

**BOARD OF INQUIRY**

**Hauāuru mā raki  
Wind Farm Proposal**

**Final Report and Decision of the Board of Inquiry into the  
Hauāuru mā Raki Wind Farm and Infrastructure  
Connection to Grid**

**Final report and decision made under Section 149 of the Resource  
Management Act 1991 as amended in 2005**

**Volume 1 of 3**

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Infrastructure Connection to Grid

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**BOARD OF INQUIRY  
HAUĀURU MĀ RAKI WIND FARM AND INFRASTRUCTURE  
CONNECTION TO GRID**

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of resource consent applications by Contact Wind Limited in respect of the Hauāuru mā Raki Wind Farm Proposal

**AND** resource consent application by Contact Energy Limited in respect of earthworks consents

**AND** application for Notices of Requirement by Contact Energy Limited in respect of 220 kV Transmission Infrastructure between sub-stations and from sub-station at Limestone Downs to National Grid at Orton

**AND**

**IN THE MATTER** of the applications having been called in by the Minister for the Environment pursuant to Section 141A(4)(b) of the Resource Management Act 1991 as amended by the Resource Management Amendment Act 2005 (**the Act**).

Board of Inquiry: Environment Judge J A Smith (Chair)  
Ms G A Rangi (Member)  
Mr J L Lumsden (Member)  
Dr D H Menzies (Member)

Hearing: See Appendix A

Appearances: See Appendix B

Submitters: See Appendix C

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**DECISION OF BOARD OF INQUIRY**

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**This decision and report is made under Section 149 of the Resource Management Act 1991 as amended in 2005.**

- A. The application for resource consents by Contact Wind Limited to the former Franklin District Council (now Waikato District Council), Waikato District Council and Waikato Regional Council is granted subject to the attached conditions.**
  
- B. The application for resource consents by Contact Energy Limited for earthworks associated with the construction of the transmission towers, substations and switchyard is granted subject to the attached conditions.**
  
- C. The applications for Notices of Requirement by Contact Energy Limited are confirmed subject to modifications and conditions incorporated in the attached wording.**

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## 1 INTRODUCTION

[1] Contact Wind Limited (**Contact Wind**) seeks resource consents for up to 168 wind turbines to operate on various farm properties near the coast between Port Waikato and Raglan. Associated with the proposal are earthworks for roads, soil disposal, erosion and sediment control, and reticulation of power to three substations.

[2] The power produced by the turbines would need to be despatched from the substations to the National Grid. Contact Energy Limited (**Contact Energy**) is a requiring authority under the Act and seeks confirmation of Notices of Requirement for:

- [a] a single circuit 220 kilovolt (**kV**) transmission system connecting and including three substations at Te Akau, Matira, and Limestone Downs (**Internal Transmission**);
- [b] infrastructure from Limestone Downs to the National Grid near Orton, some 25 km away by way of a double circuit 220 kV transmission system (**External Transmission**);
- [c] a switchyard (**Orton Switchyard**) to the National Grid including associated infrastructure; and
- [d] diversion for National Grid to Orton with infrastructure.

Where both applicants have a common position we refer to them as **Contact**.

[3] This Board of Inquiry was appointed by the Minister for the Environment (**the Minister**) to consider the applications dated June 2008. The original hearing (**First Hearing**), which commenced on 27 April 2009, was adjourned after some three weeks of hearing at the request of the applicant. The reasons for that adjournment were set out in the written decision issued by the Board in May 2009.

[4] The Board recommenced the hearing (**Second Hearing**) on 27 September 2010 and concluded on 17 November 2010. On 25 February 2011, the Board issued a decision and report as required under the Resource Management Act 1991 (**the Act**) in force

between 2005 and 2009. Comments from the parties were received in accordance with Section 148 of the Act and the Board now issues this final decision and report pursuant to Section 149.

## 2 BOARD OF INQUIRY

[5] The Board of Inquiry (**Board**) was appointed by the Minister in respect of a call-in of relevant applications by Contact Wind and Contact Energy for the Hauāuru mā Raki Wind Farm (**HMR**) on the Waikato west coast. The ministerial call-in was dated 20 August 2008 and publicly notified between 25 and 26 September 2008, pursuant to Section 144 of the Act. The members of the Board appointed were Judge J A Smith (Chairman), Environment Judge; Mr John Lumsden, a civil engineer with particular background both in professional engineering consultancy and as a Hearing Commissioner; Ms Gina Rangi who has affiliations with Ngati Tuwharetoa and Ngati Raukawa, and has a background in environmental law and Maaori governance; and Dr Diane Menzies, a registered landscape architect with significant experience in landscape planning, environmental policy analysis, and who has served as an Environment Court Commissioner since 2001.

[6] Prior to the ministerial call-in, the District Councils had requested information under Section 92 of the Act. These requests were reiterated by the Board upon its appointment and the further information requested was supplied.

[7] The public notice of call-in reflected the reasons set out in the ministerial direction and included:

... I consider that the matters listed in Appendix A (involved in Contact Wind Limited and Contact Energy Limited's proposed Hauāuru mā Raki Wind Farm on the Waikato west coast), are of national significance and therefore direct those matters to be called-in and referred to a Board of Inquiry for determination.

[8] The Minister's reasons for calling in the matters were:

- a) The proposal is relevant to New Zealand's international obligations to the global environment in terms of the Kyoto Protocol, including the proposal's contribution towards the achievement of the target of 90% of electricity generation to be from renewable energy sources by 2025 as set out in the *New Zealand Energy Strategy to 2050*. I consider the proposal would likely assist New Zealand in meeting its international obligations to the global

environment by helping to avoid an increase in carbon dioxide emissions overall on a national scale.

- b) The proposal affects or is likely to affect more than one region or district. The proposal will have direct physical effects on the Franklin and Waikato Districts and the Waikato region. In terms of security of electricity supply, the proposal will have potential effects beyond these areas.

[9] The public notice invited those interested to make submissions by Monday 3 November 2008.

### **3 TERMS OF REFERENCE**

[10] The ministerial call-in is made under Section 141B of the Act as it applied between 2005 and 2009. The Minister directed the matter to a Board of Inquiry and the Board was appointed by ministerial announcement. Such appointment is made under Section 146(2) of the Act applying between 2005 and October 2009.

[11] Section 147 of the Act identifies that the Board of Inquiry must be provided with:

- (a) all matters received by the Minister;
- (b) all submissions on the matter received by the Minister; and
- (c) all other information received by the Minister and relevant to the inquiry.

[12] The Board is empowered to proceed in accordance with Section 101(1) – (3) of the Act as if it is a consent authority hearing an application for resource consent. In respect of the Notices of Requirement, the Board has both the powers of the territorial authority and the requiring authority under Sections 171(2), and 172. The closing date for submissions is the same closing date as if this were an application for resource consent (Section 147(3) of the Act).

[13] The hearing must be held in a public place near to the area to which the matter relates (Section 147(4)(a) of the Act) and the Board has the same powers:

- [a] as a local authority in respect of the resource consent applications, except that the Board may permit cross-examination and must keep a full record of its hearing; and

[b] as the territorial and requiring authorities combined in respect of the Notices of Requirement, except that the Board may permit cross-examination and must keep a full record of its hearing.

[14] In addition, the Board must have regard to Section 141B(2) which the Minister may have regard to, namely, whether the matter:

- (a) has aroused widespread public concern or interest regarding its actual or likely effect on the environment, including the global environment; or
- (b) involves or is likely to involve significant use of natural and physical resources; or
- (c) affects or is likely to affect any structure, feature, place or area of national significance; or affects or is likely to affect more than one region or district; or
- (d) affects or is likely to affect or is relevant to New Zealand's international obligations to the global environment; or
- (e) involves or is likely to involve technology processes or methods which are new to New Zealand and which may affect the environment; or
- (f) results or is likely to result in or contribute to significant irreversible changes to the environment, including the global environment; or
- (g) is or is likely to be significant in terms of Section 8 (Treaty of Waitangi).

[15] We note that the Minister, identified Sections 141B(2)(a), (d) and (e) of the Act (cited above). Section 147(4)(b)(i) and (ii) reiterates that the Board must particularly consider the relevant factors under Section 141(B)(2) and the reasons given by the Minister under Section 141C(b) for calling the matter in. It is clear that these factors must be had regard to by the Board, whether or not they are matters identified in the Minister's decision, and we proceed on that assumption.

[16] Finally, Section 148 provides that the Board must, as soon as practicable after the completion of the inquiry, provide a Draft Decision and a draft written report. The report must be forwarded to all relevant parties and to the Minister. The parties are enabled to file further comments on any aspect of the decision or report within 20 working days. The Board will then issue a final decision, in accordance with Section 149, which can only be appealed on points of law to the High Court.

#### **4 OTHER CRITERIA RELEVANT TO THE BOARD'S ROLE**

[17] In considering the application for resource consent, the Board must keep in mind particularly the criteria of Section 104 of the Act and, in respect of the Notices of Requirement (**the NOR**), the provisions of Sections 171 to 186. All decisions need to be considered in terms of Part 2 of the Act to achieve the single purpose of sustainable management as defined in Section 5 of the Act. The relevant version of the Act is that which applied between 2005 and 1 October 2009.

[18] There are significant distinctions between the 2005 provisions of the Act and those more recent amendments taking effect from 1 October 2009. In particular:

- [a] there is no stipulated time limit for delivery of this Board's decision;
- [b] the empowering and other provisions are differently worded; and
- [c] comments on the Draft Decision and Report could cover any aspect of it.

#### **5 THE APPLICATIONS FOR RESOURCE CONSENT**

[19] Contact Wind sought resource consents from Franklin District Council:

L08052

Land use consent for all activities associated with the construction, operation and maintenance of a wind farm, Hauāuru Mā Raki, within the Franklin District. This includes the erection and operation of wind turbine generators, site mobilisation and establishment, earthworks and disturbance, underground and overground 33 kV transmission works, and site reinstatement.

The application details have changed from those originally shown in plans and now are represented in the series of plans attached hereto and marked Volume 3, being Series 1429. At the time of the Draft Decision, a number of associated area plans had not been updated. When Contact made comments on the Draft Decision and report, they also updated the plans. The documents received are largely in accordance with our expectations. No party objected to Contact providing the plans at this stage.

L08053

Land use consent for the operating of the Whitford Quarry including rock crushing and processing facilities.

That development is shown in Drawing Plan 21, 1429-RK10, Rev 24.03.11, attached as Volume 3A, Wind Farm Plans.

L08054

Land use consent for two concrete batching plants (mobile).

L08055

Land use consent for up to three public viewing areas, including signage and associated parking areas

As shown on Plan 20 - Location of proposed batching plants (Volume 3B; Wind Farm Plans) and Plan 27 - HMR viewing areas (Volume 2, CWL – District, Schedule 7).

L08056

Land use consent for improvements to local roads

As shown on Plans 11-14, 21, 22 and 25 in Volume 2, CWL – District, Schedule 7.

These applications sought a 10-year lapse period.

[20] The precise wording of the applications was:

A lapse period of ten years is sought in relation to all the above applications [Resource consents listed].

In the Assessment of Effects undertaken by Contact, Section 4.4, reference is made to the lapse period in Section 125. This is a reference to the period in which the consent must be given effect to, and is often referred to as the Commencement Date.

[21] The following land use consents are sought within the Waikato District Council:

LUC00005/08

All activities associated with the construction, operation and maintenance of a wind farm. This includes the erection and operation of wind turbines, turbine generators, site mobilisation, establishment of earthworks and land disturbance, underground and overground 33 kV transmission works and site reinstatement.

LUC00005/08.01

For two concrete batching plants (mobile)

As shown on Plan 20 – Locations of proposed batching plants (Volume 3A, Wind Farm Plans).

LUC00005/08.02  
Improvements to local roads

As shown on Plans 11-14, 21, 22 and 25 (Volume 2, CWL- District, Schedule 7).

These applications sought a 10-year lapse period on the same basis discussed above.

[22] From Waikato Regional Council, Contact Wind seeks a number of resource consents.

WRC117912  
Earthworks and roading and tracking activities associated with the construction, operation and maintenance of a wind farm (Hauāuru mā Rāki) including turbines, internal access roads, construction of water storage ponds and improvements to local roads.

WRC118074  
To undertake all soil disturbance activities including roading, tracking, overburden placement and ancillary earthworks associated with re-opening and operation of the Whitford Quarry.

WRC117913  
To take up to 104 cubic metres of water per day at a rate of up to 1.2 litres per second from the Waikawau Stream at about E264309 and N6414522.

WRC117914  
To take up to 94 cubic metres cubic metres of water per day at a rate of 1.1 litres per second from the Kaawa Stream E2668064 and N6411781.

WRC117915  
To take up to 79 cubic metres of water per day at a rate of up to 0.9 litres per second from the Waikaretu Stream at or about E2667260 N6404436 and/or E2668600 N6404150.

WRC117916  
To take up to 96 cubic metres of water per day at a rate of 1.1 litres per second from the Waikoria Stream at or about E2669518 and N6397706.

As shown on Plans 17 and 19 (Volume 3A, Wind Farm Plans) and Plans 11-14, 21, 22 and 25 (Volume 2, CWL – District Schedule 7).

These also sought a lapse period of 10 years.

[23] There was also an application to take all of the water of the Whitford Spring at Whitford Quarry (WRC117920) but this application was withdrawn prior to the conclusion of the hearing. Other applications can be grouped as follows:

**Stream bed works:**

WRC117921

To construct and maintain an arch culvert in a tributary to the Te Umukaraka Stream at or about E2637217 and N6413763.

WRC117922

To construct and maintain a culvert in a tributary to the Tauterei Stream at or about E2672325 and N6385075.

WRC117923

To construct and maintain a 14 metre bridge over the Waimai Stream at or about E2672970 and N6395860.

As shown on Plan 19 – Location of proposed stream bed works (Volume 3A, Wind Farm Plans).

**Water discharges:**

WRC117924

To discharge processed water and stormwater from the Whitford Quarry and concrete batching plant at or about E2667367 and N6404493 to land (in circumstances where it may enter groundwater) and to the Waikaretu Stream.

WRC117925

To discharge processed water and stormwater from three concrete batching plants to land (in circumstances where it may enter water) at or about the following locations E2665268 and N641245; E2671881 and N6392716; E2672146 and N6387975.

As shown on Plan 20 – Location of proposed batching plants, (Volume 3A, Wind Farm Plans).

These applications also sought a 10-year lapse period.

[24] The question of the appropriate method of dealing with these applications for resource consent will be addressed shortly.

## **6 THE APPLICATIONS FOR NOTICES OF REQUIREMENT**

[25] The Notices of Requirement (**NOR**) have impacts both within the Franklin and Waikato Districts and also require an ancillary Regional Council earthworks consent.

[26] Those within Franklin District consist of:

L08058

The construction, operation, maintenance, replacement, renewal and upgrading of the Limestone Downs Substation and ancillary facilities;

L08059

The construction, operation, maintenance, replacement, renewal and upgrading of the single circuit 220 kV transmission line to the extent that the line is within the Franklin District (on steel monopoles) except where lattice towers may be required, linking the proposed Limestone Downs Substation to the north in the Franklin District with Matira and Te Akau Substations in the Waikato District to the south, and ancillary facilities.

L08060

The construction, operation and maintenance of a double circuit 220 kV transmission line on lattice towers (except in some particular locations where steel monopoles may be required) between the proposed Limestone Downs Substation and the proposed Orton Switchyard and ancillary facilities.

L08057

The construction, operation, maintenance, replacement, renewal and upgrading of the switchyard at Orton (called the Orton Switchyard and ancillary facilities).

L08061

The construction, operation, maintenance, replacement, renewal and upgrading of a double circuit 220 kV transmission line connection from the proposed Orton Switchyard and the existing Huntly Otahuhu A 220 kV transmission line, including any necessary modifications to the existing line to enable that connection and associated ancillary facilities.

[27] Within Waikato District, Contact Energy seeks NORs for:

DS0012/08

The construction, operation, maintenance, replacement, renewal and upgrading of a substation at Matira, and ancillary facilities;

DS0013/08

The construction, operation, maintenance, replacement, renewal and upgrading of a substation at Te Akau, and ancillary facilities;

DS0014/08

The construction, operation, maintenance, replacement, renewal and upgrading of a single circuit 220 kV transmission line (to the extent that the line would be within the Waikato District) on monopoles (except in some locations where lattice towers may be required) linking the proposed Matira and Te Akau Substations to the south in Waikato District with the Limestone Downs Substation in the Franklin District to the north, and ancillary facilities.

[28] The general alignment and location of substations is shown on plans contained in Volume 3B, including indicative positioning for transmission towers. Our Draft Report records certain plans that had not been provided to the Board. Those plans were provided by Contact when it made comments on the Draft Report and are now attached in Volume 3B. Again, no party has objected to Contact providing the plans at this stage. Contact Energy seeks resource consent WRC117927 from Waikato Regional Council to undertake earthworks and roading and tracking activities associated with the construction, operation and maintenance of the three substations, switchyard, transmission lines, and ancillary facilities.

## **7 THE PARTIES**

[29] Although Contact Energy has an interest in Contact Wind, Contact Wind and Contact Energy are separate parties, and have separate applications covering distinct matters. The applications cover two district council areas and also require regional council consents.

[30] The Waikato Regional and District Councils were represented by common counsel. The Franklin District Council was separately represented and provided separate evidence. However, by 1 November 2010 the re-organisation of the Auckland Districts had meant that the portion of land within Franklin District had become part of Waikato District. To this end Franklin District, anticipating this outcome, had sought to make any conditions supported by them consistent with the approach and wording of Waikato District, notwithstanding the slightly different approaches of the two plans.

[31] All the Councils were neutral with respect to the application. They set out to assist the Board and shared two witnesses, Dr Keesing (for all Councils) and Mr A Gray

(for the two District Councils). Mr C Dawson gave planning evidence for the Waikato Regional Council, Mr R Gard'ner for the Franklin District Council, and Ms A d'Aubert for the Waikato District Council. Their concerns relating to conditions were addressed progressively through the course of the original hearing, the adjournment and the Second Hearing.

[32] Similarly, the New Zealand Historic Places Trust (**NZHPT**) neither supported nor opposed the applications, although they did participate in ongoing caucusing relating to historic heritage and the significant refinement of the conditions. Nevertheless, they supported measures proposed by Contact to avoid, remedy or mitigate adverse effects on archaeological resources and, in the end, no witness for the NZHPT was required for cross-examination. The NZHPT granted authorities under the Historic Places Act 1993 relevant to the proposal. These are subject to an appeal under a separate process to be finalised after this process is concluded.

[33] The Energy Efficiency and Conservation Authority (**EECA**), the New Zealand Wind Energy Association, Mr D Glogau (taken as read for the Second Hearing), and G and P Black also supported the application and advanced both submissions and evidence.

[34] A number of residents, mostly farmers, appeared opposing the application. The most active of these before the Board were Mr and Mrs Walter, affected by the NORs and visual impacts from the turbines. Mr and Mrs G J Ball, Mr E Allan and Ms E Wright were also affected by the NORs. Mr R Smith was concerned with turbines close to his boundary and with the wind farm in general, as was Mr A Reeves, a farmer in the area of Blocks F and G.

[35] Other parties making further representations to the Board included Mr R Gemmell, Mr C Deane, Ms M Caird, Mr B D and Mr R Brown, Mr A J Carr, Ms L Rutherford, Mr P McCabe, Mr R Macnab, Mr P Peterson and Ms K Opie. Mr R Walker also appeared and took an active part in the first hearing. He participated in the reconvened hearing for some time but subsequently signed an affected parties' consent form, adopted a neutral submission, and did not make any further representation to the Board. Waikaretu School Board was represented by Mr Walker, and we do not understand the School Board to have withdrawn its interest. As well as substantive concerns, Mr R E Townshend strenuously objected to the constitution of the Board and the use of the call-in procedure for the hearing. Ravensdown Fertiliser Co-op Ltd

participated and called evidence in relation to potential fly-rock damage to the transmission lines (reverse sensitivity). Finally, there were a number of parties who made original submissions but who did not participate further. We have considered all of these representations in our deliberations, even where we have not explicitly referred to them.

[36] Cultural issues constituted one of the fundamental issues for resolution by the Board during the course of the hearing. On cultural matters the Board commissioned a report from Dr D Kahotea. Ms A Greensill and Mr M Hamilton, representing **Tainui Aawhiro** hapuu<sup>1</sup>, had sought a cultural impact assessment at the original hearing. Tainui Aawhiro opposed the wind farm in principle. They were also concerned about potential cultural impacts. Mr S Karaka gave evidence on his own behalf and subsequently for Nga Uri O Tahinga (**Nga Uri**), which represented **Ngaati Tahinga** hapuu interests. It should be noted that all the parties, including Ngaati Tahinga and Tainui Aawhiro, put considerable resources into ongoing caucusing in an attempt to resolve the outstanding differences. The Board also undertook site visits to both Oraeroa Marae (Ngaati Tahinga) and subsequently to Poihaakena Marae (Tainui Aawhiro) and conducted part of its hearing on that marae.

[37] Although Nga Uri is not a submitter, the Board considers that their involvement and the significant support they enjoy from Ngaati Tahinga members is an important way for Contact to demonstrate that the relationship of Ngaati Tahinga with their taonga is recognised and provided for as required under Section 6(e) of the Act.

[38] Federated Farmers originally submitted on the basis that they supported the application provided adequate compensation was given to farmers affected by the transmission lines. By the time of the Second Hearing, this had morphed into opposition to the External Transmission line. This gave rise to a jurisdictional argument by Contact Energy as to the role of Federated Farmers before the Board. Given our conclusion on the merits of the Federated Farmers argument we have not addressed the jurisdictional issue.

[39] Finally, we should note that the Department of Conservation (**DOC**) was represented throughout both hearings and took a full and active role in the conduct of the case. Although DOC had indicated a general approval of renewable energy facilities, they were concerned about migratory birds, other birdlife, and other indigenous flora and

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<sup>1</sup> The Board has adopted local dialect preference to use a double vowel rather than a macron.

fauna. As the matter progressed, this concern for some time became focussed on some of the broader aspects of the application, well beyond issues of avifauna and significant vegetation. Nevertheless, ongoing caucusing and discussions between the parties meant that by the end of the hearing an agreed position was reached and a number of witnesses on the issues relating to birdlife and bats were not required to give evidence. Nevertheless, these issues also constitute a major focus of the Board's work.

## **8 PROCEDURES**

### **8.1 General**

[40] The Board's procedure is not specified in any particular detail in the relevant provisions from Sections 140 – 149 of the Act. The Board may permit cross-examination and must keep a full record of its hearings. The Board must produce a Draft Decision and a draft written report identifying principal issues, findings of facts, and reasons for the decision. The Board must thereafter provide a final report. There are certain other matters to be taken into account by the Board under Section 147, which we have already identified.

[41] However, the procedure itself is one which the Board has some control over. In this case the Board prepared and circulated a written procedure in draft form prior to the first pre-hearing conference in 2009. Subsequently that was modified and confirmed after the pre-hearing conference and has been subject to other alterations and amendments as a result of the successful application for adjournment in May 2009 and the further pre-hearing conference before the Second Hearing commenced in September 2010.

