fee charged will be the fee applicable at the time of monitoring, and will be charged on each inspection necessary until full compliance with the consent conditions is achieved.

COMMISSIONER'S COMMENT ON CONDITIONS

The overall intent of the consent conditions is to avoid, remedy or (appropriately and adequately) mitigate any actual or potential adverse effects.

The majority of the conditions were formulated prior to the hearing, principally by the Council and the Applicant. Others had input from some submitters (eg Airways Corporation of New Zealand, Department of Conservation and Tanenuiarangi Manawatu Inc). Yet other conditions were debated and 'formulated' during the hearing, particularly those addressing noise effects. As some of these conditions contain significant technical information, once I had determined that consent could be granted I chose to effectively adopt the conditions unchanged, rather than to amend them in a way that might have had unintended consequences.

I have added just two additional (inter-related) conditions concerning the establishment and the staging of the development (Conditions 6 and 28).

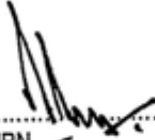
I gave careful consideration to whether a bond would be necessary or appropriate in the event that the wind farm required to be removed following decommissioning. In the end I decided that such a condition was not necessary I accept that bonds can be a useful 'mechanism' to secure near-term obligations (eg completion of a landscape works). However, in relation to long-term likely remote possibilities, I am less certain about their appropriateness or indeed about their reasonableness in perpetuity. In the end, therefore, I concluded that the decommissioning condition suggested by Ms Barton was adequate (and appropriate).

A number of submitters expressed the opinion that the lapse period should not be for 8 years, with one submitter suggesting that the wind farm should be constructed within 1 year. The 'standard' lapse period was extended from 2 years to 5 years under the 2003 Amendment to the Act. Thus, 8 years is not a significant extension of what is now the standard lapse period. In the circumstances of the proposed development, including the intended staging, I do not consider that the 8 year lapse period is unreasonable.

In conclusion, I am of the opinion that the consent conditions are appropriate to ensure that any actual or potential effects are avoided, remedied or adequately mitigated.

DECISION DATED the 11 February 2005

SIGNED BY ALISTAIR ABURN



 A A ABURN
 Commissioner

SCHEDULE**LIST OF SUBMITTERS****[A] SUBMITTERS IN SUPPORT**

- #1 Robert McLachlan
- #2 Philip D Burt
- #5 Aeolian Property Company Ltd *
- #6 T N & A M Barry
- #7 Jacqueline Bryant
- #8 Runningon Empty Group
- #9 Barbara Jackson *
- #10 Lyndon Parker
- #13 Landcare Research Site Sustainability Group
- #16 Ministry of Economic Development
- #17 TrustPower Limited
- #19 Ernslaw One Ltd
- #20 Benjamin Franzmayr
- #23 Sarah E Pettus & Troy Baisden
- #24 Simon Nash
- #25 Peter & Lesley van Essen *
- #26 Manawatu Branch of Forest & Bird
- #27 Gabrielle Losch
- #28 Barry H Jackson
- #30 Meridian Energy Ltd
- #32 Energy Efficiency & Conservation Authority *
- #53 John Bent *
- #54 Ken Mercer
- #57 Malcolm Harbrow
- #63 Chris Teo-Sherrell
- #69 Maurice F McDonald
- #70 Maurice Verry

[B] SUBMITTERS IN OPPOSITION

- #3 Ross Gibson *
- #11 Robert Beale *
- #12 David Argyle *
- #14 Brian & Trish Bishop
- #15 County Heights Trust *
- #21 Eddy Fischer
- #22 Donna M Kelling
- #29 Fiona Beale *
- #31 Michael & Susan Giesen
- #33 Department of Conservation *
- #34 Prudence Robbie
- #35 Don Hall
- #36 Scott Donald
- #37 Esther Willis
- #38 Wendy Devlin
- #39 Daric Manssen *
- #40 Daniel C Moore
- #41 Nicola L Partridge
- #42 Detlief Klein *
- #43 Megan Christison

- #44 Rodney J Tombleson *
- #45 Kathleen A Reeves
- #46 Jonathan Procter
- #47 Marion V Gordon
- #48 James A Gordon *
- #52 Diane M Tombleson
- #55 Geoffrey P Irvin
- #56 Toni Irvin
- #58 Mark J Gapp **
- #59 Cheryl R Graham **
- #61 Aokautere Guardians Inc *
- #62 Christopher P Boyle **
- #64 John H Freebairn
- #65 Jim Hargraves & Paula Flint **
- #66 Jill Maree & Rawhiti Winston Bevan-Brown
- #67 Xanthe C W Parlane
- #68 Stephen Parlane
- #71 Chris Baker & Family *

[C] SUBMITTERS WHO DID NOT INDICATE SUPPORT OR OPPOSITION

- #4 Alucard Holdings Ltd *
- #18 Airways Corporation NZ Ltd
- #50 Donald W Viles
- #51 Charles & Barbara Little
- #60 Owen Viles

* Attended the hearing

** Provided a written approval after lodging submission