[42] The procedure has been accepted and utilised by all parties and a number of applications for further or altered evidence were received well into the Second Hearing. In addition, caucusing reports were being received by the Board throughout the Second Hearing until just prior to the closing by Contact Wind and Contact Energy. This led to further opportunities being given for parties to comment i.e. Tainui Aawhiro on the Chance Find Procedure. With the cooperation of all parties, the fullest opportunity to comment and submit has been provided while ensuring fairness.

## **8.2 Submissions**

[43] Ninety-six submissions were made in respect of this application. These were analysed by the Board and could be broken into five broad categories:

- [a] those who supported the application;
- [b] those who supported the application in part but had concerns relating to specific issues;
- [c] those who opposed the application for the wind farm by Contact Wind;
- [d] those who opposed the Notice of Requirement by Contact Energy; and
- [e] those who opposed both proposals.

[44] Attached and marked **C** is a list of the original submitters and whether they have an interest in the Consents or NORs. Those who have subsequently withdrawn their submission are also noted in Appendix **C**. A list of those who signed affected party approvals under Section 104(3) of the Act is also attached. Some 13 submitters have subsequently signed Section 104(3) part approvals, which means that the Board must not have regard to any effect on the signatory.

## **8.3 Pre-hearing conferences**

[45] The Board held several pre-hearing conferences with a view to identifying the issues between the parties and counsel involved, settling hearing procedure and arranging for the timely disposition of the hearing.

## **8.4 Directions**

[46] As a consequence of an adjournment being granted by the Board in May 2009, directions were made as to further reports to be obtained.

[47] There have been two hearings in this matter. The First Hearing commenced in April 2009 and was adjourned in May 2009. The Second Hearing commenced on 27 September 2010 and concluded on 17 November 2010.

## **8.5 The First Hearing**

[48] This commenced in April 2009 and the Board had already undertaken a helicopter site visit and pre-read much of the evidence. The applicant presented its case over three weeks, before an adjournment was granted on application by Contact Wind and Contact Energy. Significant evidential problems had arisen for both the resource consent applications and the NORs. DOC had raised concerns relating to migratory shore birds from well prior to the hearing and Tainui Aawhiro had raised cultural concerns in their original submissions.

### ***8.5.1 The adjournment and actions required***

[49] As noted, the Board Decision on Adjournment at the end of the First Hearing required particular actions to be undertaken. These included:

- [a] an engineering investigation and design programme;
- [b] ground model survey and geotechnical investigations;
- [c] wind farm design review and refinement;
- [d] transmission line review and refinement;
- [e] ecological, particularly migratory and resident shore birds study; and
- [f] further monitoring of fauna, long-tailed bats, tui, kereru and New Zealand falcon.

There were also directions in respect of consultation, landscape peer review, and issues relating to ongoing farming operation.

[50] In addition, the Board of Inquiry prepared a brief for a cultural assessment, which led to the appointment of Dr D Kahotea who provided a detailed cultural assessment report.

[51] The outcomes of these investigations and reports were circulated to all parties in early 2010, and led to further requests for information.

### **8.5.2 *The Second Hearing 2010***

[52] There were requests to delay recommencement of the hearing related to bird monitoring issues, and also in respect of delays in obtaining the cultural report, and in the opportunities to respond to it. The Board was thus not able to recommence the hearing until 27 September 2010, and concluded that it should hear all the evidence again, given the significant changes to the application in the interim.

### **8.5.3 *The modification of the proposal***

[53] During the adjournment significant technical reports had been obtained, which led to a reassessment of the design of the wind farm. The information now provided to the Board was based upon far more detailed information and included significant redesigns in particular areas, often to avoid archaeological or ecological features. The evidence circulated still identified impacts upon a number of archaeological features and several other ecological features.

[54] At the commencement of the Second Hearing the Board was advised that the applicant had now undertaken sufficient redesign to avoid all but nine archaeological sites. During the Second Hearing, Contact further modified the design to avoid direct impact on all identified archaeological sites. The design also reduced the environmental impact of the road in particular areas where the design was beyond the general design parameters. Where there was design exceedance in respect of cut faces and the like, these had been improved as far as the applicant believed was possible.

[55] In addition, Contact Wind accepted the decision of Pukerewa Marae not to have a turbine situated on its marae land (E018), which reduced the number of turbines to 168. There was a slight relocation of several turbines and access roads that were beyond the coastal character line inserted by the landscape peer reviewer Ms M Buckland.

[56] Contact also offered in their closing submissions to relocate Turbine F12, which was within 80 metres of Mr R F Smith's property boundary. This was relocated to in excess of 180 metres from that boundary.

[57] Other modifications were made during the course of the hearing in respect of the NORs. These included a proposal to increase the height of the transmission towers

through Te Umukaraka Bush. This would significantly reduce the number of trees that would need to be trimmed and the amount of trimming required. The maximum height of some 3 transmission towers would be increased by around 7 metres.

[58] Further, there was an acknowledgement that, in respect of the Allan/Wright property:

- [a] there could be a re-routing of the transmission line to a saddle next to Fleming Road on State Highway 22; and
- [b] monopoles would be used to reduce the visual impact of the transmission line on this property.

[59] The final set of plans identifies that LO64A – LO67A have been re-routed (Volume 3B, Main Transmission Line, Plan 1429 – R596, dated 24.03.11). Condition 1.2 in the final NOR conditions (Volume 2, CEL Designations) confirms that monopoles will be used for LO64 - LO70.

[60] During the course of the hearing there was regular amendment of the conditions to meet the concerns of various parties. Those of the most consequence related to cultural issues and migratory shore birds and bats. The withdrawal of the Whitford Spring water take application, proposals for riparian and escarpment fencing and the like were intended to address concerns of the parties. We will discuss the various conditions and mitigation steps in more detail in due course.

[61] It is important to appreciate that the hearing process itself brought about a significant change in the emphasis of the consent. This is reflected in measures such as the liaison and consultative groups, the Biodiversity Remediation and Enhancement Scheme (**BRES**) programmes, and conditions on migratory shorebirds.

## **9 RESOURCE CONSENT APPLICATIONS**

[62] The applications cover three different aspects of the overall proposal:

- [a] Contact Wind for the turbines and the wind farm construction;
- [b] Contact Energy earthworks consent for transmission infrastructure; and

- [c] Contact Energy's Notices of Requirement for the transmission routes and infrastructure.

[63] Different considerations apply to each, and we have concluded that it is necessary to consider each in turn. Where considerations overlap we will identify this in our consideration of the NOR matters in due course. Largely, however, the issues arising are discrete.

## **9.1 Franklin District Council Consents**

[64] We have already identified the applications made. The overall purpose is to enable the construction of the wind farm. The applications for resource consent are similar within Franklin and Waikato Districts. Those that are common to both Franklin and Waikato Districts are:

- [a] the construction of the turbines themselves, including the construction of the turbine foundations within the turbine consent area identified on the relevant maps in Volumes 3A and 3B of this decision;
- [b] significant earthworks to construct roads;
- [c] utilisation of excess excavated material to spoil areas;
- [d] stabilisation and erosion control;
- [e] improving local roads, to enable access for machinery and turbine components to the various turbine blocks;
- [f] 33kV transmission lines from turbines to substations; and
- [g] concrete batching plants which may be moved from one district to another.

[65] The applications to Franklin District do, however, involve some consents not common to the Waikato District applications:

- [a] Consent for the re-opening and operation of the Whitford Quarry including rock crushing and processing. This involves associated traffic impacts.

- [b] Three public viewing areas are intended to be provided along with associated parking on public roads.

## **9.2 Waikato District Council Consents**

[66] The wind farm turbine consent areas clearly apply to different blocks, however the basic activities and effects are similar. The consent conditions would provide similar controls for both planning areas. The provisions are shown within Volume 3A, being plans of Blocks part D, E, F, G, H, I and J. Most of the turbine blocks are situated within Waikato District. The land use consent for two concrete batching plants applies to different sites and to the improvements to local roads. Nevertheless, the proposed conditions are similar, except that the locations differ.

## **9.3 Regional Consents**

[67] This includes earthworks to cover operations on the wind farm, including turbines, internal access roads, sediment treatment and water storage ponds. In addition, it is intended that other soil disturbance activities, including roading, tracking, and overburden and ancillary earthworks be covered in relation to the opening and operation of Whitford Quarry. It is our understanding that these consents would include any required consents for the fill works necessary to dispose of excess materials.

[68] The next group of regional consents relates to water takes. The application for the take from Whitford Quarry was abandoned during the hearing and, therefore, the applications are now for takes from the Waikawau Stream, Kaawa Stream, Waikaretu Stream and the Waikorea Stream. These takes would depend on when water would be required for the construction works, and it is intended to utilise water storage ponds to ensure a sufficient supply. Nevertheless, the rates of take are low and the concerns that arise relate to the protection of the in-stream water quality.

[69] There are a number of applications for culverts and bridges. We understood, however, that while most of these consents have subsequently been obtained directly from the appropriate council, some further consents for streambed works may be required during the course of construction.

[70] A consequence of the earthworks is that there would be a need to discharge water from the Whitford Quarry and from other areas. The question of the quality of this water and the necessity for discharge became key issues, and the controls now proposed by the applicant are intended to achieve a high quality of discharge. Contact Wind has applied for consents for the discharge from the Whitford Quarry and concrete batching plants, but not from general earthworks including stormwater sediment controls. If those stormwater sediment discharges do not meet permitted standards, discretionary consents would be required. These have not been applied for and this Board has no power to consider them.

[71] In addition, a regional consent would be required for earthworks associated with the transmission line and substations. Again, similar issues would arise in respect of discharge consents if sediment controls cannot achieve permitted activity standards. We accept, however, that given the more limited scope of any necessary works, sediment control issues would be less likely to be of significance.

#### **9.4 Activity status**

[72] In Franklin District, the re-opening and operation of the Whitford Quarry, and the public viewing platforms, are agreed by the experts to be non-complying activities. Construction and operation of the wind turbines and related earthworks are discretionary and the improvements to local roads restricted discretionary. The wind farm itself appears to be a discretionary activity.

[73] There was no dispute that the construction and operation of the wind farm was a non-complying activity within Waikato District. The application of a 1,000 metre activity status rule (Rule 26.10) is such that this activity would be non-complying for some 40-50 turbines within Waikato District. However, improvements to local roads are discretionary activities (within Waikato District).

[74] Most of the applications to the Regional Council are for discretionary activities. An application for a non-complying water take was made in relation to the Whitford Spring. That application was withdrawn at the Second Hearing, and accordingly, all other activities are either discretionary or controlled.

### **9.4.1 Bundling**

[75] The following principles apply in respect of bundling consents:

- [a] An overall approach and assessment of multiple uses is appropriate where the consents can be seen as directed towards one dominant use or purpose or where the uses are closely linked.
- [b] Where the outcome of one effect may affect another, it may be appropriate to treat the application as a whole.
- [c] Where the effects to be considered in relation to each activity are quite distinct, then there is no need for an holistic approach.
- [d] It is not possible to bundle across regions or districts or between districts or regions given that separate consents have been sought within each district.

[76] Although there does not appear to be any law on the point, we also believe it is not possible to bundle across applicants. In this case there are two distinct legal entities: Contact Wind and Contact Energy. We conclude it is not possible for the Board to bundle the regional earthworks consent for the transmission lines with those for the turbines because the applicants are distinct. Accordingly, although there are clear interconnections between the wind farm and the transmission lines, in the end each will need to be distinct because the applicants are distinct. If the application had been made jointly by Contact Wind and Contact Energy, a common consent may have been possible. Nevertheless, that is not the way in which the applications were filed or referred to the Board by the Minister. Accordingly, we have concluded that consents must be considered in relation to Contact Wind for Franklin District, Waikato District and Waikato Region as separate consents; and, for Contact Energy, one separate consent for Waikato Region (earthworks) and the NORs for Waikato and Franklin Districts (now all Waikato District).

### **9.4.2 Cross-boundary**

[77] As far as bundling is concerned within each district, there was a dispute among experts as to the appropriateness of such a course. The water takes were regarded as

separate because they were related to different periods of time although for similar activities – taking water for the construction activities. These were discretionary or controlled activities.

[78] So far as Franklin District is concerned, only the Whitford Quarry and the public viewing platforms are considered non-complying. As we will discuss in due course, we do not consider the public viewing platforms will create any difficulty in terms of the threshold tests. On the other hand, Whitford Quarry is clearly integral to the wind farm construction.

### ***9.4.3 Conclusion on bundling***

[79] Our preference is to deal with all the activities within the Districts bundled as non-complying for the following reasons:

- [a] It enables us to address the same types of issues under both the Waikato District and Franklin District Plans (although the provisions are different the threshold criteria remain the same).
- [b] It recognises the reality of the centrality of the Whitford Quarry to the construction of these turbines. The importation of the rock required by other means would be both a logistical and financially significant constraint.
- [c] As with the improvements to roads within the Waikato Region, we consider the construction of the viewing platforms to be a matter that will clearly pass the threshold tests under Section 104D in any event, as we conclude later.
- [d] Finally, we consider there would be a degree of artificiality in separating the various components of the consents in this case. The purpose of the Act is to achieve sustainable management as described in Section 5, and that this is best done by an integrated and holistic view of the application and all its aspects.

[80] In respect of Waikato District almost all activities were non-complying, with the exception of the improvements to the local roads. The only reason for those

improvements would be the need to be able to carry significant pieces of equipment, including turbine blades, nacelles and tower sections, to the turbine blocks. We consider the argument as to whether or not the road improvements should be included within the non-complying bundle to be technical. Overall, we consider that all consents within Waikato District should be bundled together and treated as non-complying. In practical terms there would be no impact from roading improvements given that these clearly meet the objectives and policies of both the Act and the Waikato District Plan, and seek to improve road safety.

[81] Using the same reasoning, we have concluded that we should bundle the Regional Council consents also to achieve an holistic outcome in relation to the proposal. Put another way, if we separately considered some of these consents, and refused to grant consent, that would mean any consents granted for the balance of the activity would be unusable. For example, refusal to grant water take consents would effectively mean the entire project would be unable to proceed until such consents were obtained. On that basis, all of the elements of these applications should be bundled so far as they can be within each jurisdiction, and for each applicant. For Waikato Regional Council applications, this bundling would make the consents discretionary.

## 10 NOTICES OF REQUIREMENT

[82] Contact Energy has applied for NORs as follows:

- [a] Internal Transmission lines being single circuit 220kV line suspended overhead on monopole (lattice where necessary) between Te Akau and Limestone Downs (**Internal Transmission**). This is partly in Waikato and partly in Franklin Districts.
- [b] External Transmission line from Limestone Downs to Orton being double circuit 220kV line suspended overhead on lattice towers (**External Transmission**). This is in Franklin District.
- [c] A separate NOR for each substation, Matira and Te Akau in Waikato District, and Limestone Downs in Franklin.
- [d] Orton switchyard and a separate NOR for the deviation and connection to Orton (in Franklin District).

## 10.1 Statutory requirements

[83] A NOR can only be issued by a requiring authority. Contact Energy is listed as a requiring authority under Section 167 of the Act, having satisfied the Minister that they are a network utility operator under Section 167(1) of the Act. We note that there is no requirement for a network utility operator or a requiring authority to be a public company and Sections 166 and 167 draw no distinction between public authorities (i.e. Minister of the Crown or local authorities) and other network utility operators. Nevertheless, Section 168 provides for a Minister of the Crown or a local authority, having responsibility for public works, to give Notice of Requirement for a public work and/or water, subsoil or air space where a restriction is necessary for the safe or efficient functioning or operation of the public work.

[84] Under Section 168(2) a requiring authority approved under Section 167 may also give a Notice of Requirement:

- (2) A requiring authority for the purposes approved under section 167 may at any time give notice in the prescribed form to a territorial authority of its requirement for a designation—
  - (a) For a project or work; ...

[85] Section 168 does not stipulate that the requiring authority be undertaking a public work and this distinction is a matter of some importance in the context of the proceedings before this Board.

[86] Section 171 governs the Board of Inquiry's overall approach subject, of course, to Part 2 of the Act. Subsection (1) provides:

- (1) When considering a requirement and any submissions received, the territorial authority **[now the Board]** must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to –
  - (a) 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; and

- (b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if –
  - (i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or
  - (ii) it is likely that the work will have a significant adverse effect on the environment; and
- (c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and
- (d) any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.

[87] This Board of Inquiry, under Section 147(8) of the Act, must consider whether to confirm the NORs, modify, impose conditions on, or withdraw them. Section 147(8)(e) also provides that for the purposes of Section 147(8)(d) [the Board of Inquiry] has the same powers as the requiring authority under Section 172 or a heritage protection authority under Section 192. As we understand these provisions, the Board becomes substituted as the requiring authority and makes the final decision subject only to appeals on questions of law on whether to confirm, modify or impose conditions or withdraw the requirement.

[88] Section 172 of the Act discusses at subsections (1) and (2) the recommendations of the territorial authority. Given that the Board is substituted for that purpose, we must assume the Board is entitled to consider modifications to the proposal. The first part of subsection (2) provides:

- (2) A requiring authority may modify a requirement if, and only if, that modification is recommended by the territorial authority or is not inconsistent with the requirements as notified.

[89] We are substituted as the territorial authority, so it seems that the Board may modify the requirement if it considers it appropriate to do so. The Board is not required to make a recommendation under Section 171(2) of the Act, so is not required to accept or reject it under Section 172(1). Unlike the requiring authority, the Board has the powers of the territorial authority, and accordingly is not limited by Section 172(2). The Board is already required to give reasons for any decision and this may include rejection or modification of the requirement. Earlier consideration of the power of the Board to modify a requirement had indicated that this should generally be where it was not

inconsistent with the requirement as notified. For our part we are not so clear on the interpretation of Section 172, particularly under Section 147(8)(e).

[90] In the final report and decision on the Upper North Island Grid Upgrade Project (NIGU) the Board at [171] said:

Transpower submitted that the Board's power to modify the requirement is limited, in that by combination of Section 147(8) and 172(2) of the RMA the Board can only modify a requirement if it is not inconsistent with the requirement as notified. Transpower submitted that the test is whether the changes would alter the essential nature of the project, so that it failed to agree in substance with the Notice of Requirement so as to be incompatible with them and that changes that have lesser adverse effects may qualify.

[91] At [173] the NIGU Board said:

No submitter joined issue with Transpower on the limit on the Board's modification power.

[92] With respect we do not consider that the provisions of Section 171 of the Act as to the territorial authority's power to modify a requirement (subsection (2)(a)) are as clear as is suggested in that decision. Certainly there is nothing within Section 171(2) itself that limits the power to modify the requirement. Given that Section 147(8)(a) and (b) specifically gives to the Board the powers of the territorial authority it cannot be said that there is any limitation on the Board's powers to make modification under Section 171(2)(b). Moreover, the powers given to the Board as a requiring authority under Section 172(2) do not preclude a modification recommended by the Board substituting for the territorial authority.

[93] Accordingly, our view is that the power to modify a proposal by the Board, acting in its role of both territorial authority and requiring authority, is not as limited as it is before the Environment Court. This is because the Environment Court only has the powers of the requiring authority (Section 174(1)).

[94] We recognise that issues of fairness to third parties who may not have been involved in or made submissions to either the hearing or at the notification stage are relevant. Nevertheless, it appears to us that the over-riding requirement of the Act is to achieve sustainable management as that term is described under Part 2.

## **10.2 Parallels with resource consent discretion**

[95] We have dealt with this issue in some detail because it has been considered that the powers of this Board on appeal in respect of NORs were more limited than resource consent appeals. However, closer analysis of the relevant sections indicates that the powers under Section 171(1) of the Act are very similar to those under Section 104(1). The Board must consider the resource consent applications and the NORs subject to Part 2 of the Act. It must have regard to the effects, and also particular regard to all national environmental standards, policies, statutory plans and documents and any other matter that it considers relevant. Similarly, the question of alternatives does arise in resource consents where significant effects are identified under the Fourth Schedule. Whether that extends to sites, routes or methods is questionable.

[96] The NOR must also be necessary to achieve the objectives of the requirement. The requirement to consider alternatives, and the necessity to achieve the objective of the requirement, constitute special considerations for NORs. They are not threshold tests as provided for non-complying activities under Section 104D of the Act. Accordingly they are not tests that must be passed for a NOR to be confirmed. Nevertheless, they are matters to which particular regard must be had and will strongly influence the Board's consideration.

[97] Overall, we do not consider that the powers of the Board substituting for both the territorial authority and the requiring authority under Section 147 are as constrained as they would be for the Environment Court, and that we have a broad power to modify. In doing so we need to keep in mind not only other matters under Part 2 of the Act, but also the matters of natural justice, depending on the extent of those modifications.

## **10.3 Section 171 of the Act**

[98] In addition to dealing with questions of effects, the Board must also address any relevant provisions of national policy statements, New Zealand coastal policy statements, regional policy statements or proposed statements, regional operative and proposed plans, district operative and proposed plans, and any other matter the territorial authority considers reasonably necessary at Section 171(1)(d) of the Act. There are two particular aspects of NORs that need to be considered:

### ***10.3.1 Adequate consideration of alternatives***

[99] In this case the requiring authority does not have an interest in the land sufficient for undertaking the work (Section 171(1)(b)(i)) and it is also likely that the work would have a significant adverse effect on the environment. These matters did not appear to be in dispute, and accordingly, it was clear that an adequate consideration of alternative sites, routes and methods needed to be undertaken.

### ***10.3.2 Reasonably necessary***

[100] The question is whether the work and the designation are reasonably necessary for achieving the objectives of the requiring authority. In this case the objectives of the requiring authority in relation to the NORs were:

The overall objective is to create a safe, practical and efficient means by which electricity from the HMR wind farm is able to be transmitted to the National Grid from which it can then be further transmitted by the operator of the National Grid to wholesale and retail consumers throughout New Zealand for their use;

The second objective varies for each of the eight NORs but that for the transmission line reads:

The specific objective in relation to the proposed double circuit 220 kV transmission line is to convey electricity from the proposed Limestone Downs substation to the proposed Orton switchyard.

[101] The Board must determine whether or not the construction of the transmission line, substations, switchyard and the designation over the individual properties are reasonably necessary to achieve the general and relevant specific objective. There did not appear to be any dispute that the words *reasonably necessary* allow for some tolerance between expedient and desirable. In our view it follows that this issue should be addressed once we have reached a general conclusion in respect of the resource consents, given that without the wind farm, or part thereof, the question as to whether or not transmission of electricity is reasonably necessary would not arise.

## 11 SECTION 104 OF THE ACT

### 11.1 General

[102] Section 104 of the Act provides the criteria for consideration of applications for resource consent. Although containing similar provisions to those in Section 171 of the Act in respect of NORs, it contains criteria for the consideration of any consent under Section 104(1) of the Act, including actual and potential effects, the relevant provisions of any policy statement, coastal policy statement, operative or proposed regional policy statement, operative or proposed regional or district plan and any other matter that the consent authority considers relevant and reasonably necessary.

[103] We consider that nothing turns on the use of the words *actual* and *potential effects* in Section 104 of the Act, compared with the use of the words *the effects* only in Section 171 of the Act. The definition of *effect* in Section 3 of the Act would include *actual* and *potential effects* and it might be that these words in Section 104 are superfluous.

### 11.2 The permitted baseline

[104] Section 104(2) applies the permitted baseline to all consents including non-complying activities. Importantly, Section 104(2) enables the Board, in its discretion, to disregard any adverse effect on the environment if the Plan permits an activity with that effect.

[105] The Board concludes the permitted baseline may still apply in respect of the NORs, given the application of earlier law on the subject.<sup>2</sup> As noted in the North Island Grid upgrade report<sup>3</sup>:

As detailed earlier, the extent of the future environment in ***Queenstown Lakes District Council v Hawthorn Estate*** includes the implementation of resource consents that have been granted at the time the requirements are considered and these activities that would be permitted by the operative Regional and District Plan provisions.

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<sup>2</sup> *Bayley v Manukau City Council* [1999] NZLR 568 (CA)

<sup>3</sup> *Queenstown Lakes District Council v Hawthorn Estates Ltd* [2006] NZRMA 424 (CA) applied to NOR in Report and Decision of Board of Inquiry into the upper North Island Grid Upgrade Project Sept 2009 at 442

[106] No one suggested there were any other consented activities relevant to the NORs other than the consent for the Ravensdown Quarry. The External Transmission line is entirely within Franklin District. The Internal Transmission line is largely within Waikato, but the activity is discretionary under Rule 51.5 of the Franklin District Plan (**Franklin Plan**).

[107] For the resource consents, the permitted baseline would include existing activities, which we describe later in this decision, together with those activities that are permitted in terms of the relevant Plans. It is clear that three particular activities are permitted in both Waikato and Franklin Districts – farming, exotic forestry and fencing. Of these, forestry is permitted within Waikato District to a maximum area of one lot of 12 hectares. There does not appear to be any control or setback in respect of any of these activities from the coastal area.

[108] Nor did we understand the permitted activity of 1 MW for wind generation or transmission infrastructure to provide any real comparative point for the resource consents. Rule 15.1.2.2 of the Franklin Plan suggests that production over 1 MW would make the activity discretionary.

[109] In addition there was discussion as to whether or not significant indigenous vegetation (Section 6(c) of the Act) could be removed as of right in terms of the Franklin Plan. Although there was some early indication that this was the case, on balance we regard the Franklin Plan as somewhat more cautionary, and it is likely that the clearance of large areas of indigenous vegetation would require some form of consent. We note in particular, also, that the establishment or retiring of land to allow it to re-establish indigenous vegetation, or even the planting of indigenous vegetation, appear to be permitted activities.

### **11.3 Affected party consents**

[110] Many parties have provided their approval for the resource consent applications and to the NORs. A full list of the affected parties and whether their consent relates to the resource consent applications or NORs is attached as Appendix D.

[111] Section 104(3)(b) of the Act requires the Board to disregard any effect on persons who have given written approval. We will discuss later whether this exclusion also requires us to disregard beneficial or positive effects on those persons.

#### **11.4 Threshold Test – Section 104D of the Act**

[112] Resource consent applications for non-complying activities have threshold tests set out in Section 104D(1) of the Act. The Board must be satisfied that this threshold would be met before any consent can be granted. The Board can only move to exercise its general discretion under Section 104(1) where it is satisfied, pursuant to Section 104D(1), that the adverse effects on the environment would be minor, or the application is for an activity that would not be contrary to the objectives and policies of:

- (a) the relevant plan, if there is a plan, but no proposed plan in respect of the activity;
- (b) the relevant proposed plan if there is a proposed plan, but no relevant plan in respect of the activity; or
- (c) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

[113] The fact that an application may have effects that are no more than minor, and it may not be contrary to the objectives and policies of the Plan, does not mean that it must be granted consent. Such a decision requires the Board to be satisfied that the application meets the single purpose of the Act as set out in Section 5 and elaborated on in Part 2. In exercising its discretion, the Board must also consider the various criteria set out in Section 104(1). We will apply this threshold test after consideration of effects and the provisions of the relevant plans.

#### **11.5 Distinction between NORs and resource consents**

[114] We have already identified the distinctions between the applicants and the various territorial authorities involved. Beyond that, the tests are somewhat different between a NOR and a resource consent. In particular, a non-complying resource consent needs to consider threshold tests under Section 104D(1) of the Act. A NOR does not have the Section 104D threshold tests, but has additional considerations relating to the reasonable necessity to achieve the notice and the works to achieve the objectives and the adequate consideration of sites, routes and methods.

[115] We have concluded that, overall, the tests between a NOR and a fully discretionary consent are not very different. Although emphasis has been placed in the past on the tests of S171(1)(b) and (c), these considerations are subject to Part 2 of the Act, and Section 171(a) and (d) lists criteria nearly identical to those under Section 104D(1). These are all subject to our general discretion whether to confirm the requirement if it meets the single purpose of the Act, being sustainable management as that term is defined in Section 5. As discretionary activities under both District Plans, the transmission lines therefore are subject to similar tests, even though considered as NORs. However, in this case, the need for the NORs is dependent upon the grant of the wind farm consent. Without the wind farm the objective for the NORs would fail.

[116] There is no ability in terms of the Act for Contact Energy to compulsorily acquire the land affected by the NORs. Contact Energy may apply to the Minister of Lands for the Minister to acquire the land and then transfer it to Contact Energy.<sup>4</sup> Short of this, Contact Energy must enter into negotiations with the landowners to provide for either an easement or acquisition of the land.

[117] We note also that conditions on a NOR may require the finalisation of the width of the easement or land affected by the designation and these two issues were the focus of some evidence and submissions before the Board.

## **11.6 Overall objective**

[118] The consideration of any resource consents and any NORs are subject to the Board being satisfied that the consent should be granted and meets the single purpose of the Act. In reaching its conclusion the Board must take into account the various elements of Sections 5, 6, 7 and 8 by recognizing and providing for matters under Section 6, having particular regard to matters under Section 7, and regard to matters under Section 8. Maaori values and tradition inculcate the decision-making process as discussed by the Privy Council in *McGuire v Hastings District Council*<sup>5</sup>.

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<sup>4</sup> Section 186 of the Act

<sup>5</sup> [2001] NZRMA 557

## **12 EXISTING ENVIRONMENT**

### **12.1 General nature of the sub-region**

[119] The overall area is defined by its coastal nature, which sets the western boundary and extends from Port Waikato to the north and Raglan (Whaingaroa) Harbour to the south. In pre-European times the land was largely forested and is now mostly cleared pasture land of varying quality.

[120] The population is largely involved in farming activities, and poor roads mean that commuting to larger population centres such as Ngaruawahia or Hamilton or Auckland is relatively difficult. Certainly, traffic counts given would indicate that the traffic is largely local, and the narrow, metalled roads are unlikely to be attractive to tourists. There are several small primary schools in the area, including one at Waikaretu and another at Te Akau. Both have relatively small rolls (fewer than 40). Farming appears to be the predominant employment activity within the subregion, although Nikau Caves and Ravensdown Quarry offer some alternative employment.

[121] The proposed wind farm site, however, can be broken into three sub-areas: Port Waikato to Limestone Downs, the central area from the Waikawau Stream through to Waimai Valley Road, and the area from Waimai Valley Road south. There was also discussion as to whether or not the southern area might be categorised by division at the Tauterei Stream some kilometres further to the south.

### **12.2 Area between Port Waikato and Limestone Downs**

[122] This area would terminate around the Waikawau Stream but not include the Te Umukaraka Bush. There is only one full block of turbines proposed north of this line (Block A). However, part of Block D on the Limestone properties (at least D1 to D8) might also be regarded as being in this northern area, as would C4 to C16. This area commences at Port Waikato, based around the outlet to the Waikato River, and rises into steep limestone karst.

[123] The striking limestone formations make the area unusual. Nevertheless, the area has largely been utilised for farming and is highly modified. There is also clear evidence of early Maaori occupation, as there is along the entire coast. There now exists only

remnant vegetation but there are still large areas of significant indigenous vegetation situated close to Port Waikato (Te Tehe), and also the Kotekaraka Bush further south near Te Umukaraka Bush.

### **12.3 Waikawau Stream to Waimai Valley Road/Stream (Central Area)**

[124] The central area includes Kaawa Stream to the north and the area of Te Umukaraka Bush adjacent to it, forming a broad corridor from that point to the east. The southern extent of the central area could variously be said to be the area marked by an extension of Waimai Valley Road/Waimai Stream, Te Akau Road or the Tauterei Stream. In the central area there are broad valleys, particularly Kaawa Valley, Waikaretu Valley, Waikorea Valley and Waimai Valley. Much of the residential activity and better quality pastoral land is situated throughout this area. In addition, there are a number of broad undulating plateaux at higher levels, several of which are intended to be utilised for various blocks of turbines, being Block E, Block F, Block G, and Block H.

[125] Although still dissected and undulating country, it is slightly less steep than the northern area, and consists of broader valleys and plateaux. The wetlands in the valleys have largely been converted to pastoral use and, from our observations, appear to be degraded. There is less remnant vegetation within this area than to the north, although pockets persist, particularly in gullies and on steep faces. Both the Ravensdown limestone works and the Nikau Caves tourism venture are situated in this central area. Waikaretu Valley Road is sealed, at least to the Ravensdown Quarry.

### **12.4 Tauterei Stream to Raglan (Whaingaroa) Harbour**

[126] South of Waimai Valley Road/Tauterei Stream there is another change as the influence of the harbour begins to impact upon the area. Potentially, Blocks, I and J fit within this area and, arguably, Block H is on the boundary. As one moves south there is a very minor change in the nature of the area again, without the broad valleys, perhaps with more general undulation. There is also not quite the same elevation of the escarpment adjacent to the coast, and the influence of Raglan (Whaingaroa) Harbour is beginning to be both seen and felt. As one moves further south than proposed Block J there is a change to smaller lifestyle blocks, possibly associated with better access from Hamilton and Ngaruawahia through to Raglan.

## **12.5 The North Island National Grid**

[127] The National Grid is operated by Transpower, and management of this and connections to and standards of connection were controlled by the Electricity Commission prior to October 2010. The transmission network runs through the central North Island, and from Hamilton through Huntly it essentially runs parallel with the Waikato River. A major upgrade of the North Island Grid has been the subject of a Board of Inquiry report published in September 2009.

[128] The grid is over 25 km away from the nearest point of production of proposed wind turbine power. In order to be able to despatch electricity to the National Grid, it would be necessary for the power from each individual turbine to be reticulated to substations and for those substations to either be interconnected or, alternatively, connected directly to the grid. In this case Contact Energy has determined that the most effective means of connection to the National Grid would be for all the various turbine blocks to be connected to three substations – Limestone Downs near the northern central boundary, Matira in the central area, and Te Akau near the boundary of the central and southern areas.

## **12.6 The wind resource**

[129] There was uncontroverted evidence for Contact Wind that there is a Class II wind resource available over this entire area. Early studies released by the Electricity Commission show the area as being suitable for Class II wind turbine activities. Contact Wind has undertaken more detailed examination over the last several years and is confident that the wind resource is sufficient to make the installation of turbines economic, depending on the price point for purchase and installation, and the state of the electricity consumption market at the time. We are satisfied from the evidence produced to us that there would be sufficient wind resource. As to whether or not this wind resource would be better than that of other areas, or more economic than other forms of production, is a matter we will discuss later. In short, however, we are satisfied that there is a wind resource and that the proposal to utilise this resource is, in broad terms, not fanciful.

[130] Te Uku wind farm has been commissioned, consisting of around 28 turbines to the south of Raglan Harbour. There is also a consent for a wind farm at Taharoa, south of

Raglan close to Kawhia. The Taharoa wind farm has not yet commenced construction, but is also coastal and appears to rely on similar wind resource to the current application. Clearly, wind farm companies perceive there to be a wind resource in the area as these other consents attest.

## **13 THE PROPOSAL**

### **13.1 General description**

[131] The proposed HMR wind farm would be located on land along approximately 34 km of the Waikato coast. The southernmost point is near Te Akau, around 8 km north of Raglan, and the site extends northwards to a point some 4 km south of Port Waikato. The project area is largely privately-owned farmland including some owned by Contact Energy. There are several pine plantations but the area also includes significant tracts of native bush, of varying quality.

[132] In the original application (June 2008), the proposal comprised 180 wind turbine generators, transmission infrastructure, and associated works, including approximately 105 km of internal access roads necessary to construct and maintain the wind farm. The proposal has subsequently been modified (following a number of actions taken during a 16-month adjournment granted in May 2009 and during the Second Hearing) and now comprises 168 turbines. The total length of the access roads has been reduced to 95 km.

[133] It is proposed that the wind turbines would be located in nine separate blocks (**Blocks**). These consist of varying numbers of turbines and are referred to as Blocks A, C, D, E, F, G, H, I and J. The layout is shown on maps in Volume 3A.

[134] Electricity generated by the turbines would be sent to one of three substations via 33kV internal reticulation, either underground or overhead. The substations would be linked by a single circuit 220kV monopole Internal Transmission line ending at a substation at Limestone Downs. From there, electricity would be transferred via a double circuit 220kV lattice tower External Transmission line to a new electricity switchyard at Orton where it would join into the National Grid.

## 13.2 Wind farm

[135] Mr Meekan, a civil engineer called for Contact Wind, provided a helpful outline of the key components of the wind farm and its construction.<sup>6</sup> We describe these below.

### 13.2.1 Turbines

[136] The final choice of turbine supplier and the model to be used would be made by Contact Wind prior to construction. For the purposes of this application, it has been assumed that the maximum turbine size applied for of 3 MW would be used. Such turbines would have a maximum hub height of 100 metres and have three 50 metre blades to give a total height of 150 metres. Maximum capacity using the proposed layout of the wind farm would, thus, be 504 MW.

[137] Each turbine consists of four key parts that would be prefabricated and transported to the site:

- [a] **Tower.** Normally constructed in several tubular sections for transportation prior to erection on-site and generally weighs between 160 and 285 tonnes.
- [b] **Nacelle.** This would be installed on top of the tower and would weigh in the region of 70 to 87 tonnes. The nacelle houses the generator and other equipment required to convert the wind energy into electricity.
- [c] **Hub.** Attached to the nacelle is the hub, which connects the blades to the gearbox inside the nacelle, and also controls the mechanism that allows the blades to *pitch* – in effect controlling the area of blade face exposed to the wind and, therefore, the speed of rotation of the gearbox. The hub weighs in the region of 14 to 33 tonnes.
- [d] **Blades.** Three blades of up to 50 metres in length would be mounted on to the hub. Blades are typically made of fibreglass or carbon fibre and weigh in the region of 7 to 10 tonnes each.

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<sup>6</sup> Meekan, EIC at [27] and following

In addition, depending on the turbine design, a transformer and electrical connections may be housed near the base of the turbine.

[138] Each turbine would be erected on a foundation requiring around 600 cubic metres of concrete. Site-specific constraints would dictate design but, essentially, there are two foundation options as identified in the evidence of Mr Alexander:<sup>7</sup>

Shallow spread foundations, using an octagonal concrete pad 2.5 metres deep by 16–18 metres, founded 3.0 metres below the finished ground level;

Deep piled foundations comprising driven steel piles with pile caps 2.0 metres thick measuring 13–16 metres across.

### ***13.2.2 Turbine consent areas***

[139] The proposed location of each turbine has been identified by Contact Wind within a specified turbine consent area (**TCA**). This has been defined as an area within which a turbine tower and its foundation would be located. It is noted that, in some instances, the tips of the rotating turbine blades may extend beyond the limits of the TCA boundary. These areas are irregular polygons, shaped to suit the landscape and other constraints such as ecological or archaeological features, and were shown on the plans appended to the evidence of Mr Prince.

### ***13.2.3 Turbine access roads***

[140] The wind farm would require approximately 95 km of turbine access roads, which would be constructed on private land. These link the turbine sites in a network to enable delivery of the turbine components, plus construction plant and materials. The roads would remain for use by the landowner after construction as well as providing ongoing access for maintenance purposes.

### ***13.2.4 Spoil disposal areas***

[141] In constructing the access roads and turbine sites, significant surplus material would be excavated and some materials unsuitable for construction would be encountered. It is proposed that surplus material would be placed in a controlled manner

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<sup>7</sup> Alexander, EIC at Section 9 of Exhibit Alexander 2

in specific spoil disposal areas. Each disposal area would typically be accessed from the adjacent turbine access road. Downstream erosion control measures would be provided. It is proposed that there would be 136 spoil disposal sites.

### ***13.2.5 Laydown areas***

[142] Laydown areas would be required throughout the site for the temporary storage of plant and turbine components. These areas would be approximately 150 metres x 75 metres in size and would be surfaced with crushed aggregate to provide all weather access. Laydown areas would typically be located at the end of the access road leading into each block of turbines. Appropriate stormwater and silt control measures would be provided.

### ***13.2.6 Concrete batching plants***

[143] Construction of the wind farm would require approximately 127,000 cubic metres of concrete, mostly for the turbine foundations. Each turbine base would require approximately 110 truckloads of concrete. It is proposed that one or more mobile concrete batching plant(s) would be moved around the site, to be centrally located within each construction stage.

[144] Each concrete batching plant would require a water supply, waste process water treatment and discharge, and material disposal facilities, space for storage of materials, and provisions for dust control.

[145] During questioning by Ms Bradley,<sup>8</sup> Mr Chrisp said four batching plant sites had been identified including one at Whitford Quarry. There would be two sites in Franklin District and two in Waikato District.

### ***13.2.7 Crushing plant***

[146] A temporary crushing plant would be required, located at Whitford Quarry, to crush rock and grade it into aggregates of varying size for use in concrete production, road pavements, and as drainage material. Aside from the plant itself, provision would be made for raw and processed material stockpiles, and also dust control equipment.

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<sup>8</sup> Transcript 12 October 2010 at [1709]

### 13.3 Transmission infrastructure

#### *13.3.1 Description*

[147] It is proposed that the wind turbines would be connected by 33 kV underground and overhead lines to one of three electrical substations to be located at Te Akau, Matira and Limestone Downs, all within the wind farm area. These substations would be interconnected by approximately 23 km of Internal Transmission line ending at the main substation at Limestone Downs.

[148] From the Limestone Downs substation there would be a 220 kV External Transmission line approximately 27 km long, to the National Grid at Orton. A new switchyard would be required at Orton to enable the wind farm to be connected to the National Grid. Using a 220 kV External Transmission line would avoid the need for power transformers at Orton as the National Grid is also 220 kV.

#### *13.3.2 Internal Transmission lines*

##### *13.3.2.1 From turbines to Internal Transmission line substations*

[149] According to Ms Yorke's evidence,<sup>9</sup> the optimum voltage for connecting the turbines to the internal substations was selected as 33 kV over 22 kV due to the desirability of maximising the number of turbines on each string, and a number of other advantages such as lower power losses in the reticulation system. Underground cables had been identified as the preferred method of connection although, where site topography was not suitable for cabling, or where cable run lengths exceeded the optimum design of cables (approx 15 km), then overhead 33 kV on poles may be used.

##### *13.3.2.2 Internal Transmission line substations*

[150] The choice of three substations and their location on the Internal Transmission line was a balance between optimising the design and costs of the internal reticulation involving, among other things, the highest number of turbines connected to each cable while minimising voltage drop due to cable length, against the design and costs of additional substations.

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<sup>9</sup> Yorke, EIC at [17]

[151] The substations would require a maximum building platform as follows:

- [a] Te Akau – 135m x 65m;
- [b] Matira – 125m x 95m; and
- [c] Limestone Downs – 140m x 160m.

[152] Ms Yorke noted<sup>10</sup> the larger size of the Limestone Downs substation site would not only make allowance for extra equipment because of its role as the exit point to the National Grid, but also would provide for potential expansion of the wind farm to the north in the future.

[153] Buildings at the substation sites would be no more than 8 metres high, and transformers would be in the order of 6 – 12 metres tall. Gantry structures and lightning protection towers would be the tallest items at the substations, with heights in the order of 20–30 metres.

#### *13.3.2.3 Selection of internal transmission line corridor between substations*

[154] Contact Energy witnesses assert that the selection of the internal corridor generally followed the same staged process based on the ACRE system (Area, Corridor, Route and Easement) as was used for the external corridor selection, which we discuss below. According to Ms Yorke's evidence,<sup>11</sup> Internal Transmission corridors were defined by the position of the internal substations and generally followed the most direct alignments between the internal substations and the Limestone Downs substation. Ecology, archaeology, property and visual assessments, and preliminary geotechnical investigations, were also considered in the assessment of the corridors.

[155] Witnesses stated that, initially, a 400 metre corridor width was assumed and a preliminary transmission line alignment was selected and subsequently refined during the final stage of the ACRE process, after consultation with landowners. The routes between Te Akau (in the south) and Matira substations, and between Matira and Limestone Downs (in the north), were apparently both varied, and alternative routes chosen after

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<sup>10</sup> Yorke, EIC at [131]

<sup>11</sup> Yorke, EIC at [108]

consultation. The original and alternative alignments were shown on Exhibit H<sup>12</sup>, attached to Ms Yorke's evidence.

#### *13.3.2.4 Internal transmission line infrastructure between substations*

[156] During selection of the internal transmission voltage various 110kV options were considered, but Contact considered that a double circuit line would have been required, resulting in twice the number of conductors and additional transformers at Limestone Downs to transform the voltage from 110kV to 220kV. Contact told us they selected 220kV because they perceived significant additional costs with no discernable environment benefits at 110kV.

[157] According to Ms Yorke's evidence<sup>13</sup> the Internal Transmission line would consist of three conductors (six required between Matira and Limestone Downs) supported on single circuit steel poles typically spaced between 250 - 350 metres, and with heights ranging from 25 – 40 metres. There is a large span 1.5 km north of Te Akau that may require the use of lattice structure towers, which are larger and are able to support the increased load resulting from such a span.

#### *13.3.3 External Transmission line*

##### *13.3.3.1 Route selection*

[158] Ms Yorke gave evidence<sup>14</sup> as to the process that was used to determine the corridor within which the preferred route for the External Transmission line would be selected. She referred to a staged process, broadly based on the ACRE system (Area, Corridor, Route and Easement), that began with desktop reviews to identify the study area and produce ecology, property and archaeology maps of that area (Stage 1). Cultural issues were also considered. Several viable grid connection points were identified during Stage 1 and these, together with the wind farm, determined the boundaries of the study area.<sup>15</sup>

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<sup>12</sup> Yorke, EIC Exhibit H 17 - 19

<sup>13</sup> Yorke, EIC at [137] and following

<sup>14</sup> Yorke, EIC at [22] and following

<sup>15</sup> Yorke, EIC Exhibit H 2

[159] Stage 2 involved selection of the initial corridor subject to any ecological, archaeological and cultural constraints, and identification of the preferred connection to the National Grid. During the early stages, a number of possible corridor options were identified and considered, including from the Matira and Te Akau areas. It was found that the existing Huntly–Taumarunui 220 kV National Grid line would not have sufficient capacity to take the maximum output from the wind farm. Limestone Downs was, thus, identified as the preferred exit for a transmission line to the National Grid. The removal of turbines from the northern block (Block A) during the adjournment period did not change the choice of the exit point at Limestone Downs.

[160] The various corridors investigated were shown on a map attached<sup>16</sup> to Ms Yorke's evidence. In comparing these corridors, the length of transmission line and a preliminary review of other relevant factors such as the number of properties and environmental constraints were taken into account. The Stage 2 analysis concluded that a corridor between Limestone Downs and the Huntly-Otahuhu (**HLY-OTA A**) line was the preferred option.

[161] At Stage 3, specialist studies along the preferred corridor were undertaken for ecology, archaeology, geotechnical requirements, electrical engineering, land ownership and visual assessment. According to Ms Yorke's evidence<sup>17</sup> a broad corridor, approximately 1 km wide, from Limestone to the HLY-OTA A line, was then identified.

[162] Ms Yorke asserted that, during Stage 4, the initial 1 km corridor was refined in width to 400 metres based on identifying the most direct alignment whilst taking into consideration the terrain, cadastral boundaries and the location of dwellings, landscape, and access and construction issues. Ms Yorke noted<sup>18</sup> that the nature of the terrain along the corridor is undulating with valleys interspersed and is sparsely populated. To facilitate this process, Ms Yorke told us she undertook 14 site visits accompanied by visual and/or ecological consultants. How and what took place became a significant issue for the submitters and this Board, as we will discuss later.

[163] Ms Yorke's evidence was that consultation with affected landowners concerning the preliminary corridor began in October 2007 as part of Stage 5. Details were provided

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<sup>16</sup> Yorke, EIC Exhibit H 3

<sup>17</sup> Yorke, EIC at [46] and following

<sup>18</sup> Yorke, EIC at [58]

in the evidence of Mr Mills. Following feedback from some of the landowners who participated in this process, alternative alignments were identified for consideration. Where landowners did not participate, the indicative transmission line alignment over their property generally remained unchanged.<sup>19</sup> Again, various submitters disputed whether all landowner views were considered.

[164] We were told Stage 6 involved further evaluation of the corridor and alternatives. This included the establishment of an evaluation team and development of a system for rating (ranking) different alternatives. The evaluation criteria included: property, social and visual impacts; ecology and archaeology considerations; and engineering and constructability. Weighting enabled a comparative evaluation of the criteria. Minor variations to the route alignment were considered including avoiding the transmission line passing through Te Umukaraka Bush, and various options along the route from SH22 to the Orton Switchyard. The 400 metre wide corridor was in many cases able to be reduced to 200 metres width and to 100 metres between SH22 and Orton.

[165] According to Ms Yorke<sup>20</sup>, the final easement width for the External Transmission tower line would typically be 42 metres, up to a maximum of 60 metres. The final proposed external corridor is shown on the map attached as Appendix E.

#### *13.3.3.2 Voltage selection*

[166] In determining the voltage at which power from the proposed wind farm would be transmitted from Limestone Downs to the National Grid it was necessary to consider the maximum output of the wind farm, in combination with the potential grid connection points. Original options included 110 kV or 220 kV lines. Contact Energy Limited concluded that 110 kV options had insufficient capacity and selected 220 kV as the voltage for the External Transmission line.

#### *13.3.3.3 Orton switchyard*

[167] The proposed new substation at Orton would be a switchyard that connects the 220 kV External Transmission line to the National Grid. This would require a maximum

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<sup>19</sup> Yorke, EIC at [63]

<sup>20</sup> Yorke, EIC at [73]

platform area of 165 x 85 metres and the heights of various structures at the switchyard would be of a similar order to those at the proposed substations on the Internal Transmission line. The exception would be the need for a radio mast at Orton, the height of which has not been determined. No transformers would be required at Orton. However a diversion from the National Grid to the Orton switchyard is necessary

[168] The process that led to the selection of the Orton Switchyard as the preferred grid connection point is described in Ms Yorke's evidence.<sup>21</sup> A study area to the south of the Punga Punga Wetland was initially selected, taking into consideration several geographical constraints. Within this area, consideration of various site requirements led to two potential sites being identified to the west of Churchill Road. A further site that also met the required criteria was subsequently identified following discussions with landowners, and became the preferred site for the switchyard to be known as Orton.

#### *13.3.3.4 External Transmission line infrastructure*

[169] Generally, the External Transmission line would use steel lattice towers with heights typically ranging 32–48 metres. The lines would consist of six bundled conductors (duplex), and two earthwires at the top of the towers. The minimum height of a conductor above the ground would be 7.5 metres, and there would need to be a clearance of 4 metres above vegetation.

[170] We note here that, during the Second Hearing, higher (55 metre) towers in the Te Umukaraka Bush were proposed and accepted by Contact Energy to increase clearance above the vegetation. Contact Energy also accepted in their final submissions they would use one or more monopoles (in lieu of lattice towers) to improve visual aspects on the Allan/Wright property.

[171] Several submitters affected by the External Transmission line sought that the line be placed underground. This was discussed in the evidence of Mr Kent. Both a straight-line cross-country route and a longer route following existing roads were considered. In essence, the underground route option was rejected on grounds of the technical difficulties leading to unacceptable costs, many times higher than the proposed overhead transmission line. There were also other issues which led to its rejection. Similarly, a hybrid solution, partly below ground, was also considered and the cost was estimated to

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<sup>21</sup> Yorke, EIC at [52] and following

be approximately twice that of the overhead line. A partial submarine cable option was also reviewed but was rejected, again on grounds of unacceptable costs.<sup>22</sup>

### 13.4 Proposed conditions

#### 13.4.1 General

[172] Section 108 of the Act establishes the Board's powers with regard to the inclusion of conditions on resource consents if it concludes consent should be granted. Section 171(2) empowers the Board, acting as the territorial authority, to impose conditions on a NOR. The purpose of imposing conditions, on a consent or a NOR, is to avoid, remedy or mitigate effects that otherwise have not been addressed through the applications or modifications to the applications.

[173] Conditions on resource consents may address a wide variety of matters, as provided for in Section 108. There is no equivalent guidance provided by Section 171(2) of the Act, however we have concluded that the conditions can cover the same range of matters. In imposing conditions, the Board must be mindful of the following principles:<sup>23</sup>

- [a] conditions must be for resource management purposes;
- [b] conditions must have a causal connection to the consent;<sup>24</sup>
- [c] conditions must be reasonable;<sup>25</sup> and
- [d] conditions must be clear and enforceable.

[174] During the Second Hearing the Board was provided with three successive sets of draft conditions by Contact Energy and Contact Wind, for the district consents, regional consents and the NORs respectively. These iterations were submitted during the course of the hearing following the avifauna, archaeological and cultural caucusing, and in response to comments from the Board and other submitters, including DOC, Nga Uri O Tahinga and Tainui Aawhiro. The conditions also include a number of attachments, or schedules, variously providing more detailed information.

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<sup>22</sup> Yorke, EIC at [128]

<sup>23</sup> *Newbury District Council v Secretary of State for the Environment* [1981] AC 578

<sup>24</sup> *Waitakere City Council v Estate Homes Ltd(S.C.)* [2007]

<sup>25</sup> *Associated Provincial Picture Houses Limited v Wednesbury Corporation* [1947] 2 AllER 680

[175] The proposed draft conditions were the subject of intensive and robust debate between the applicants and submitters, and in particular DOC with regard to indigenous flora and fauna and the proposed biodiversity remediation and enhancement scheme.

[176] The Board provided submitters with an opportunity to comment on the draft set of conditions, produced in the closing submissions for Contact Energy and Contact Wind. Several submitters, including DOC, Tainui Aawhiro, Mr Smith and Mr Allan, took this opportunity and raised a variety of concerns ranging from detailed amendments suggested by DOC to questions about the applicability or extent of conditions. Waikato Regional and District Councils and Franklin District Council did not comment on those draft conditions.

[177] Tainui Aawhiro were particularly concerned that they had been misrepresented in respect of the caucusing on the final reply to conditions with regard to the Chance Find Procedure, and considered insufficient opportunity was provided for them to participate in monitoring and other activities as the conditions are currently written.

[178] Our Draft Decision recorded our concerns about some of the drafting of consent conditions. We recognise the complex nature of many of the draft conditions and note the effort expended by Contact Energy and Contact Wind, and in particular Mr S Daysh, in redrafting. At the time, we considered that the conditions would require significant further work to:

- [a] address the specific issues raised in the draft report;
- [b] ensure that the conditions are clear, enforceable and can be understood by future readers, who may not have participated in this hearing; and
- [c] ensure full and relevant plans for the wind farm and transmission lines are attached to the conditions.

For example, one set of plans had been provided. In addition to ensuring the accuracy of each plan, the conditions for each consent and NOR needed to be amended to make explicit which are relevant to a particular consent or NOR. These matters have now been addressed.

### *13.4.2 Conditions of regional and district consents.*

[179] At the hearing, the draft conditions of consent were provided by the applicants in two documents, being the district consents and the regional consents. The Board's Draft Decision noted that these would need to become three documents as there are two separate applicants for the earthworks consents:

- [a] Contact Wind – Waikato and Franklin District Plan consents and conditions;
- [b] Contact Wind – Waikato Regional consents and conditions; and
- [c] Contact Energy – Waikato Regional earthworks consent and conditions.

[180] The district and regional conditions included a set of specific conditions for each individual consent, as well as a schedule of general conditions for each jurisdiction. In its comments on the Draft Decision, Contact provided a full set of plans to accompany the draft resource consent conditions. The lack of up-to-date plans had been a recurring issue throughout the hearing.

[181] The Board's Draft Decision also considered that the draft conditions were unnecessarily repetitive, and included a number of drafting errors in terms of correct cross-referencing on condition numbers, and discrepancies between similarly worded conditions in the district and regional consents. We questioned the inclusion of some of the draft Advisory Notes, and considered they acted more as a commentary from Contact Wind or Contact Energy than a true explanation of the intent of the condition.

[182] We had specific concerns about several of the proposed condition themes, which we will also address in our substantive discussion later in this final report and decision. Those concerns were:

- [a] the potential lack of control for Waikato District Council's use of Whitford Quarry as a source of roading aggregate. We considered that the effects of this use had not been adequately assessed nor sufficient controls imposed;

- [b] lack of representation of Tainui Aawhiro and Ngaati Tahinga on the Ecology Peer Review Panel;
- [c] the somewhat directive approach taken to operation of the Community Liaison Group and the Kaitiaki Liaison Group, and their limited powers and funding;
- [d] the detail and quality of the maps and plans for the location of discharge and abstraction points for water is substandard. There was insufficient information provided to allow for enforceable conditions with regard to locations; and
- [e] the use of Waikaretu and Te Akau roads for construction traffic rather than Waimai Valley Road.

[183] We commended to Contact, Mr R Smith's request that a website be established as part of the Community Liaison Group, upon which all information is posted for the community to access. In their comments on the Draft Decision, Contact's proposed amendment adopts Mr Smith's suggestion. The final conditions as agreed by the Board are attached.

#### ***13.4.3 Proposed conditions for the Notices of Requirement***

[184] During the hearing Contact Energy provided a set of proposed conditions for each NOR. Given that the vast majority of these conditions were the same for each NOR, we considered, in our Draft Report, that a master set of conditions should be provided, with a cross reference in each NOR. The set of conditions Contact provided in their comments on the Draft Decision now includes the NOR itself and are intended by Contact to avoid unnecessary repetition of provisions.

[185] We note that Outline Plans are only required by Section 176A of the Act where the details of the proposed project have not otherwise been approved under the Act, or the details of the project are not incorporated in the decision. On this basis we consider that an Outline Plan would only be required for each Notice of Requirement to the extent that it relates to additional design matters, for example as related to substation access design or lighting design.

[186] Despite repeated requests during the First and Second Hearings we were not provided with a full set of plans to accompany the draft NOR conditions. We note that several plans referenced by Contact Energy in the draft NOR conditions had different revision references to those we were then provided with. We were unable to locate some plans. This made the Board's task very difficult. The plans and conditions proposed by Contact in their comments on the Draft Report have addressed this issue. The Board has agreed the attached conditions.

#### ***13.4.4 Relationship between proposed district resource consent conditions and Notices of Requirement***

[187] We noted there was some considerable overlap between the draft District Consent Conditions and those proposed for the NORs. We considered there was potential for a common set of conditions. For example, some of the BRES provisions provide benefits to both the wind farm and the transmission NORs. Proposals for Bramwell Bush and Punga Punga Wetland would enhance bush bird and bittern populations. That would provide mitigation not only for any potential losses from the transmission line but also from the wind farm for those bird species. Similarly, enhancement of Te Umukaraka Bush would mitigate effects from Block C turbines and the External Transmission line NOR. In response to the Draft Decision and Report, Contact have attempted to provide a more concise set of consents, NORs and conditions.

## **14 NATIONAL ENVIRONMENTAL STANDARDS**

[188] The National Environmental Standards (NES) for Electricity Transmission came into effect on 14 January 2010. The NES sets out a national framework of permissions and consent requirements for activities on existing electricity transmission lines. Activities include the operation, maintenance and upgrading of existing lines.

[189] The NES only applies to existing high voltage electricity transmission lines. It does not apply to the construction of new transmission lines or substations. The NES does not apply to electricity distribution lines – these are the lines carrying electricity from regional substations to electricity users.

[190] There is a discussion document on ecological flows and water levels, but no proposed NES has yet been introduced.

## **15 NATIONAL POLICY STATEMENTS**

[191] There are three relevant national policy statements – the New Zealand Coastal Policy Statement 2010, which took effect on 3 December 2010, the National Policy Statement on Electricity Transmission, which came into effect on 28 April 2008, and the National Policy Statement for Renewable Electricity Generation, which was gazetted on 14 April 2011 to come into effect on 13 May 2011.

### **15.1 2010 New Zealand Coastal Policy Statement**

[192] The purpose of the 2010 New Zealand Coastal Policy Statement (**NZCPS**) is to state policies in order to achieve the purpose of the Resource Management Act in relation to the coastal environment of New Zealand. The Preamble of the NZCPS addresses characteristics of the coastal environment, its qualities, users and the particular challenge those present in promoting sustainable management. Bullet point 4, in particular, describes natural and physical resources important to the economic and social well-being of the nation and communities. This includes renewable energy found within the coastal environment as well as areas with high natural character, landscape and amenity values. The Preamble also identifies issues the coastal environment is facing including the demand for coastal sites for infrastructure users (including energy generation).

[193] There are seven objectives, variously addressing matters to be safeguarded, preserved and maintained and enhanced within the coastal environment. This includes taking into account the principles of the Treaty of Waitangi, public access and recreation opportunities, coastal hazards and the effects of subdivision, use and development on the coastal environment, including on historic heritage. Objective 6 is an enabling objective which recognises that the coastal environment contains renewable energy resources of significant value.

[194] These objectives are supported by 29 policies, which provide more detail. Policies 1 - 4, 6, 11, 13 - 19, 21 - 23 are considered relevant. Policy 6 in particular, has a number of relevant provisions. Policy 6(1)(a) requires the Board to:

- (a) recognise that the provision of infrastructure ... including the generation and transmission of electricity ... are activities important to the social, economic and cultural well-being of people and communities;

[195] Policy 6(1)(b). requires the Board to:

- (b) consider the rate at which ... infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;

[196] Policy 6(1)(g) requires the Board to:

- (g) take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;

[197] Policies 6(1)(h), 6(1)(i) and 6(1)(j) require the Board to:

- (h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;
- (i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and
- (j) where appropriate buffer areas and sites of significant indigenous biological diversity, or historic heritage value.[sic]

[198] Other themes are Policy 17: Historic Heritage Identification and Protection, Policy 18: Public Open Space, and Policy 19: Walking Access.

[199] Schedule 1 of the NZCPS contains a list of surf breaks of national significance. The three listed for Waikato are 10 km south of the proposed wind farm. These are Manu Bay, Whale Bay, and Indicators at Raglan.

[200] Overall, many of the policies and objectives of the NZCPS are relevant to applications for this wind farm. Many are captured within other documents including the District Plans and within the terms of Part 2 of the Act. However, it can be seen that there has been a change of emphasis in terms of the latest policy statement to recognise the importance of infrastructure for major projects, including renewable energy within the coastal environment. Subject to Part 2 of the Act, the Board must have regard to any relevant provisions of the NZCPS (Section 104(1)(b)(i)).

## 15.2 National Policy Statement on Electricity Transmission 2008

[201] The National Policy Statement on Electricity Transmission (**NPSET**) was gazetted in March 2008, and sets out the objectives and policies for managing the electricity transmission network under the Act. It identifies as a matter of national significance the need to operate, maintain, develop and upgrade the electricity transmission network.

[202] The objective of the NPSET is:

To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- managing the adverse environmental effects of the network; and
- managing the adverse effects of other activities on the network.

[203] The above objective is supported by 14 policies. The policies require decision-makers to recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission, including recognising and providing for the effective operation, maintenance, upgrading and development of the electricity transmission network. Technical and operational requirements of the network must be taken into account when considering measures to avoid, remedy or mitigate adverse environmental effects, as must the extent to which route, site and method selection can avoid, remedy or mitigate adverse environmental effects. Planning and development of the transmission system in rural areas should seek to avoid effects on outstanding natural landscape, areas of high natural character, areas of high recreation value and amenity and existing sensitive activities. Decision-makers must recognise the designation process can facilitate long-term planning for the development, operation and maintenance of electricity transmission infrastructure. The NPSET includes reference to the relevant guidance for dealing with electric and magnetic fields.

[204] Importantly, the NPSET identifies decision-makers as those who, among other things, determine resource consent applications and consider notices of requirement for designations for transmission activities.

[205] It appears that the electricity transmission system referred to in this policy is intended to apply only to the National Grid operated by Transpower New Zealand. Other elements of the transmission system including those in private ownership and the regional and local distribution networks do not appear to be subject to the National Policy Statement on Electricity Transmission 2008.

### **15.3 National Policy Statement for Renewable Electricity Generation 2011**

[206] This National Policy Statement (**NPSREG**) sets out objectives and policies for managing renewable electricity generation activities under the Act. At the time of our Draft Decision, the NPSREG was proposed, and although we were not required to take it into consideration, we were able to do so under Section 104(1)(c). Since then, the NPSREG has been gazetted with some differences in the detail. Nevertheless, the overall effect remains very similar. The object of the NPSREG is:

To recognise the national significance of renewable electricity generation ...

[207] Policy A declares the national significance of renewable generation activities at any scale. The Policy refers to avoiding, reducing or displacing greenhouse gas emissions and maintaining or increasing security of supply by diversification. Policy B states some matters to which particular regard is to be had when considering measures to avoid, remedy, or mitigate adverse environmental effects. Policy C relates to practical constraints and measures to offset or compensate for residual effects. Policies E, F and G require local authorities to incorporate the NPSREG into statements and plans and provide particularly for different energy sources, small and community-scale generation, and new sites and sources (Policy H provides timeframes for planning changes to occur). Although Policies A to C are relevant anyway under the application of the Act and/or Plans, there is no doubt that this NPSREG puts a particular emphasis in some areas.

[208] Although the NPSREG is not yet operative (it will be shortly), it is clearly relevant, and its terms are now settled.

[209] We are concerned that the parties have not had an opportunity to make submissions on the NPSREG (as gazetted), but in any case, the issues are addressed elsewhere in the Act, and in Plans and Policies.

## 15.4 Other

[210] The National Policy Statement on Freshwater Management (NPSFM) was also issued on 9 May 2011, and will take effect on 1 July 2011. As with the NPS on Renewable Electricity Generation, we are concerned that the parties have not had an opportunity to make submissions on the NPSFM, but again, its relevant substance is already addressed by the Act and in Plans and Policies.

[211] There is also a proposed National Policy Statement on Indigenous Biodiversity. This was notified for submission after the hearing closed. Again, we feel unable to give this document any weight given the early stage of the process.

## 16 PLANNING DOCUMENTS

### 16.1 Regional Plans

[212] The Waikato Regional Council has jurisdiction for all of the wind farm area. In addition, the Franklin District planning instruments apply to the upper portion of the site and Waikato District Plans to the southern portion. The boundary between these two planning areas extends from the coast in an approximately north-east direction with Waikaretu within Franklin and Matira within Waikato District. As we discuss later, the two districts amalgamated in this area in November 2010 and Waikato District Council administers both Franklin and Waikato District Plans from that date.

[213] There are seven regional planning instruments. They are:

- [a] Operative Waikato Regional Policy Statement (**RPS**);
- [b] Proposed Waikato Regional Policy Statement (**Proposed RPS**);
- [c] Vision and Strategy for the Waikato River;
- [d] Waikato Regional Coastal Plan;
- [e] Waikato Regional Plan (**WRP**);
- [f] Variation 6 to the WRP; and

[g] Transitional Regional Plan.

Each document and its relevance to the wind farm proposal is discussed below.

## 16.2 Operative Waikato Regional Policy Statement (October 2000)

[214] The relevant objectives and policies relating to the wind farm proposal are:

### 3.3.7 Accelerated erosion

**Objective:** Net reduction in the effects of accelerated erosion and those effects avoided where practicable.

...

#### **Policy One: Avoid, Remedy or Mitigate Accelerated Erosion**

Ensure that land users:

- a. avoid where practicable, practices that cause accelerated erosion; and
- b. remedy or mitigate the adverse effects of accelerated erosion if it occurs.

...

### 3.4.5 Water quality

**Objective:** Net improvement of water quality across the Region.

...

#### **Policy One: Protection of Outstanding Water Bodies**

Ensure the protection of significant characteristics of the quality of outstanding water bodies.

...

#### **Policy Two: Other Water Bodies**

Determine the characteristics for which other water bodies are valued and manage those water bodies to ensure that any adverse effects on those characteristics are avoided, remedied or mitigated.

...

#### **Policy Three: Riparian Management**

Ensure that the adverse effects of land use on water quality and aquatic habitats are avoided, remedied or mitigated.

...

### 3.4.6 Flow Regimes

**Objective:** The range of uses of water reliant on the characteristics of flow regimes maintained or enhanced.

...

#### **Policy One: Protection of Significant Flow Regimes**

Ensure the protection of the significant characteristics of flow regimes where they:

- a. contribute to significant wild and scenic character; or
- b. form the basis of significant recreational uses; or
- c. support significant ecosystems.

...

#### **Policy Two: Modification of Flow Regimes**

Allow changes to existing flow regimes while avoiding, remedying and mitigating adverse effects on the environment.

...

### **3.5 Coast**

**Issue: Inappropriate subdivision, use and development within the coastal environment results in loss of natural character...**

**Objective:** Preservation of the natural character of the coastal environment, including the physical and ecological processes which ensure its dynamic stability.

...

#### **3.11 Plants and Animals (Biodiversity)**

**Objective:** Biodiversity within the Region maintained or enhanced.

...

**Policy One: Avoid, Remedy or Mitigate Adverse Effects on Biodiversity.**

Allow the use and development of natural and physical resources while avoiding, remedying or mitigating adverse effects on biodiversity in the Region.

...

**Policy Two: Regionally Consistent Criteria For Use When Identifying Significant Areas**

Use a consistent approach throughout the Waikato Region when identifying areas of significant indigenous vegetation and significant habitats of indigenous fauna. Appendix 3 provides criteria for assessment and the area is significant if decision makers are satisfied that the area meets one or more of the criteria.

...

#### **3.12 Energy**

**Objective:** Efficient use of energy within the Waikato Region.

...

**Policy One: Energy Efficiency and Conservation**

To promote efficiency and conservation in the production, transmission and consumption of energy.

...

#### **3.13 Structures (Infrastructure)**

**Objective:** The continued operation of regionally significant infrastructure (including network utilities) maintained or enhanced.

...

[215] The Objectives of 3.12 on Energy, and 3.13 on Infrastructure are not necessarily incompatible with the other provisions relating to land and soil, water, coast, and plants and animals. Nevertheless, it can be seen that the Policy Statement envisages a balance between these, and this is indirectly referred to under the coastal issue discussion relating to the natural character of the coastal environment and *inappropriate* subdivision use and development. This word accords with Section 6 of the Act and may give an indication that energy and infrastructure works are not necessarily seen as inappropriate.

[216] As with many other situations, the question will be the extent and impact of effects, rather than the conflict between objectives and policies of the Plan.

### ***16.2.1 Proposed Policy Statement notified 3 November 2010***

[217] Planners from Contact Energy, Waikato Regional Council and the DOC caucused to agree the relevant issues, objectives and policies in the proposed Waikato Regional Policy Statement notified on 3 November 2010 part way through this hearing.

[218] Wind is recognised in the Proposed RPS as one of the sources of renewable energy in the Waikato Region. The focus on renewable sources of energy is added in line with Section 7(j) of the Act. Policy 6.6 states:

That particular regard is given to the benefits that can be gained from the development and use of regionally significant infrastructure and energy resources.

[219] Of the six regional issues in the Proposed RPS, four are considered relevant to the HMR Project:

- [a] State of resources;
- [b] Providing for energy demand;
- [c] Managing the built environment;
- [d] Relationship of tangata whenua with the environment (te taiao)

[220] There are 15 relevant objectives:

- 3.1 Integrated Management

- 3.4 Energy
- 3.6 Coastal Environment
- 3.8 Relationship of tangata whenua with the environment
- 3.9 Efficient use of resource
- 3.11 Built environment
- 3.14 Allocation and use of fresh water
- 3.15 Riparian areas and wetlands
- 3.17 Historic and cultural heritage
- 3.18 Ecological integrity and indigenous biodiversity
- 3.19 Outstanding natural features and landscapes
- 3.20 Amenity
- 3.21 Natural Character
- 3.22 Public access
- 3.24 Values of soil

[221] The following table outlines the relevant policies and implementation methods.

<b>Policy Topic</b>	<b>Policies</b>	<b>Implementation Methods</b>
4 Integrated management	4.1 – Integrated approach	4.1.7, 4.1.8, 4.1.9, 4.1.10, 4.1.12
	4.3 – Tangata whenua	4.3.2, 4.3.3, 4.3.4
4A Coastal environment maps	N/A	Maps
6 Built environment	6.2 – Planning for development in the coastal environment	6.2.3
	6.5 – Energy demand management	6.5.6
	6.6 – Significant infrastructure and energy resources	6.6.1, 6.6.2, 6.6.5
8 Fresh water bodies	8.1 – Approach to managing water	8.1.3, 8.1.4
	8.3 – All water bodies	8.3.1, 8.3.2, 8.3.3, 8.3.7, 8.3.8, 8.3.9
	8.6 – Allocating fresh water	8.6.1

Policy Topic	Policies	Implementation Methods
	8.7 – Efficient allocation and use of water	8.7.1, 8.7.2
10 Heritage	10.1 – Managing historic and cultural heritage	10.1.1, 10.1.2
	10.2 – Relationship of Maaori to taonga	10.2.2
	10.3 – Effects of development on historic and cultural heritage	10.3.1, 10.3.2, 10A
11 Indigenous biodiversity	11.1 – Maintain or enhance indigenous biodiversity	11.1.1, 11.1.2, 11.1.3
	11.2 – Protect significant indigenous biodiversity	11.2.1, 11.2.2, 11.2.3, 11A
	11.4 – Safeguard coastal/marine ecosystems	11.4.1
12 Landscape, natural character and amenity	12.1 – Outstanding natural features and landscapes	12.1.1, 12.1.2, 12.1.3, 12A
	12.2 – Other landscapes	12.2.1, 12B
	12.3 – Protect natural character	12.3.1, 12.3.2
	12.4 – Protect areas of high amenity value	12.4.1, 12.4.2
	12.6 – Maintain or enhance public access	12.6.2
14 Soils	14.1 – Maintain or enhance the values of the soil resource	14.1.1

[222] Again, the Proposed RPS does not seem to change the essential *balance* between the need to maintain natural elements, particularly of the coastal environment, while at the same time, providing for energy and infrastructure. It does make more explicit the issues surrounding renewable energy including in the coastal environment. It strengthens the proposition that the regional documents generally support energy and infrastructure development where this can be achieved without significant adverse effects on the environment.

### ***16.2.2 Vision and Strategy for the Waikato River***

[223] The Waikato River Settlement Act was passed on 7 May 2010. Various sections of the Act commenced on 24 September 2010 and 25 November 2010. The overarching purpose of the settlement is to restore and protect the health and well-being of the Waikato River for future generations. The purpose of the Act includes recognising the

vision and strategy for the Waikato River, which took effect as a Chapter of the Operative RPS from 25 November 2010. The Waikato River Vision and Strategy sets out 13 objectives generally focused on restoring and protecting the Waikato River and the relationship of iwi to the river. There are 12 supporting strategies providing more detail about specific actions.

[224] It is clear that any application made, which was within the relevant area, would need to take into account the 13 objectives and 12 supporting strategies. Whether it would be acceptable will again be a question of the degree to which it encompasses or does not conflict with these objectives and strategies.

[225] Only the eastern end of the External Transmission line and the diversion are affected by the Vision and Strategy, particularly Punga Punga Wetland.

### **16.3 Waikato Regional Coastal Plan - Operative (in part) 27 October 2005 (RCP)**

[226] There are two provisions of the RCP that are still subject to Environment Court appeal. They relate to marine farming and marinas and are not relevant to the HMR proposal. The RCP itself is not strictly applicable to the application, as the wind farm would not be located within the coastal marine area (CMA). However, while the RCP focuses on the management of the CMA, from Mean High Water Springs seaward, it also recognises that there are management issues that extend to the wider coastal environment. There are therefore aspects of the RCP relevant to the coastal environment. These include tangata whenua issues and natural character, habitat and coastal processes.

#### **Objective 2.4**

Recognise and provide for the special relationship which tangata whenua have with the coastal environment.

[227] Other tangata whenua objectives and policies relate to the CMA.

[228] Chapter 3 reiterates Sections 6(a), (b) and (c) and while applying to the CMA, aims to achieve integrated and consistent management between land and water in order to preserve the natural character of the coastal environment.

[229] However the External Transmission line as it approaches Orton comes within a catchment of the Waikato River. We will discuss this later.

### ***16.3.1 Significant vegetation and habitat***

[230] Section 3.2 refers to development of land above Mean High Water Springs, and the effect this may have on the Coastal Marine Area. There are no relevant rules.

[231] We accept that in considering the range of documents we must have regard to, integration and consistent management between water and land must be relevant.

## **16.4 Waikato Regional Plan – Operative (in part) 28 September 2007**

[232] The relevant parts of the Waikato Regional Plan are sections:

- 3.2 Management of water resources
- 3.5 Discharges
- 5.1 Accelerated erosion
- 5.2 Discharges onto or into land

[233] There is one issue and one objective of relevance to all water sections; Issue 3.1.1 and Objective 3.1.2. This issue and objective address all aspects of water management, including point and non-point source discharges, contaminated, water quality and quantity, demand management and management of flow regimes.

[234] All eight policies related to management of water resources are relevant for HMR, covering matters such as management of water bodies, managing degraded water bodies, natural character, water classification and reasonable mixing. The *Implementation Methods* for this section set out how the water classifications will be applied.

[235] There are two issues and objectives relevant for discharges; Issue 3.1.1 and Objective 3.1.2, and Issue 2.2.1, which recognise the high risk of accelerated erosion of soil resources with some activities and Objective 5.2.2 related to discharge of wastes.

[236] All seven policies related to discharges are relevant, encompassing discharges to water with minor and more than minor effects, alternatives, discharges to land and ground water, stormwater discharges, and tangata whenua uses and values.

[237] The four policies related to accelerated erosion are relevant insofar as they relate to management of soil disturbance and vegetation clearance activities and promote good practice.

[238] The Issue 5.2.1, Objective 5.2.2 and two policies related to discharges onto or into land all relate to management of waste and hazardous substances, and seek to avoid contamination.

[239] The Waikato Regional Council planning officer advised that the following consents are required under the Regional Plan:

<b>Activity</b>	<b>Plan</b>	<b>Rule</b>	<b>Consent Number</b>	<b>Status</b>
Earthworks and roading/tracking associated with the construction of a wind farm, including turbines, internal access roads and improvements to local roads	Waikato Regional Plan	Rule 5.1.4.15	WRC 117912	Discretionary
Earthworks associated with the Whitford Quarry	Waikato Regional Plan	Rule 5.1.4.15	WRC 118074	Discretionary
Water take from four surface water bodies being the Waikawau Stream, Kaawa Stream, Waikaretu Stream and Waikorea Stream	Variation 6 to Waikato Regional Plan	Rule 3.3.4.14	WRC 117913 WRC 117914 WRC 117915 WRC 117916	Restricted Discretionary
Streambed works to construct and maintain a culvert, construction and maintain a 14 metre bridge	Waikato Regional Plan	Rule 4.2.9.3 Rule 4.2.8.2	WRC 117922 WRC 117923	Controlled* Granted already Controlled
Discharge of quarry process water and wash water associated with up to four concrete batching plants	Waikato Regional Plan	Rule 3.5.4.5 Rule 3.5.4.5	WRC 117924 WRC 117925	Discretionary Discretionary
Earthworks and roading and tracking activities associated with construction, operation and	Waikato Regional Plan	Rule 5.1.4.15	WRC 117927	Discretionary

Activity	Plan	Rule	Consent Number	Status
maintenance of three substations, a switchyard, transmission lines (including support structures) and ancillary activities				

\*Consent already granted by Waikato Regional Council for three culverts

[240] As can be seen, a number of provisions of the Plan are relevant in considering the various aspects of these applications.

#### ***16.4.1 Earthworks and roading***

[241] Roading and tracking over 2,000 metres in length, and soil disturbance over 1,000 metres or exceeding 2 hectares requires discretionary activity consent under Rule 5.1.4.15. There are a number of other standards and assessment criteria relevant to aspects of this proposal. This includes cut slope batters of over 3 metres in height, over cumulative distances exceeding 120 metres, vegetation clearance exceeding 5 hectares, riparian vegetation clearance.

[242] In terms of the criteria that would apply to such discretionary activities, Rule 5.1.5 gives a series of permitted activity rules, and standards and terms for controlled activities. This includes reference to concentration of suspended solids for any point source discharge, and a reference to Method 3.2.4.6. Nevertheless, non-point discharges are not covered by the provisions of Rule 5.1.5(h), but rather by (o). This requires the Waikato Region surface class waters not to exceed 100 grams per cubic metre of suspended solids concentration, indigenous fisheries and fish habitat class waters not to exceed 80 grams per cubic metre, and in natural state class waters, the activity or discharge shall not increase the concentration of suspended solids in the receiving water by more than 10 percent. Method 3.2.4.6 gives similar figures for suspended solid discharge.

[243] It is clear from the discussion in these plans that they do not provide for consent to be granted where there is a discharge which involves matters under Section 107(1), namely:

- [a] conspicuous oil or grease films;

- [b] scums or foams;
- [c] floatable or suspended materials;
- [d] any conspicuous change in colour or visual clarity;
- [e] any emission of any objectionable odour; and
- [f] the rendering of fresh water unsuitable for consumption by farm animals;  
or
- [g] any significant adverse effects on aquatic life.

[244] Beyond those general guidances, the Council reserves control under Rule 5.1.6 over matters relating to:

- [a] instability;
- [b] monitoring;
- [c] methods of sediment retention and runoff;
- [d] rehabilitation; and
- [e] avoiding adverse effects on indigenous vegetation and habitats.

[245] The Council also reserves control over cultural matters relating to waahi tapu or taonga, effects on the relationship of tangata whenua and their cultural traditions with the site, waahi tapu or taonga and kaitiaki roles. Overall these do no more than incorporate various matters under Part 2 of the Act.

[246] Turning to 5.1.7, this gives perhaps the best guidance that is available as to criteria for consideration of earthworks, roading and tracking, and the other regional resource consents relating to water and discharge.

#### **5.1.7 Environmental Results Anticipated**

1. A reduction of the areas within the Region affected by accelerated erosion.
2. Improved water quality as a result of reduced severity of accelerated erosion.
3. Reduced rates of accelerated infilling of estuaries, lakes, artificial water courses, rivers and karst systems.

4. Maintenance of the life supporting capacity of soils.
5. Greater public awareness of the importance of maintaining stable, productive soils.
6. Maintenance of the ecological values associated with land.

[247] These matters are perhaps a slightly more specialised wording of matters that would in many a case arise under Part 2 of the Act.

[248] When it comes to dealing with water takes, Variation 6 to the Waikato Regional Plan is relevant. Rule 3.3.4.16 provides for water takes to be a discretionary activity where the taking of the surface water, when assessed in combination with all authorised takes, exceeds the total allocable flows in the Plan (Table 3) up to a maximum of 30 percent of the one in five-year low flow. It is problematic as to how this provision applies. It appears to be acknowledged that, in the circumstances of this case, the taking of 1 litre per second would represent more than 30 percent of the 5-year low flow, in combination with other takes. There are no particular criteria given in such circumstances, and those that would apply if it was a restricted discretionary activity under Rule 3.3.4.15 do little more than essentially repeat the provisions of Part 2 of the Act with perhaps more precision, for example:

... avoid, remedy or mitigate the adverse effects relating to the purpose of the water management classes, the timing of abstraction, volume of water allocated and the rate of abstraction ...

in addressing issues around the intake structure.

[249] There is a lack of clarity in the evidence of the applicant relating to this matter, and there was even a suggestion that the Board should avoid Variation 6, given that it was still proposed rather than operative. It is difficult to know how this could be done as there is no relevant chapter of the Regional Plan. If we ignored Variation 6 this would fall then to be considered as an innominate activity in terms of Part 2 of the Act. We intend to have regard to Variation 6 as part of our Section 104(1) evaluation.

[250] In relation to discharge consents, we are referred to Rule 3.5.4.5 of the Regional Plan. This essentially repeats the provisions of the Act concerning any discharge of a contaminant into water or in circumstances where that contaminant may enter water. The conditions and controls that are now intended by the applicant in relation to this matter,

we understand, intend that the contaminants would not enter either the stream or natural ground water. Nevertheless the applicant has not made an application for discharge from the many point and non-point sources from earthworks. The earthworks would involve:

- [a] the control of sedimentation;
- [b] the potential for discolouration of natural water courses, including Mataitai streams; and
- [c] the addition of chemicals such as flocculants.

[251] We would have thought such a discharge consent was required. None has been applied for, so it is not possible to grant such a consent. The Council suggests that discharge of contaminants is covered in earthworks consents by virtue of Rule 5.1.4.15. While this appears arguable, we have not been requested to grant discharge consents directly.

[252] We are unclear as to whether Contact Wind turned its mind to the necessity for such consents, but note that conditions in relation to sediment control are required anyway as part of the earthworks consent. However we could not say that, with the application of those conditions, the discharge would necessarily meet the activity rule which requires that there be no adverse effect on water quality of the receiving water body.

[253] It appears to the Board that there remains the potential under the proposed conditions for the applicant to discharge water with chemicals and/or sediment levels well above the natural levels. This would not meet the criteria of Rule 3.5.4.4 as permitted activity discharge, even though it may meet relevant conditions relating to the earthworks consents. In terms of Section 107, any conspicuous change in sediment levels or colouring of the water would, on the face of it, not be permitted. If there is an omission in respect of the discharge consents required, this is not a matter that can be remedied by this Board.

#### ***16.4.2 Variation 6***

[254] Variation 6 to the WRP withdrew Section 3.3 Water Takes and 3.4 Efficient Use of Water. Variation 6 was notified 20 October 2006 and hearings held between

December 2007 and March 2008. Decisions were released in November 2008. There are 37 appeals covering all parts of the Variation.

### **16.5 Transitional Regional Plan 1991**

[255] The Transitional Regional Plan is relevant only insofar as parts of the current WRP are not operative, and moreover have been withdrawn whilst Variation 6 is progressed. However, there are no relevant Sections of the Transitional Regional Plan, as it deals with General Authorisations. It would confer a discretionary status on any application.

### **16.6 District Plans**

[256] The operative Franklin Plan, including particularly Plan Changes 14, 25 and 30 (PC14, PC25, PC30), and the operative Waikato District Plan (**OWDP**), and proposed Waikato District Plan (**PWDP**) are the district planning instruments relevant to consideration of the wind farm consent applications and NORs.

[257] The Franklin Plan became operative in February 2000. It was subsequently amended by Consent Orders in relation to Rural PC14 (part-operative 5 November 2010). Plan Change 25 seeks to manage the impact of hazards (including stormwater) and earthworks activities in the District. PC25 was notified on 2 March 2010. Submissions closed 10 April 2010. The plan change introduces a district wide standard for earthworks and new provisions related to natural hazards, affecting Part 7 of the District Plan. Plan Change 30, notified 28 September 2010, proposes to amend Part 17C.2.1 and Rule 15.1.2.

[258] Assessment criteria in Part 53 of the Franklin Plan apply to all restricted discretionary, discretionary and non-complying activities. Sections 23A.4.1 and 23B.4.1 set out assessment criteria for restricted discretionary activities in the Rural and Coastal Zones respectively, as modified by PC14.

[259] The OWDP was made operative on 6 December 1997. The PWDP appeals version is dated 31 January 2007. There are no specific assessment criteria in the PWDP for discretionary or non-complying activities.

[260] The PWDP is subject to appeal. There are several appeals outstanding with regard to rules, objectives and policies. Specifically, Rules 25.10, 23.13, 25.16, 25.17 and 25.19 still have outstanding appeals, although most are in the process of being resolved, or do not relate specifically to the application. Of the objectives and policies, Objectives 3.4.1, 4.5A.1, 6.8.1 and 13.2.1 and Policies 3.4.2, 4.5A.2, 4.5A.3, 6.8.4A, 13.2.2, 13.2.3, 13.2.4, 13.2.5, 13.2.7, 13.2.9 and 13.2.10 no longer have appeals against them.

[261] Given the crossover between activities and common themes in the plans we intend to discuss the provisions of the Plans thematically. For completeness we will then discuss Plan Change 25 (PC25) and PC30 briefly, before discussing the amalgamation of Waikato and Franklin district in this area.

#### ***16.6.1 Coastal environment***

[262] Part of the HMR wind farm is located within the Coastal Policy Area in the OWDP. All activities associated with the wind farm are non-complying activities (Rule 22.5.4) in the Coastal Policy Area, as they are not specifically provided for in the district plan, including:

- [a] construction, operation and maintenance of wind turbines (including all ancillary works and structures;
- [b] vegetation clearance;
- [c] concrete batching plants; and
- [d] works within Natural Conservation Area 43.

[263] There are no specific assessment criteria for non-complying activities. The OWDP seeks the following environmental outcomes:

- 22.6.1 The retention of the natural character of the coastal environment;
- 22.6.2 The protection of historic and cultural features associated with the natural character of the coastal environment; and
- 22.6.3 Retention of significant indigenous vegetation and significant habitats of indigenous fauna in the coastal environment.

[264] Within Section 22 of the OWDP, there is one objective and two policies. All are relevant to the application.

Objective 22.1.1 To preserve the natural character of the coastal environment of the District through protection from inappropriate subdivisions, use or development.

Policy 22.2.1 To ensure that development requiring a resource consent is subject to a full assessment of the environmental effects, and measures taken to remedy, mitigate or avoid the effects of the proposed activity.

Policy 22.2.3 To ensure adequate protection of significant environmental and cultural features.

[265] Within the PWDP there are three objectives (3.2.1, 3.4.1 and 3.6.1) and eight policies (3.2.3-3.2.4, 3.2.6, 3.4.2, 3.6.2, 3.6.2A and 3.6.2). These focus on recognising and protecting natural features and landscapes, including Maaori cultural and spiritual relationships, and avoiding adverse effects associated with development, including on roads and tracks. The objectives and policies also seek to preserve the natural character of the coastal environment, wetlands and lakes and rivers and their margins, including the unique natural character of the Whaanga Coast.

[266] There are a variety of rules applying to the location of wind turbines within the coastal environment, depending on the location of the turbines. Turbines within 1,000 metres of MHWS are a non-complying activity (Rule 26.10.3) or a discretionary activity if located more than 1,000 metres from MHWS (Rule 26.10.2). There are also controls in Rules 26.44.2 and 26.49.2 around the height and location of turbines from roads or prominent headlands or ridgelines visible from the coast.

[267] Within the Franklin Plan no prominent ridgelines are identified. There are no provisions in respect of other ridgelines in Franklin. Prominent ridgelines within Waikato District are identified on the planning maps. No such identified ridgelines are affected by this proposal. However, Section 3.5.1 of the PWDP confirms that effects on other ridgelines should not be ignored. Accordingly, Rule 26.43.2 of the PWDP requires consent as a restricted discretionary activity for earthworks and track formation within 20 metres horizontally and vertically of such ridgelines. The discretion is restricted to:

[a] effects on landscapes and amenity values;

- [b] effects on skylines and ridgelines;
- [c] effects on views; and
- [d] revegetation of bare earth.

[268] The Franklin Plan includes a variety of objectives and policies concerned with the coastal environment. In addition, PC14 introduced the Tasman Coastal Management Area and a Coastal Zone. Part of the proposed wind farm is located within this zone/management area.

[269] Within the Franklin Plan there are two objectives (17C.3.2.2.2 and 3) and two policies (17C.3.2.3.1 and 2) focussed on managing the adverse effects of activities on coastal character.

[270] As they relate to the Tasman Coast Management Area (Part 17E.7.3 of the Franklin Plan) there are three objectives and nine relevant policies (1-4, 7-9 and 11), addressing protection of high natural and cultural values from inappropriate development, significant coastal values, including indigenous bush, and water bodies. The policies also provide for use of mineral and energy resources in a manner which is consistent with the natural character, special environment and amenity values of the Tasman Coast.

[271] Consent is required under Rule 21B.1.5 for a non-complying activity for the concrete batching plants, as they are not specifically provided for in the Franklin Plan.

### ***16.6.2 Energy***

[272] Whilst the OWDP does not specifically refer to energy, reference is made in the PWDP to securing an increase in the generation and use of renewable energy resources.

[273] There are no rules specifically addressing energy developments in the OWDP, although physical construction of the turbines is addressed in both Waikato District Plans. In her evidence, Ms A d'Aubert confirmed that, as a result of appeals resolution on the PWDP, a new activity called a 'wind energy facility' was added to the activity rules for the Rural and Coastal Zones, as provided for by Rule 25.10.1(jb) and Rule 26.10.1(ka) respectively. The rules provide for a wind energy facility as a permitted activity provided it complies with all effect and building rules. If not, under Rule 25.10.2 a wind energy

facility is a discretionary activity in the Rural Zone. Under Rule 26.10.2 a wind energy facility is a discretionary activity if it is located more than 1,000 metres inland from MHWS, otherwise it is non-complying (Rule 26.10.3). The Franklin Plan provides for wind energy generation of less than 1 MVA as a permitted activity (Rule 15.1.2.1), otherwise it is a discretionary activity (Rule 15.1.2.28). In addition to the criteria in Section 104 of the Act and Part 53 of the Franklin Plan, Section 15.1.2.9 includes relevant assessment criteria for wind energy developments.

### ***16.6.3 Network utilities***

[274] The wind farm application and the NORs include transmission lines, substations and switchyards intended to convey electricity generated by the wind turbines to the National Grid. Accordingly, district plan objectives, policies and rules concerning network utilities are a relevant consideration for the Board.

[275] The OWDP includes two objectives (51.1.1 and 51.1.2) and four policies (51.2.1-51.2.4) focussed on balancing the operational needs of public works and utilities with the need to avoid, remedy or mitigate effects on the environment. Specifically, Objective 51.1.2 seeks to ensure that public works and utilities are provided in a manner which is sensitive to the amenity values of the district and avoids and/or mitigates any adverse effects on the natural and physical environment. Policy 51.2.2 seeks that public works and utilities are undergrounded where possible.

[276] There is one objective (6.4.1) and three relevant Policies (6.4.2 - 6.4.6) in the PWDP related to network utilities that focus on the design and location of utilities, including a presumption for undergrounding, avoiding, remedying or mitigating adverse effects on environment, community health, amenity, navigational aids, the capacity of an area to absorb increased effects of development, and that regionally and nationally important utilities are recognised for the benefits contributed to the community.

[277] There are two objectives (15.1.1.1 and 15.1.1.2) and four relevant policies in the Franklin Plan which seek to ensure that network utilities and other essential services are provided in a manner that does not adversely affect the health and safety of the people of the district, avoids, remedies or mitigates any adverse effects on the natural and physical resources, is sensitive to the amenity values of the district, relevant to cultural or spiritual values and is efficient.

[278] There is generally a consistent consent framework across all district plans. All plans provide for substations, transmission lines and switchyards as discretionary activities.

[279] The OWDP provides for transmission lines, substations and switchyards as a discretionary activity in the Rural Zone (Rule 51.5.1). The assessment criteria in 51.5.10 are of particular relevance to the HMR transmission infrastructure, given the arguments presented at the Second Hearing regarding the potential for an underground transmission line and consideration of alternative routes. The Council reserves control with respect to overhead electricity lines to the extent of difficulty in undergrounding lines, the extent to which the activity would involve the removal of mature bush and whether there is an alternative route that would reduce the visual impact of the lines and supporting structures on the environment.

[280] In making decisions on consent applications, the OWDP states at 51.6 – Environmental Outcomes :

That public works and utilities

- (a) will not adversely affect the amenity values of the District's environment;
- (b) will be provided in a manner which ensures that the safety of the public is not compromised; and
- (c) will be provided in an efficient and coordinated manner.

[281] Rule 23.13.2 in the PWDP establishes that the substations, transmission lines and switchyards associated with the wind farm are discretionary activities, as the permitted activity standards in Rule 23.13.1 are not met. The PWDP seeks that the location and scale of utilities will achieve the following environmental outcomes (Section 6.12.2):

- [i] minimal effects on local environment and community health and safety;  
and
- [ii] location of new utilities in proximity to existing utilities or utility corridors.

#### ***16.6.4 Ecology and biodiversity***

[282] There are two objectives within the OWDP about protecting significant areas of indigenous bush, and conserving and enhancing qualities contributing to natural character and amenity values of rural areas.

Objective 53.1.1: To conserve and enhance those qualities which contribute to the natural character and amenity values of the rural, urban and coastal areas of the District;

Objective 53.1.2: To protect significant remnant areas of indigenous bush and to preserve wetlands, to safeguard significant habitats of indigenous fauna and flora, to preserve the natural character of the coastal margins of the Waikato District, and to protect outstanding natural features and landscapes.

[283] There are two relevant policies supporting these objectives:

Policy 53.2.2: To protect ecologically sensitive wildlife habitats.

Policy 53.2.7: To encourage the protection of outstanding natural features and landscapes, and areas of significant indigenous vegetation and significant habitats of indigenous fauna.

[284] Consent is required for vegetation clearance within both the Rural Zone (Rule 3.8.4 – non-complying activity) and the Coastal Policy Area (Rule 22.5.3 – discretionary activity). In addition, consent is also required for works affecting a Natural Conservation Area 43 – Rangikahu Bush. Part of Rangikahu Bush is located within the Coastal Policy Area and works would be a discretionary activity (Rule 22.5.3). For that part of Rangikahu Bush located within the Rural Zone, any works would be a non-complying activity (Rural 3.8.4). There are no assessment criteria for non-complying activities. However, for discretionary activities the assessment criteria are (Rule 22.5.5(c)):

- 1 The assessment criteria for controlled activities in Rule 22.5.5(a);
- 2 The character, scale, and intensity of the use and its cultural and/or environmental effects; and
- 3 How the adverse effects of this use can be remedied, mitigated or avoided.

[285] Within the PWDP there is one Objective (2.2.1) and six policies (2.2.2, 2.2.3, 2.2.5-2.2.8), focussed on indigenous biodiversity and maintaining or enhancing the life-supporting capacity of indigenous ecosystems.

[286] Clearance of indigenous vegetation requires consent under Rule 25.43A.2 (Rural Zone) and Rule 26.52.2 (Coastal Zone), in the PWDP, as restricted discretionary activities. Discretion is restricted to the following matters for Rule 25.43A.2:

- effects on landscape values
- effects on ecological values
- effects on significant indigenous vegetation and habitat
- effects on amenity values
- effects on natural character of water bodies and the coastal environment
- revegetation and rehabilitation
- effects on social, cultural and economic values.

[287] For Rule 26.42.2 discretion is restricted to:

- natural character of the coastal environment
- natural hazards
- landscape values
- amenity values
- wild and scenic coastal character
- effects on ecological values, and significant indigenous vegetation and habitat
- revegetation and rehabilitation.

[288] Appendix Oc within the PWDP includes criteria for identifying significant indigenous vegetation.

[289] PC14 replaced Part 5 of the Franklin Plan, except with respect to Schedules 5A, 5B and 5C. It introduced three new objectives (5.2.1, 5.2.2, 5.2.3) and six policies addressing ecosystems, bodies of water and sustainably managing natural heritage

resources, including avoiding, remedying or mitigating the adverse effects of activities on the life supporting capacity of indigenous ecosystems, preserving the features, elements and systems which contribute to and maintain the natural character of the West Coast and sustainably managing the natural heritage resources of the District.

[290] New district strategic objective 3D introduced by PC14 focuses on protecting, restoring and enhancing the natural, physical and cultural resources of the district, while enabling the utilisation of such resources in an environmentally sustainable manner.

[291] There is one objective (15.6.2.1) and two relevant policies focussed on ensuring that adverse effects on significant indigenous vegetation and biodiversity are avoided, remedied or mitigated.

[292] The Franklin District Plan was largely silent on indigenous vegetation clearance, with the exception of clearance of protected areas. Rule 15.6.3.1 of PC14, now settled, introduces a permitted activity 15.6.3.1 allowing clearance of indigenous vegetation to 2.5 percent of any area over 1 hectare. Where consent is required for indigenous vegetation clearance, it is a restricted discretionary activity under Rule 15.6.3.2, with discretion limited under Rule 15.6.3.3(1) to:

- The scale, location and visibility of INDIGENOUS vegetation, and fauna habitat removal.
- The scale of INDIGENOUS riparian vegetation removal and any wetland modification.
- The duration of works proposed.
- Protection and enhancement of existing indigenous vegetation including any adjoining ecosystems and bio-diversity.
- Visual amenity.

[293] The assessment criteria in Rule 15.6.3.3 (2) and Part 53 of the Franklin Plan apply. Of particular relevance to the Board are the criteria relating to landscape and amenity values, the ecological values of the vegetation to be removed, mitigation measures, and the necessity of the works.

### ***16.6.5 Landscape and natural character***

[294] Within the OWDP there are no specific landscape objectives. The policies in Section 32 of the Plan are focussed on improving the appearance of activities in zones other than the Rural Zone.

[295] There are three objectives (3.2.1, 3.4.1 and 3.6.1) and eight policies (3.2.3-3.2.4, 3.2.6, 3.4.2, 3.6.2, 3.6.2A and 3.6.2) within the PWDP. These focus on recognising and protecting outstanding natural features and landscapes, including Maaori cultural and spiritual relationships, and avoiding adverse effects associated with development, including roads and tracks. The objectives and policies also seek to preserve the natural character of the coastal environment, wetlands and lakes and rivers and their margins, including the unique character of the Whaanga Coast.

[296] The PWDP identifies particular ridgelines of importance within the district. None of those ridgelines are affected by this proposal. Nevertheless, where there are earthworks, roading or tracking within 20 metres vertically or horizontally of a ridgeline the activity becomes restricted discretionary. The discretion is limited to four issues:

- Effects on landscape and amenity values
- Effects on skylines and ridgelines
- Effects on views
- Re vegetation of bare earth

[297] The landscape architects included these criteria in their overall assessment of individual TCAs and associated roading.

[298] The Franklin Plan has a brief discussion in its introduction to the district's distinctive landscape character in 1.4. There are no particular relevant provisions identifying criteria in relation to ridgelines. These issues are, however, captured within the general discretionary criteria, particularly Part 53.2, second bullet point:

[in particular where the activity will]:

- visually compromise significant landscapes and natural features including landforms, ridgelines, trees or bush etc...

In any event, the landscape architects adopted the more restrictive approach of the PWDP.

#### ***16.6.6 Noise***

[299] The OWDP limits operational noise in the Rural Zone under Rule 48.5.4(c) and construction noise under Rule 48.5.4(h). There are no limits for noise in the Coastal Zone. The OWDP further advises that Section 16 of the Act applies.

[300] The PWDP includes several rules in the Rural (Section 25) and Coastal (Section 26) Zones relevant to the Board's consideration of the effects of noise. In particular:

- [a] Rules 25.17.1 and 26.17.1 – Noise – operation noise is a permitted activity if it complies with the limits in these rules, else it is a discretionary activity (Rules 25.17.2 and 26.17.2).
- [b] Rules 25.18.1 and 26.18.1 – Construction noise – construction noise is a permitted activity provided it complies with the standards in Appendix N of the plan, else it is a discretionary activity (Rules 25.18.2 and 26.18.2).
- [c] Rules 25.20.1 and 26.20.1 – Wind turbine noise – is permitted provided it meets a level of 40dBA (L<sub>95</sub>), measured and assessed under NZS6808-1998, else it is a discretionary activity (Rules 25.20.2 and 26.20.2).

The PWDP currently defines the boundary as the property boundary. At the time of the Second Hearing, that aspect was under appeal and Mr Hegley, an acoustic consultant called for Contact, strongly supported measurements being at the notional boundary of the property. Since the hearing of this matter has concluded, a consent order has been signed adopting as Rule 25.20.1 the noise provisions referred to in [c] above.

[301] There are no noise limits in the Rural or Coastal Zones in the Franklin District Plan. Instead, the Council relies on Section 16 of the Act to address any noise complaints that arise. This would include noise associated with operation of the Whitford Quarry.

### ***16.6.7 Traffic and transportation***

[302] The applications for the wind farm include proposals for local road improvements to facilitate movement of wind farm components such as turbine blades, establishment of viewing platforms, and establishment of construction zones to facilitate movements of construction traffic within the wind farm site.

[303] There are three objectives (9.3.1, 9.3.2 and 9.3.3) and 14 relevant policies in the Franklin Plan. There are two objectives (8.2.1 and 8.4.1) and six relevant policies (8.2.2, 8.2.2A, 8.2.3, 8.2.5, 8.2.5A and 8.4.2) in the PWDP. There are two objectives and 20 policies in the OWDP, of which 12 are relevant (36.2.1-36.2.6, 36.2.8-36.2.11, 26.2.13 and 26.2.17).

[304] Thus at several relevant objectives and policies in the OWDP concerned with the adverse effects of development on land transport infrastructure and vice versa. The policies recognise that public roads should be available for a range of community activities, and that high volumes of traffic and heavy vehicles should use national routes and arterial roads. Where practicable, such traffic should be discouraged from using collector and local roads that serve rural areas. Similar objectives and policies are contained within the PWDP, referencing the safe and efficient functioning of the road network, whilst minimising adverse effects on people, communities and the environment. The Franklin Plan similarly seeks to ensure the safe and efficient functioning of the road network, and compatibility of activities with the roads they rely on for access.

[305] Activities within and without the road reserve are discretionary activities in both the OWDP and the PWDP (Rule 9.5.4 – OWDP; Rule 25.25.2 and 26.25.2 by way of Appendix A15.2 – PWDP). Contact Wind and Waikato District Council planners considered that the general land transport rules of the OWDP (Rule 35.6) did not alter the discretionary activity status in the OWDP.

[306] The Franklin Plan provides for road improvements within the existing road reserve as a condition of network utilities that are permitted activities. Rule 15.1.6 provides for improvements to local roads beyond the road reserves as a restricted discretionary activity. Improvements to local roads within the road reserve do not require resource consent. The proposed viewing areas would be a non-complying activity, as they are not specifically provided for in the Franklin Plan.

[307] Specific assessment criteria in the Franklin Plan, in 15.1.2.9 for network utilities, refer to the degree to which any adverse effects on the environment are remedied or mitigated, as well as vehicle generation, access, loading and parking. There are also specific assessment criteria in Part 53 of the Franklin Plan, including how the wind farm would affect the convenience, health or safety of people in the neighbourhood or wider community, including traffic movement and road safety, and whether it would have any adverse effects on existing structural resources, including roads.

[308] There do not appear to be specific anticipated environmental results in the Franklin Plan. With regard to activities in the Rural Zone, the OWDP seeks to maintain rural amenity values, and to avoid public health and safety risks (Section 9.6). The PWDP seeks the following:

#### **8.10.1 Operation of the land transport network**

- (a) Improved land transport, traffic and pedestrian safety.
- (b) Efficient movement of people and goods.
- (c) Safe corridors for pedestrians, cyclists and public transport.
- (d) Land transport network is sustainably managed and not compromised by subdivision
- (e) Reduced conflicts between land use activities and developments, and road users
- (f) Enhanced accessibility to the road network for people with disabilities.
- (g) Adequate provision for parking.
- (h) Opportunity for non-motorised travel.
- (i) Amenity not unduly impacted by roads, including street lights.

#### **8.10.2 Design, construction, maintenance and operation**

- (a) Minimal disturbance to landforms, soils, and cultural and heritage sites.
- (b) Avoidance or mitigation of run-off effects on water quality.
- (c) Retention of physical connections within and between communities.
- (d) Minimal noise attributable to use of roads.

### ***16.6.8 Cultural***

[309] There are no directly relevant rules in any regional or district planning document regarding cultural matters. Section 16.6.9 of this decision addresses matters relating to

archaeological sites. However, all planning documents, including objectives and policies, focussed on tangata whenua.

[310] In the OWDP there are three relevant objectives (6.1.1, 6.1.2 and 6.1.3) addressing Maaori perspectives of natural and physical resources, providing for social, economic and cultural well-being and developing partnerships. Of the four accompanying policies, three are considered (6.2.1, 6.2.3 and 6.2.14).

[311] In the PWDP, Objective 11.4.1 states:

Cultural practices and beliefs of tangata whenua are respected.

[312] This objective is supported by three relevant policies:

11.4.2 – Subdivision, use and development should not compromise the cultural and spiritual significance of areas, including waahi tapu, urupa, maunga and other landforms, mahinga kai, and indigenous flora and fauna.

11.4.3A – Activities on Maori land should meet the social and cultural needs of the tangata whenua.

11.4.4 – Tangata whenua should be able to sustainably manage their lands and resources in accordance with their cultural preferences and aspirations.

[313] In the Franklin Plan, new district strategic objective 3D introduced by PC14 focussed on protecting, restoring and enhancing the natural, physical and cultural resources of the District, while enabling the utilisation of such resources in an environmentally sustainable manner.

[314] There is one objective (4.1.1) and three relevant policies focussed on consultation, protecting the relationship of Maaori and their culture and traditions and avoiding, remedying or mitigating adverse effects.

[315] PC14 introduces a new objective (4.1.2 – Cultural Heritage) to protect, restore and enhance the natural and cultural heritage resources of the District and a strategic objective for Rural and Coastal areas:

6. To protect and preserve the taonga of Tangata Whenua.

### ***16.6.9 Archaeology***

[316] There are three objectives and three policies in the OWDP (Section 54), focussed on maintaining the integrity of historic and cultural heritage. There is one objective (12.2.1) and six relevant policies (12.2.3, 12.2.4, 12.2.5, 12.2.6, 12.2.6A and 12.2.7) in the PWDP, all of which are focussed on protecting historic heritage, including archaeological sites, from inappropriate subdivision, use and development. There are two objectives (8.1.1 and 8.2.2) and eight policies in the Franklin Plan focussed on protecting known historic places and areas from inappropriate development.

[317] The OWDP is the only plan providing specific controls for development affecting archaeological features (Rule 54.5.4). Whilst the PWDP and the Franklin Plan establish a policy position, the PWDP does not include any rules and the Franklin Plan Rule 8.3 is not relevant as archaeological sites within the wind farm are not specifically listed in an accompanying schedule.

[318] Notwithstanding this, modifications were made to the proposal during the Hearing to avoid identified archaeological features. As a consequence, discretionary activity consents in accordance with Rule 54.5.4 of the OWDP are no longer required. Contact Wind has identified works that will fall within buffer zones around known archaeological sites. These buffer zones are not a requirement of the district plans.

### ***16.6.10 Management of soil resources***

[319] There are three objectives (45.1.1, 45.1.2 and 45.1.3) and five policies (45.2.1-45.2.8) in the OWDP specifically addressing management of excavation and fill activities. All are relevant. The objectives and policies are focussed on managing the effects of fill, including avoiding effects of contamination from fill, noise and dust generation and land disturbance, and to ensure that land is not rendered unusable for building or other purposes. Policy 45.2.3 specifically recognises that large-scale excavations and fill require different management. The OWDP is silent on controls for management of cut and fill within an application site that fail to meet the permitted activity standards in Rule 45.5.2, and which are not associated with extractive industries, as controlled by Section 14 of this plan.

[320] In addition to objectives and policies in Section 45 of the OWDP, Objective 9.1.2 states:

To retain rural land, particularly land containing high quality soils, in large holdings that maintain versatility and efficient use of the land in terms of providing for the needs of future generations and safeguarding the life-supporting capacity of the soil.

[321] Policy 9.4.4 states:

To retain land containing high quality soils in appropriately shaped and sized lots that enable efficient use and development of the soil resource, now and in the future.

[322] There are no specific rules in the OWDP controlling earthworks in the Rural Zone or Coastal Policy Area. Council, Contact Energy and Contact Wind planners agreed that construction of the wind farm is a non-complying activity in the Rural Zone, under Rule 3.8.4 and Rule 22.5.4 in the Coastal Policy Area. This would include all earthworks associated with construction. There are no specific assessment criteria. The OWDP is seeking the following environmental outcomes:

9S.3.3 Protection of the potential and life-supporting capacity of high quality soils.

9S.3.6 Effective and efficient use of natural and physical resources.

[323] Earthworks and importation of clean fill associated with the wind farm are discretionary activities in both the Rural and Coastal Zones of the PWDP (Rules 25.25.2 and 25.27.2 – Rural; and 26.25.2 and 26.26.2 – Coastal), as permitted activity standards are not met, particularly with regard to volumes. There are no specific assessment criteria for discretionary activities. The Plan seeks to achieve retention of the life supporting capacity and the potential and versatility of soil, especially high quality soil.

[324] Chapter 4 in the PWDP includes the relevant objectives and policies for management of soil resources. Objective 42.1 states:

Physical, chemical and biological properties necessary for maintaining the life supporting capacity and productive use of the soil, especially high quality soil, are retained.

[325] Policies 4.2.2 - 4.2.6 state:

4.2.2 – The productive potential of soil, especially high quality soil, should not be compromised by activities that do not use or rehabilitate the productive capability of the soil or that adversely affect the physical, chemical and biological properties of the soil.

4.2.3 – Soil, especially high quality soil, should be available in its natural state and original location for future generations.

4.2.4 – Activities that do not utilise or rehabilitate the life supporting capacity and the productive capability of high quality soils should not locate on land containing high quality soils.

4.2.5 – Where high quality soil removal or disturbance cannot be avoided, the soil should be used to rehabilitate the land or enhance soils elsewhere to retain soil versatility and productive capacity.

4.2.6 – The physical, chemical and biological properties of soil should be reinstated.

[326] Within the Franklin Plan, earthworks in the Rural zone associated with the wind farm construction are a permitted activity (Rule 23.1) if the achievement of the requirements in Rule 23.6.4, that bare ground arising from earthworks shall be re-vegetated as soon as practicable, is achieved. Franklin District Council's planner considered that proposed conditions requiring re-sowing and re-planting of cleared trees would address the matter of re-vegetation as required by the rules.

[327] It is unclear from the application detail whether earthworks will occur within 30 metres of the banks of a stream, river or lake. If this is the case, Rule 23.3 again applies. Contact Wind has applied for a generic earthworks consent, which covers this possibility.

[328] Mr Meekan's evidence suggests that all spoil generated from a turbine block would be disposed within that block.

[329] Where spoil material is disposed on the site (property) from whence it came, and the disposal areas comply with Rule 23.6.4 regarding re-vegetation, the disposal is a permitted activity. Consent for a discretionary activity is required under Rule 12.1.2.8 where a disposal site is located on a different property, as the volume would be greater than 100 cubic metres. Earthworks, which do not comply with 23.6.4, are to be assessed against criteria in Rule 23.9.2.9.

[330] Objective 7.2.1 seeks to ensure, as far as practicable, that activities do not cause, accelerate or contribute to natural hazards. This objective is supported in particular by Policy 7.2.1.3:

Land disturbance activity in coastal and riparian margins shall not give rise to instability or erosion.

[331] There are three Rural Zone objectives (17.1.1, 17.1.2 and 17.1.3) and six relevant policies focussed on managing land and soil resources in such a way that their accessibility, versatility and life-supporting capacity are sustained for present and future generations, on safeguarding the life-supporting capacity of soils. Priority for protection is given to soils of versatile land and to consideration of alternative locations or sites where this would avoid significant adverse effects.

[332] PC14 introduced district-wide Strategic Objectives 5 and 7 in Part 17A of the Franklin Plan:

5. To recognise and provide for the life supporting capacity of versatile land and its contribution to the economic and social well being of the District.
  
7. To enhance opportunities to utilise the productive potential of natural resources in an environmentally sustainable manner.

#### ***16.6.11 Mineral extraction***

[333] The former Whitford Quarry is located wholly within Franklin District. Contact Wind and Council planners agreed that the site is part of the Rural Zone in the Franklin Plan and the Coastal Zone as introduced by PC14. The site is also subject to requirements of the Tasman Coast Management Area and Southern Rural Management Area. The quarry is located partly in each management area.

[334] Providing for use and management of mineral resources is a common thread through the Franklin Plan. Objective 7 for all rural and coastal parts is:

Enhance opportunities to utilise the productive potential for natural resources in an environmentally sustainable manner.

[335] Objective 16.2.2 – Managing mining effects is:

To ensure, as far as practicable, that the exploration and extraction of mineral resources occurs in such a manner that the life supporting capacity of air, water and soil resources is safeguarded.

[336] Objective 8 of the Rural-Coastal Zone objectives and policies is:

To recognise and provide for the sustainable management of natural resources.

[337] Policy 9 in the Tasman Coast Management Area provides for the use of mineral and energy resources in a manner that is consistent with the natural character, special environment and amenity values of the Tasman Coast.

[338] Policy 21.6.1.1 is:

To provide for mineral extraction and processing throughout the Rural Zone subject to appropriate measures to avoid, mitigate or remedy any adverse effects.

[339] Objective 21.6.2 – Managing mineral resources specifically seeks:

To avoid, remedy or mitigate the adverse effects of mineral extraction and processing on the environment and community by ensuring that the extraction and processing of mineral resources occurs in such a manner that the amenity of the rural and coastal environments and the life supporting capacity of air, water and soil resources are safeguarded.

[340] The effects of mineral extraction activities will be assessed through discretionary activity resource consent applications, whilst Policy 21.6.2.4 states:

... that significant mineral extraction and processing will be avoided in sensitive coastal environments.

[341] Discretionary activity consent is required under the WRP (Rule 5.1.4.15) for earthworks associated with operation of the quarry.

[342] Consent is required for re-opening and operation of the quarry under Rule 23A.1.4 (Rural Zone – discretionary activity) and Rule 23B.1.5 (Coastal Zone – non-complying activity), as modified by PC14. PC14, which became operative during the course of the Hearing, modified the original rule assessment made by Council planners and Contact Wind only insofar as the rule reference in the Rural Zone was amended.

[343] The Franklin Plan includes specific assessment criteria for mineral extraction activities. There are specific standards for mineral prospecting and exploitation for minerals in 23A.2.2.4 and standards in 23A.5.2.A and 23A.5.2.B for discretionary activities. There are also performance standards for permitted and controlled activities, assessment criteria for restricted discretionary activities, and the assessment criteria in Part 53 of the Plan.

#### ***16.6.12 Plan Change 25 to the Franklin District Plan***

[344] Plan Change 25 (**PC25**) seeks to manage the impact of hazards (including stormwater) and earthworks activities. The change was notified in March 2010. Submissions have been received, further submissions sought and hearings commenced in September 2010. Objective 7.2.2 seeks to manage activities that contribute to or cause instability, inundation, and erosion. Objective 4 also seeks to educate the public on natural and land hazards. The provisions identified adopt a cautious approach to development with the 1% AEP (Annual Exceedance Probability) flood plain (that is, a 1 in 100 year flood event), or where instability or erosion may occur.

[345] The provisions have limited impact on these applications, and in any event, little weight can be given to PC25.

#### ***16.6.13 Plan Change 30 to the Franklin District Plan***

[346] Plan Change 30 (**PC30**) was notified 28 September 2010. It contains a range of district wide amendments including (relevantly) sections on rural activities and network and other utilities, noise and vibration. It proposes to amend Part 17C.2.1, which provides a new enabling Objective 9 and a detailed Policy 3A on rural activities, and Rule 15.1.2 on network and other utilities, applying to those which are permitted activities.

[347] Again, these provisions are at an early stage and little weight can be accorded to PC30. However, where PC14 has been resolved by consent order, the Council accepts that we should give priority to these provisions where they conflict with the operative plan. Overall, we see little conflict.

### 16.6.14 Consent Tables

[348] Evidence for the Councils and Contact as to the consent status under the relevant plans can be summarised as follows:

[349] Under the Operative Franklin District Plan and PC14:

Activity	Relevant Rules	Status
Construction, operation and maintenance of wind turbines, transmission lines, substations and switchyard (including ancillary works and structures)	ODP District Wide Rule 15.1.2.8	Discretionary
Earthworks	ODP Rural Zone Rule 23.4 PC 14 Coastal Zone Rule 23.B.1.5	Discretionary Non-complying
Re-opening and operation of the former Whitford Quarry	ODP Rural Zone Rule 23.4 PC 14 Coastal Zone Rule 23B.1.5	Discretionary Non-complying
Concrete batching plants	ODP Rural Zone Rule 23.5  PC14 Rural Zone Rule 23A.1.5 PC 14 Coastal Zone Rule 23B.1.5	Non-complying as an activity not provided for in the ODP Non-complying as an activity not provided for in PC 14 Non-complying as an activity not provided for in PC 14
Public viewing areas (including signage) and associated parking areas	ODP Rural Zone Rule 23.5  PC 14 Rural Zone Rule 23A.1.5	Non-complying as an activity not provided for in the ODP Non-complying as an activity not provided for in PC 14
Improvements to local roads beyond the road reserve	ODP District Wide Rule 15.1.2.6	Restricted discretionary
Cleanfill disposal	ODP District Wind Rule 15.1.2.8	Discretionary

[350] In respect of the OWDP and the PWDP:

Activity	Relevant Rule(s)	Status
Construction, operation and maintenance of wind turbines (including all ancillary works and structures)	Rule Zone – Rule 3.8.4 CPA – Rule 22.5.4	Non-complying Non-complying

	(bullet 2)	
Concrete batching plants*	Rural Zone - Rule 3.8.4 CPA – Rule 3.8.4	Non-complying Non-complying
Vegetation clearance	Rural Zone – Rule 3.8.4 CPA – Rule 22.5.3	Non-complying Discretionary
Natural Conservation Areas **	Rural Zone – Rule 3.8.4 CPA – Rule 22.5.3 (bullet 2)	Non-complying
Archaeological features	Rural Zone – Rule 54.4.5 CPA – Rule 22.5.3 (bullet 2)	Discretionary Discretionary
Transmission lines, substations and switchyards	Rural Zone – Rule 51.5.1	Discretionary
Improvements to local roads	Rural Zone – Rule 9.5.4	Discretionary

Activity	Relevant zone in the Proposed Waikato District Plan	Rule(s)	Status
Wind turbines	Rural	25.10.2	Discretionary
	Rural (>10m in height)	25.49.2	Discretionary
	Rural (if it protrudes through height control plane at an angle of 37 degrees commencing 2.5m above ground)	25.50.2	Restricted discretionary
	Rural (<7.5m from a road boundary, <17.5m from the centre-line of an indicative road)	25.53.2	Non-complying
	Rural (<25, from other boundaries)	25.54.2	Non-complying
	Coastal (>1,000m from MHWS)	26.10.2	Discretionary
	Coastal (<1,000m from MHWS)	26.10.3	Non-complying
	Coastal (>7.5m in height)	26.44.2	Discretionary
	Coastal (<12m from a road boundary, <17.5m from the centre-line of an indicative road, <25m from any other boundary, <20m horizontally or vertically from a prominent headland or ridgeline visible from the coast)	26.49.2	Discretionary
Substations	Rural	25.13.2	Discretionary
		25.61A.2	
220 kV transmission lines	Rural	25.13.2	Discretionary
Earthworks and cleanfill	Rural	25.25.2	Discretionary
		25.27.2	

Activity	Relevant zone in the Proposed Waikato District Plan	Rule(s)	Status
	Coastal	26.25.2 26.26.2 26.43.2	Discretionary Restricted discretionary
Indigenous vegetation clearance	Rural	25.43A.2	Restricted discretionary
	Coastal	26.42.2	Restricted discretionary
Concrete batching plants	Rural	25.10.2	Discretionary
Improvements to local roads	Rural	25.25.2	Discretionary
	Coastal	26.2.5.2	Discretionary

\* Concrete batching plant east of Turbine H09 is in the Coastal Policy Area

\* Concrete batching plant north-east of Turbine I013 is in the Rural Zone

\*\* Natural Conservation Area 43, the bulk of which is located in the CPA, but also a small area in the Rural Zone

## 16.7 Amalgamation with Waikato

[351] As a result of the re-organisation of Auckland City, Franklin District has ceased to exist as of 1 November 2010. As this occurred part-way through the Second Hearing, this placed counsel for each of the Districts in a difficult position. While the Plan will continue to exist, the consent itself would be held by the Waikato District Council and accordingly, in practical terms, it is not necessary to issue separate decisions for Franklin and Waikato Districts. This practical amalgamation and the commonality of consent has led to our seeking to rationalise, in a pragmatic way, the requirements of the two District Plans in terms of the conditions. For example, Miss Hartley for Franklin District said that the Council had been particularly anxious to ensure that the wording of the conditions was, in phraseology, consistent with the Waikato District Plan, given that they would be the enforcement authority. We agree with such an approach as being an appropriate way to deal with a complex situation.

## **17 OTHER NON-STATUTORY DOCUMENTS**

### **17.1 National Energy Efficiency and Conservation Strategy 2007**

[352] This strategy promotes energy efficiency, conservation and renewable energy. It provides goals, policy direction and targets and was referred to by the Energy Efficiency and Conservation Authority (EECA), a submitter, which reports to the Minister of Energy and Resources.

[353] Given that the strategy largely reflects more direct provisions of the Act or plans, we acknowledge its relevance. However, it can have no directory power given that the strategy would need to be incorporated into an operative policy statement or environmental standard under the Act. EECA argues that the strategy should be had regard to by the Board because:

- [a] it was a ground for the Minister calling the matter in; and
- [b] the Board has discretion to have regard to it under Section 104(1)(c) of the Act.

[354] The Board is required under Section 147(4) to have regard (among other things) to:

- [a] factors under Section 141B(2); and
- [b] measures stated under Section 141C(b).

[355] All factors under Section 141B(2) are relevant to the Board whether or not they were identified in the Minister's reasons for call-in. The Energy Strategy is not identified as a factor although it may be relevant to New Zealand's international obligations or the global environment under Section 141B(2)(e). But it is the matter (the applications) we are considering under Section 141B(2) rather than the Energy Strategy itself.

[356] Alternatively, the Board has the general power to consider any matter relevant under Section 104(1)(c). However, the Energy Strategy has now been superseded by the 2010 Strategy and the relevance is significantly reduced.

[357] We firstly note that even if we have regard to the Energy Strategy, we find it adds little if anything to the situation. Given the significant amount of renewable energy already consented, we consider the approved projects already approach the government targets. The practical problem is the gap between consented projects and completed or committed projects. Contact seek only a consent and are not committed to construction.

## **17.2 Draft New Zealand Energy Strategy (2010)**

[358] The Draft New Zealand Energy Strategy proposes the Government's direction for energy and the role energy will play in New Zealand's economy. This draft strategy sets out four priorities and twelve areas of focus that are intended to enable New Zealand to make the most of its energy potential. The priorities are:

- [a] Develop resource.
- [b] Secure and affordable energy.
- [c] Efficient use.
- [d] Environmental responsibility.

[359] The relevant area of focus is to develop renewable energy sources. Again, this strategy seeks completed or committed projects, not resource consents.

## **17.3 Draft New Zealand Energy Efficiency and Conservation Strategy (2010)**

[360] The draft New Zealand Energy Efficiency and Conservation Strategy 2010 (NZECS) is a companion to the government's proposed primary statement of energy policy set out in the draft New Zealand Energy Strategy. The objective is an efficient, renewable electricity system supporting New Zealand's global competitiveness, with a target of 90% of electricity being generated from renewable sources, providing supply security is maintained, by 2025. The objective and target is supported by the following policy:

The following actions will help drive greater energy productivity in the electricity sector over the next five years:

- Removing unnecessary barriers to investment in large-scale renewable electricity generation, building on recent changes to streamline and simplify consenting processes under the Resource Management Act.
- Incorporating the cost of greenhouse gas emissions into electricity investment decisions through the Emissions Trading Scheme.
- Investigating and removing unnecessary barriers to deployment of smaller scale distributed electricity generation and to the modernisation of electricity networks.
- Fostering the deployment of new renewable sources such as marine and solar sources of energy.
- Ensuring the electricity sector has an appropriate focus on electricity demand management tools.
- Monitoring industry rollout of smart meter, smart network and smart appliance technologies, to promote consumer choice and a more efficient electricity system.

[361] Again, there is a significant gap between the goal relating to completed or committed projects and resource consents. A resource consent simply permits a project to occur – it cannot require it to occur.

#### **17.4 New Zealand standards**

[362] There are several relevant New Zealand standards, particularly for determining consent conditions.

##### ***17.4.1 NZS 6808:2010 Acoustics - Wind farm noise***

[363] The purpose of NZS 6808:2010 is to provide suitable methods for the prediction, measurement, and assessment of sound from wind turbines for use in both wind farm development and local authority planning procedures. The revised NZS 6808 which supersedes NZS 6808:1998, provides guidance on the limits of acceptability for sound received at noise sensitive locations emitted from wind farms containing one or more wind turbines, and is expected to form the basis of noise related conditions for all newly consented wind farms in New Zealand.

[364] NZS 6808:2010 explicitly addresses several aspects of wind farm development, including cumulative effects, reverse sensitivity and wind farm specific noise characteristics. The standard also includes model consent conditions. NZS 6808 is

consistent with *NZ6801:2008 Acoustics – Measurement of environmental sound* and *NZS 6802:2008 Acoustics – Environmental Noise*.

#### ***17.4.2 NZS 6801:2008 Acoustics – Measurement of environmental sound***

[365] NZS 6801:2008 defines the basic quantities to be used for the description of sound in community environments and describes procedures for the measurement of these quantities. The procedures described are intended to enable consistent measurement of environmental sound for all conditions within the scope of the standard. The standard may be cited in consent conditions to avoid the need for inclusion of technical information while ensuring national consistency in sound measurement methods.

#### ***17.4.3 NZS 6802:2008 Acoustics – Environmental noise***

[366] *NZS 6802:2008* sets out procedures for the assessment of noise for compliance with noise limits, and provides guidance for the setting of noise limits for consent conditions. Noise assessment is based on a rating level, which can be derived from simple and detailed assessment methods.

#### ***17.4.4 NZS6803:1999 Acoustics – construction noise***

[367] Noise from most construction and maintenance, including roads, is managed in accordance with *NZS 6803:1999 Acoustics – construction noise*. *NZS 6803* provides guideline noise limits for construction and maintenance works. These limits apply outside neighbouring buildings; one metre from the facades and 1.2 metres – 1.5 metres above the relevant floor level.

#### ***17.4.5 International Commission for Non-ionising Radiation Protection (ICNIRP) Guidelines for Protection against Electric and Magnetic Fields***

[368] There is no specific New Zealand standard addressing issues associated with electromagnetic fields. The NPS for electricity transmission refers to the International Commission on Non-ionising Radiation Protection *Guidelines for limiting exposure to time varying electric magnetic fields (up to 300 GHz)* (Health Physics, 1998, 74(4): 494-

522) and recommendations from the World Health Organisation monograph *Environment Health Criteria* (No 238, June 2007).

[369] The ICNIRP guidelines have been adopted by the Ministry of Health. They establish the requirements assessing the potential biological or health effects of electric and magnetic fields.

#### ***17.4.6 NZS 4403:1976 Code of practice for the storage, handling and use of explosives (Explosives Code)***

[370] NZS 4403:1976 describes the essential requirements and precautions necessary for ensuring safety in the storage and handling of factory-made explosives and certain types of explosives mixed on site. This code of practice is relevant when considering blasting activities at quarry and other sites.

### **17.5 Kyoto Protocol**

[371] The Kyoto Protocol is an international agreement, applicable from 2004, to address global warming and delay climate change. It aims to reduce the total greenhouse gas emissions of developed countries (and countries with economies in transition) to 5 per cent below the level they were in 1990. New Zealand ratified the Protocol on 19 December 2002. New Zealand's obligation under the Kyoto Protocol is to reduce its greenhouse gas emissions to 1990 levels on average over the 2008-2012 commitment period, or take responsibility for any emissions over these levels.

[372] This obligation is relevant to the Board under Section 147B(2)(e) of the Act. However, it is difficult to see how granting resource consent for a project can achieve this goal. A consent is permissive only and Contact have made it clear to the Board that it has made no binding commitment to construct, or when it will do so. So, while we acknowledge that the construction of the project may assist, there is no certainty that the project will proceed. It is most unlikely it would assist in meeting any 2012 targets.

## **18 RESOURCE CONSENTS ASSESSMENT**

[373] We now move to consider the resource consents required for the wind farm, commencing with relevant effects of the construction activity.

## 18.1 Construction effects

### 18.1.1 Parameters

[374] Mr Meekan, a civil engineer retained by Contact, gave a summary of the features of the proposed wind farm as at 2010.<sup>26</sup> Adapting and updating this for alterations during the hearing, we understand the following refinements and essential features of the wind farm proposal:

Summary of Design Refinement Changes to Civil Design	
Design Element	Current (2010) Design
Number of turbines	168
Total footprint of the TCAs	198.7 Ha
Total length of access roads	95.4 km
Total cut volume	2,610,000 m <sup>3</sup>
Total fill volume	425,000 m <sup>3</sup>
Number of spoil disposal sites and total area	136
Total area of spoil sites:	128.5 Ha

## 18.2 Earthworks

### 18.2.1 Roding

[375] The design of access roads to the turbine sites is governed by the choice of the crane used to erect the wind turbines. Mr Meekan<sup>27</sup> said Contact Wind had made a commitment to use a narrow-tracked crane such as a DEMAG CC 2800, and this had enabled the width of the typical access roadway to be reduced to 7.5 metres, thus minimising earthworks associated with road construction. We note that the width of the main access road in Block C through Te Umukaraka Bush has been further reduced to 6 metres. To allow this reduction, the turbine erection crane would have to be de-rigged and transported in parts.

<sup>26</sup> Meekan, EIC at [23]

<sup>27</sup> Meekan, EIC at [132]

[376] A typical access road cross-section was shown in Mr Meekan's evidence.<sup>28</sup> Roads would be constructed to a maximum gradient of 17.6 percent. Maximum cut and fill batter slopes would generally be restricted to 12.5 metres high although there would be some departures from this (less than 0.5 percent of the total batter length) for various reasons associated with geographical constraints or avoidance of archaeological or ecological features at particular parts of the site. According to the evidence of Mr Alexander, the design slope for cut batters would be 1 vertical to 1 horizontal, and for fill batters the slope would be 1 vertical to 2 horizontal.

[377] The roading layout was shown on the plans appended to the evidence of Mr Prince. The primary design objective was to minimise the environmental footprint rather than necessarily provide the optimum road design from an engineering perspective.

### ***18.2.2 Improvements to public roads***

[378] Mr Galloway's evidence discussed the proposed improvements that would be made to public roads and we shall return to this later. These improvements would require earthworks to some degree. Mr Meekan, in his evidence<sup>29</sup> said that, after determining the likely cut and fill that would be required at each site, earthwork volume calculations showed there would be some 40,000 cubic metres of surplus cut material (allowing for bulking and other contingency factors) that would require disposal at adjacent turbine blocks. Mr Meekan concluded that there would be adequate disposal sites available.

### ***18.2.3 Culverts***

[379] The term *in-stream works* has been used by Contact Wind to refer to activities required to enable the wind farm access roads to cross streams. Culverts have been typically proposed for such works. The design of a typical culvert was shown in Exhibit Millais 9, attached to the evidence of Mr Millais. We note that most crossings are permitted activities under the Proposed Waikato Regional Plan and that culverts would be designed in accordance with the Environment Waikato *Best Practice Guidelines for Waterway Crossings*. Earthworks associated with culvert construction, if any, would be nominal.

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<sup>28</sup> Meekan, EIC at Exhibit 4

<sup>29</sup> Meekan, EIC at [183] and following

#### ***18.2.4 Turbine consent areas (TCA)***

[380] Each wind turbine would be constructed within a specified TCA. Vegetation and unsuitable topsoil would be removed and the required area levelled prior to excavation for turbine foundations. All excavated material would be removed from the TCA and either used in road construction or sent to a spoil disposal area.

[381] Within each TCA there would be a requirement to build a concrete turbine foundation and also a gravel crane pad to provide a level platform for the large crane that would be used to erect the turbine components. Design has been based on a nominal crane pad area of 33 x 20 metres. As well as providing a platform for the crane, the crane pads would also be used for the delivery and temporary storage of the turbine components. The crane pads would be surfaced with crushed rock aggregate and include perimeter drainage and storm water collection.

#### ***18.2.5 Spoil disposal***

[382] A surplus of cut material totalling 2.2 million cubic metres would need to be disposed at special spoil disposal sites. This is almost all from construction of access roads due to the preference for cuts over fills, which reduces the environmental footprint. 136 such sites have been identified covering a total area of 128.5 hectares. There has been a general shift made from an initial preference for disposal sites at the heads of gullies to broader and flatter areas, where site preparation is simpler, seepage zones can be avoided, and spoil placement can be more readily achieved.

[383] The plans appended to Mr Prince's evidence showed the locations of the spoil disposal areas in relation to each turbine block. The revised design provides sufficient spoil storage volumes within each block for all the spoil generated from that block. These areas are now shown in Volume 3A.

### **18.3 Erosion of soils during construction**

[384] Evidence concerning potential sources of erosion during construction work was provided by Mr Breese. On the wind farm site there would be a potential for wind and fluvial erosion during construction.

### ***18.3.1 Wind erosion during construction***

[385] Given that wind is a fundamental feature of a wind farm site, the prospect of wind erosion and the effects of wind during construction, and particularly earthworks, are matters that must be taken into account. According to Mr Breese,<sup>30</sup> the area where there is potential for wind erosion extends inland from the coastline over distances varying between 500 metres and 1,000 metres, depending upon the topography encountered. Further inland, and where soils, silts and clays occur, the soils are much less susceptible to wind erosion.

[386] Wind erosion during construction may result from:

- [a] excavation (cuts) to form turbine access roads and turbine pads;
- [b] fills to form turbine access roads; and
- [c] spoil disposal areas.

### ***18.3.2 Fluvial erosion during construction***

[387] Fluvial erosion arises from water running over disturbed ground. The factors influencing the potential for fluvial erosion are the area of disturbed land, volume of water, slope, and physical characteristics of the soil and subsoil. There is potential for erosion and subsequent generation of sediment from a range of construction activities including:

- [a] vegetation clearance;
- [b] topsoil stripping and stock piling;
- [c] excavation of material to form access roads;
- [d] turbine pad and foundation excavation;
- [e] cable installation;
- [f] run-off from access roads;

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<sup>30</sup> *Erosion and Sediment Control Management Plan Report*: Tonkin and Taylor, February 2010, at [3.2.1]

- [g] run-off from cuts and fills;
- [h] erosion of water tables;
- [i] run-off from spoil disposal areas;
- [j] run-off from laydown areas; and
- [k] installation of culverts and stream diversions.

[388] To identify areas where there is a potential for significant erosion, as required in the Waikato Regional Council *Erosion and Sediment Plan Preparation Guidelines*, a range of data was required concerning rainfall, geotechnical conditions, contour details, archaeological and ecological information and site conditions.

### ***18.3.3 Procedures to minimise erosion***

[389] A number of procedures have been proposed to minimise the potential for erosion and the generation of sediment during earthworks. Many of these are covered by the Waikato Regional Guidelines and have been incorporated into the Erosion and Sediment Control Plans (**E&SCP**). As described by Mr Breese in the Tonkin and Taylor Technical Report,<sup>31</sup> the following is an outline of what has been proposed and, where appropriate, these are covered by the final conditions:

- [a] Documents prepared as part of the E&SCP would be submitted to Waikato Regional Council for certification prior to commencement of any earthworks and construction.
- [b] Earthworks would not be conducted during the period 1 May to 1 September inclusive unless otherwise approved in writing by Waikato Regional Council. The construction site would be appropriately stabilised prior to 1 May of each year.
- [c] The contractor would be required to confirm that erosion and sediment control structures have been constructed in accordance with the E&SCP.

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<sup>31</sup> *Erosion and Sediment Control Management Plan Report: Tonkin and Taylor, February 2010 at p. 16*

- [d] A staged approach to construction would enable a similarly staged installation and commissioning of erosion and sediment control devices.
- [e] The final surface of spoil areas and fills would be designed to have similar contour characteristics as the surrounding land. Final shaping and smoothing would occur during re-spreading of topsoil and/or re-vegetation.

[390] Methods to avoid erosion and the generation of sediment have been proposed.<sup>32</sup> These principally focus on reducing the area that can produce sediment, or protecting surfaces that have potential to be eroded. Regular maintenance would be an important component in the success of such measures, which include:

- [a] pegging out of an area over which earthworks would be undertaken provides an opportunity to limit the footprint of the earthworks and subsequently reduce the potential for sediment generation;
- [b] providing diversion drains that can be used to divert water away from the top of cuts, and thus avoid erosion of the cut faces and limit the amount of water needed to be captured for treatment from a spoil disposal area. In some cases flumes can be used to transport the intercepted water and transport it over a fill;
- [c] placing channel armour (rock) in water table drains where gradients are less than 5 percent; and
- [d] providing flumes using flexible pipe that may be open or closed when there is potential for erosion from water running over ill surfaces.

#### ***18.3.4 Sediment control and treatment***

[391] Section 4.6 of the Technical Report prepared by Mr Breese sets out the options available for sediment treatment during access road and turbine construction, and access road use, to ensure that the required performance standards can be met. We discuss these below.

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<sup>32</sup> *Erosion and Sediment Control Management Plan Report*, Tonkin and Taylor, February 2010 at p. 17

[392] Conditions have been proposed that would require sediment control structures to be inspected on a weekly basis and also to provide for their decommissioning once they are no longer required.

#### *18.3.4.1 Sediment retention ponds*

[393] Sediment retention ponds are proposed to treat the run-off from areas greater than 0.3 hectare but less than 5 hectares. This would primarily be run-off from spoil disposal areas and laydown areas. Construction details for such ponds are specified in the Waikato Regional Council Guidelines.<sup>33</sup>

[394] The wind farm site has both free-draining material and poorly drained silty/clayey materials. It is proposed that the discharge, from sediment ponds in the free-draining soils, would be to pits to reduce the potential for creating concentrated flows and subsequent erosion. The discharges from ponds in silty/clayey material would be direct to natural drainage paths via an armoured channel if required. All weather access to sediment ponds would be required for maintenance purposes.

[395] Soils that are disturbed as part of earthworks can contain very fine colloidal material that does not settle out with conventional treatment methods. The addition of chemical flocculants destabilises the charges on colloidal particles in suspension, which promotes settlement. The design and operation of rain-activated systems would be guided by the Auckland Regional Council publication *The Use of Flocculants and Coagulants to Aid the Settlement of Suspended Sediment in Earthworks Runoff: Trials, Methodology and Design [draft] - June 2004 Technical Publication 227*. The design of the flocculation system would be undertaken by a suitably qualified person/(s). Consent conditions consistent with the ARC guidelines are in the final documents.

#### *18.3.4.2 Decanting earth bunds*

[396] Decanting earth bunds would typically be used to treat run-off from access roads that are located in areas where there are clayey soils, and for spoil areas with a surface area of less than 0.3 hectares. In the event of a rainfall event greater than the capacity of

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<sup>33</sup> Appendix C, Section 3.1

the bund, water would escape via an emergency spill way. Construction details for decanting earth bunds are specified in the Waikato Regional Council Guidelines 31.<sup>34</sup>

#### 18.3.4.3 *Sediment pits*

[397] Run-off from access roads in high permeability soils would be collected for treatment in sediment pits. Construction details for sediment pits are specified in the Waikato Regional Council Guidelines (Appendix C, Section 2.6).

#### 18.3.4.4 *Impoundment*

[398] Impoundment is the retention of stormwater within the working area. This is achieved by either temporarily bunding off the working area or digging sumps in the working area to retain stormwater within the works footprint. This procedure would be used during access road construction, prior to stabilisation. Water impounded by the bunds either drains away to ground or needs to be pumped out on to the surrounding land. Construction details for impoundments are specified in the Waikato Regional Council Guidelines.<sup>35</sup>

#### 18.3.4.5 *Silt fences*

[399] Silt fences provide a physical barrier to the surface movement of coarse sediment and soils. These would be built in accordance with the Waikato Regional Council Guidelines<sup>36</sup> modified as necessary to suit the windy nature of the site. The use of silt fences would be down-slope of soil windrows and soil stockpiles, across the toe of structural fills.

#### 18.3.4.6 *Vegetation strips*

[400] Vegetation strips are areas of pasture up to 10 metres long that can be used to treat runoff. The Board was told that their effectiveness in removing sediment has been reported to range from 50-90 percent, and effectiveness is influenced by slope angle,

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<sup>34</sup> Appendix C, Section 3.6

<sup>35</sup> Appendix C, Section 2.4

<sup>36</sup> Appendix C, Section 3.2

slope length, pasture composition and condition. As such, the use of vegetation strips is considered a polishing measure.

### ***18.3.5 Stabilisation measures***

[401] A range of stabilisation options have been proposed in the Technical Report attached to the evidence of Mr Breese.<sup>37</sup> These include:

- tracking and top soiling - placing top soil back over disturbed areas;
- straw mulching - applied with a tractor mounted machine that can also apply a glue, fertiliser and seed mix;
- geo binder - forms a stabilising matrix in the soil that eventually breaks down;
- geo fabric - used for immediate protection of some areas such as steep slopes and includes a product such as a coir fibre system;
- hydro-seeding;
- windrow formation; and
- aggregate placement - generally on road surfaces, turbine platform and laydown areas.

### ***18.3.6 Revegetation***

[402] The objective would be to achieve the long-term stabilisation of soil by establishing a ground cover that reduces the exposure of bare ground and minimises the impact of rainfall run-off. Conditions have been proposed that would require replanting of all cleared areas as soon as practical in turbine consent areas and along road batters and cuts within existing indigenous forests and scrubland sites, using eco-sourced indigenous grass and shrub species. Techniques proposed include hydro-seeding and seed drilling.

[403] The creation of access roads and turbine platforms within some turbine blocks would require removal of some indigenous vegetation. This is primarily in Blocks A, C

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<sup>37</sup>*Erosion and Sediment Control Management Plan Report*, Tonkin and Taylor, February 2010, at p. 27.

and H. The design has sought to minimise removal of indigenous vegetation. Where indigenous vegetation would be removed and re-vegetation is required, indigenous species would be used. Staged re-vegetation of indigenous species may also be used on access road margins, fills, cuts and spoil areas as long as access is available.

### ***18.3.7 Inspections, monitoring and reporting***

[404] The proposed consent conditions provide for a detailed regime of regular and frequent inspections, and reporting of all sediment control works.

[405] In-stream monitoring is proposed at the following sites:<sup>38</sup>

- (a) Waimai Stream;
- (b) Kaawa Stream;
- (c) Waikawau Stream;
- (d) Waikaretu Stream;
- (e) Tauterei Stream;
- (f) Te Umukaraka Stream; and
- (g) all other receiving waters.

[406] Unfortunately, there was inadequate evidence provided as to the actual location of the monitoring sites within these streams/waters. The final Regional Council Conditions identify the NZMG references for each site. In addition, the plans in Volume 3A identify the monitoring positions. No resource consents were sought for water discharges to these waters or their catchments.

### ***18.3.8 Evaluation of erosion and sediment controls***

[407] From the early stages of the Board of Inquiry it was apparent to us that the potential for erosion of soils during construction would be high given the works required, the soil types, and the nature of the topography. Mr M Hamilton, a witness for Tainui Aawhiro, referred to these concerns at some length in his evidence to the Board.

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<sup>38</sup> Breese, *Technical Report*, page 32 and following, Tonkin and Taylor, February 2010

[408] Contact Wind has provided an extensive range of procedures to minimise erosion and control of sediment. We note that these measures are generally consistent with the relevant Waikato Regional Council guidelines. We have concluded that the methods described in the evidence of Mr Breese to control erosion, together with the proposed monitoring regime, are intended to ensure that any effects do not exceed permitted limits.

[409] As we noted earlier, Contact Wind has not sought a discharge consent for the works and, accordingly, all discharges must achieve the relevant permitted activity standards. There are natural waterways, which runoff eventually reaches, but there are many opportunities to control and manage sediment levels. The consequences of failure could be significant, including prosecution. Nevertheless, if applied with diligence and maintained regularly, the methods should work. Multiple redundancy of control mechanisms should reduce sediment levels as runoff flows down towards the streams. Thus the design standard for the sediment controls are intended to achieve compliance with permitted standards. These are supported by Supplementary Environmental Management Plans so that most runoff will need to travel through more than one control mechanism.

[410] Overall we consider Contact Wind's approach to earthworks in connection with roading, stream crossings and turbine consent areas is satisfactory with the proposed conditions and alternatives discussed. Such approach, in our view, would ensure minimal adverse effects during construction and in the long term should lead to clear improvements in water quality and vegetative cover.

## **18.4 Water supply**

[411] During construction of the wind farm there would be significant demands for water supply. Once built, however, the ongoing requirements for water would be negligible. The demand for water and the potential sources are discussed in the sections that follow. Here, we have relied mainly on the evidence of Mr Millais.

### ***18.4.1 Water demand***

[412] Mr Millais, in his evidence,<sup>39</sup> lists the following principal demands for water:

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<sup>39</sup> Millais, EIC at [16]

- [a] 15 cubic metres/day potable water for the construction workforce;
- [b] 20 cubic metres/day for quarry activities; and
- [c] 80 cubic metres/day per turbine foundation pour, for concreting.

[413] Smaller amounts of water would also be required for dust control, basecourse construction, and during earthworks remediation such as hydro-seeding. The volumes required are weather dependent.

[414] Modelling carried out by Mr Millais<sup>40</sup> indicated a maximum daily non-potable demand of 964 cubic metres, and a maximum 30-day average non-potable demand of 630 cubic metres/day.

#### ***18.4.2 Potential water sources***

[415] Mr Millais considered that the viable sources of water for construction of the wind farm are:<sup>41</sup>

- [a] the four northern streams, namely the Waikawau, Kaawa, Waikaretu and Waikorea Streams;
- [b] the Whitford Quarry Spring, which is within the Waikaretu Stream catchment; and
- [c] on-site storage ponds filled by run-off from their catchments, and/or by pumping from one of the nominated stream takes.

[416] Following consultation with Ngaati Tahinga, proposals to use the Whitford Spring for potable water were abandoned and this source is not considered further.

#### ***18.4.3 Stream supply***

[417] The main issue concerning water supply from streams is determining an acceptable extraction rate. Extraction of less water would have no adverse effects. Mr Millais described the meaning of Q<sub>5</sub>, which was referred to several times in his evidence.<sup>42</sup>

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<sup>40</sup> Millais, EIC at [19]

<sup>41</sup> Millais, EIC at [31] and following

<sup>42</sup> Millais, EIC at [33]

A key gauge of stream low flow is known as “Q<sub>5</sub>” or the “one in five year 7-day low flow”, which is the stream flow at any point for which there is a 20% chance in any one year that flow would be equal to or lower than this flow, calculated from the lowest seven consecutive days of flow in each year.

[418] The proposed maximum take from a stream by the wind farm project would be 10 percent of Q<sub>5</sub>, less any other authorised takes in the catchment. This is a discretionary activity under Rule 3.3.4.16 of Proposed Variation No 6 of the Waikato Regional Council Plan. We note that, although this particular rule is presently under appeal to the Environment Court, the requirements of Variation 6 are more restrictive than would otherwise be allowed under the Transitional Regional Plan.

[419] The proposed water takes have been based on flow gauging and hydrological analysis conducted by Waikato Regional Council. Proposed water takes from the four streams are:<sup>43</sup>

Waikawau – 104 cubic metres/day

Kaawa - 94 cubic metres/day

Waikaretu - 79 cubic metres/day

Waikorea - 96 cubic metres/day

[420] In order to safeguard against any adverse effects on the ecological values of the Waikawau, Kaawa, Waikaretu and Waikorea streams, Mr Millais recommended that all abstractions of water for the wind farm cease if the seven-day moving average flow of the Naike Stream at Kaawa School Road is equal to or less than the 38 litres per second environmental flow at that location.<sup>44</sup> Restrictions on water takes were also proposed to reduce any heat issues that might otherwise arise during times when stream flows are low and stream temperatures are above 20°C.<sup>45</sup> Conditions covering monitoring of water takes have been proposed as required under Policy 12 of Proposed Variation 6.

#### ***18.4.4 Storage ponds***

[421] The total available flow from the four streams is 373 cubic metres/day, which would not be sufficient to meet an estimated demand of up to 964 cubic metres/day. It is

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<sup>43</sup> Millais, EIC Table 1 at 10

<sup>44</sup> Millais, EIC at [47]

<sup>45</sup> Millais, EIC at [48]

therefore proposed to supplement the stream sources using on-site water storage dams and ponds. These would be constructed as a permitted activity under Rule 3.6.4.4 of the Waikato Regional Plan (as amended by Proposed Variation 7).

[422] According to Mr Millais:

Storage dams meeting the permitted activity criteria will have a negligible effect on stream low flows, because there is no stream flow from their relatively small catchment areas during dry periods. Dams meeting the permitted activity criteria are also not "large dams" as defined under the Building Act 2004.<sup>46</sup>

[423] Sites for fourteen storage ponds that would meet the permitted activity criteria have been identified. The proposed ponds are shown on the plans.<sup>47</sup> The dams would be constructed by stripping topsoil, undercutting as necessary to provide a stable base, installing a trench to provide a key, placing compacted fill, finishing with gravel and topsoil layers, and grassing. Appropriate spillways would be provided and construction cross-sections were shown.<sup>48</sup>

[424] Mr M Hamilton, who was a witness for Tainui Aawhiro, identified the importance of the dam spillways and the potential for adverse effects to occur if these are not managed properly. He was concerned about the lack of spillway flow data and the lack of any engineering requirement for erosion protection around the pond margins. We note here that Mr Hamilton said Tainui Aawhiro sought input into any review of conditions concerning water supply. These matters are addressed in the final conditions, by requiring consultation with the Kaitiaki Liaison Group on spillway design and other water management aspects.

#### ***18.4.5 Our conclusions***

[425] Having examined the evidence before us, we are satisfied that sufficient water to meet the proposed project requirements can be supplied and that the stream extraction rates proposed, together with an appropriate monitoring regime, would ensure that any adverse effects are managed and acceptable.

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<sup>46</sup> Millais, EIC at [55]

<sup>47</sup> Millais, EIC Exhibit 1 and 2, and scheduled on Exhibit 6

<sup>48</sup> Millais, EIC Exhibit 7

[426] This may mean that at times of low flow, water will need to be imported and the applicant is confident that this could be done within the traffic movement constraints proposed. We accept this.

## 18.5 Rock aggregate

### 18.5.1 Aggregate demand

[427] The turbine access roads would require crushed rock for the carriageway and AP60 quality drainage material in the shoulders. Similarly, the crane pads would also require crushed rock to form a protective pavement and for drainage purposes. The public road upgrading work would also require pavement materials (basecourse and sub-basecourse) for reinstatement and occasional maintenance during construction. These activities comprise some 70 percent of the total aggregate demand. Smaller amounts would also be required for sub-station yards, general site drainage and toe material for fills. Crushed rock aggregate would also be used in concrete manufacture along with water, sand and cement.

[428] Mr Meekan's evidence provided us with a summary of the aggregate demand for construction of the proposed wind farm:<sup>49</sup>

Aggregate Type	Total Volume Required (m <sup>3</sup> )
Drainage rock (AP60)	45,000
Sub Basecourse	360,000
Basecourse	165,000
Concrete aggregates	75,000
Concrete sand	60,000

### 18.5.2 Aggregate supply: Whitford Quarry

[429] Since the volume of rock produced during site earthworks would fall far short of the amount required to construct the wind farm, other potential sites had to be identified.

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<sup>49</sup> Meekan, EIC at [175]

According to Mr Alexander<sup>50</sup>, basalt of the Kerikeri Volcanics, which is found in the Whitford Quarry, would provide a suitable source of good quality aggregate for roading and concrete-making purposes, sufficient to meet project demands.

[430] Operation of the Whitford Quarry, which is currently closed, would result in a number of adverse effects mainly relating to heavy traffic (aggregate transport) and blasting, both of which would lead to consequential noise and dust effects.

[431] Although the provision of rock aggregate would require opening the Whitford Quarry, we heard no evidence to suggest that rock aggregate, sufficient to requirements for the proposed wind farm, could not be supplied from Whitford Quarry.

[432] The key concerns related to truck movements and impacts on Whitford Spring are discussed later.

## **18.6 Traffic**

### ***18.6.1 General***

[433] The proposed wind farm would be constructed in a rural area that is serviced by a network of local roads that typically carry relatively few vehicles. While this means that the number of people using the roads that would be affected by transportation requirements during construction of the wind farm would be low, key roads to the site would require upgrading to enable the transport of materials and large wind farm components. There are, nevertheless, amenity and safety issues that were of concern to some submitters and need to be addressed. Noise and dust effects, which are also amenity issues, are discussed later.

[434] Evidence concerning transportation and traffic effects was provided by Mr Galloway. This referred mainly to the effects during construction as the long-term operating requirements of wind farms involve very little traffic.

[435] Mr A Gray, who provided traffic evidence for both Franklin District and Waikato District Councils, generally agreed with Mr Galloway's assessment and made several suggestions concerning the proposed conditions relating to infrastructure and safety. He

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<sup>50</sup> Alexander, EIC at [96] and Technical Report at [7.3.1]

concluded that, subject to his suggested minor modifications to the conditions, any adverse effects should be no more than minor.

### ***18.6.2 Transportation routes***

[436] State Highway 1 (**SH1**), which generally runs parallel to the site of the proposed wind farm, is some 30 km away on the eastern side of the Waikato River. SH1 provides connections to the Ports of Auckland and Tauranga, one or both of which would receive turbine components.

[437] There are well-constructed collector roads in the area between the wind farm and SH1 and these principally comprise:

- [a] State Highway 22 (**SH22**);
- [b] Tuakau Bridge-Port Waikato Road;
- [c] Waingaro Road; and
- [d] parts of Glen Murray and Rotowaro Roads.

[438] Servicing these collector roads is a network of secondary public roads within the proposed wind farm area. These are classified in the Franklin and Waikato District Plans as local roads and include a mix of sealed and unsealed roads that traverse hilly country and are often narrow with tight corners.

### ***18.6.3 Existing traffic***

[439] Mr Galloway has broadly described existing traffic flows in the region as follows:<sup>51</sup>

- SH1 (Waikato Expressway): 20,000 vehicles per day;
- collector roads (SH22 and others): 500 - 1,500 vehicles per day; and
- local rural roads: 45 - 200 vehicles per day.

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<sup>51</sup> Galloway, EIC at [23] and following

[440] Towards the centre of the proposed wind farm area, traffic flows of around 50 vehicles per day comprise, more or less exclusively, a small number of farmers and quarry (Ravensdown) users, with little through-traffic component. Mr Galloway notes that these roads are also regularly used for shifting stock.

[441] The effect of construction traffic on school buses and the safety of bus passengers were matters raised by some submitters. Mr Reeves spoke of his concern about children travelling to and from Te Akau School, and Mr Walker presented a submission on behalf of Waikaretu School. Mr Galloway noted that typical drop-off times for school pupils are 7:30 to 9:00 am with pick-up times between 2:30 and 4:30 pm. Many parents have to drive their children part of the journey to meet the school bus. Other concerns include playgroup meetings and children cycling to school. Mr Galloway said these matters had been considered in selecting transport routes and developing criteria for the proposed Construction Traffic Management Plan (CTMP).

#### ***18.6.4 Traffic generation***

[442] According to Mr Galloway's evidence<sup>52</sup>, wind farm traffic would consist of the following categories:

- [a] construction materials and plant;
- [b] over-dimension and overweight turbine components;
- [c] construction personnel;
- [d] operations and maintenance traffic once constructed; and
- [e] sightseeing/visitor traffic.

[443] The first three categories in the above list provide most of the traffic. To cater for this, Mr Galloway recommended that sections of some public roads be declared Construction Zones, particularly to allow larger articulated dump trucks to be used.<sup>53</sup> Mr Galloway was of the opinion this would enable more efficient movement of aggregates, and construction of the public road improvements within a safe operating environment for all road users. We discuss construction zones further, below.

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<sup>52</sup> Galloway, EIC at [51]

<sup>53</sup> Galloway, EIC at [54]

[444] Throughout the construction period, standard-size trucks would also bring various other materials and consumables to the site such as potable water, concrete sand, cabling, thermal backfill, culverts, fencing, and fuel.

[445] Compared with the wind farm construction, traffic associated with construction of the transmission lines would be light, and equivalent to around 150 deliveries per km of double circuit 220 kV transmission (External) line, and less than 10 deliveries per km of single circuit 220 kV (Internal) line or 33 kV reticulation.

### ***18.6.5 Oversize loads***

[446] The over-dimension and overweight turbine components consist of steel tower sections, nacelles (containing generator and gearbox) and carbon fibre or fibreglass blades. In addition, seven transformers would be required for the three substations. These loads would be transported by haulage specialists operating under specific permits issued under *The Land Transport Rule 41001 - Vehicle Dimensions and Mass 2002*.<sup>54</sup>

[447] The rules provide for, among other things, active traffic control and piloting. There should be no need to close roads for the transporters and we are satisfied that delays and inconvenience to other road users can be kept to a minimum. Other transport options such as rail and air were considered by Contact, but found to be unsuitable due to the size of the components. Because of the size of the wind farm, barging by sea to a temporary off-loading facility offered no practical advantages.

### ***18.6.6 Construction zones***

[448] According to Mr Galloway<sup>55</sup> the establishment of Road Construction Zones is provided for in the *Heavy Vehicle Regulations 1974*. These regulations provide for specific sections of public roads to be declared Construction Zones, which among other things allows oversize vehicles to use the roads without the need for special permits, thus providing construction efficiencies where public safety can be maintained.

[449] Within the wind farm area, Contact Wind has proposed that Construction Zones would be established on Port Waikato-Waikaretu Road, Pukerewa Road, and Te Akau

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<sup>54</sup> Galloway, EIC at [60]

<sup>55</sup> Galloway, EIC at [83] – [84]

Coast Road. These are low-volume roads mainly used by local residents and, during the construction period, these zones would be actively managed to control the use of the roads and ensure public safety. Details of the Construction Zones and their management would be included in the CTMP but would require approval of Waikato District Council.

[450] Mr Galloway considered that inconvenience to regular road users, including residents and school bus drivers, could be minimised by induction into site safety protocols and provision of two-way radios or some other appropriate form of wireless communication for the duration of construction, enabling them to move freely through the Construction Zones.<sup>56</sup> Controlled gatehouses would be established at either end of the Construction Zones, and guides would be available for any occasional visitors to the area. Strict driver protocols for construction traffic would apply within the Construction Zones to ensure that traffic movement is safe, and affords priority to non-project traffic, such as residents and the school buses.<sup>57</sup>

### ***18.6.7 Transportation route assessment***

#### *18.6.7.1 State highway routes*

[451] According to Mr Galloway's evidence,<sup>58</sup> compared with the existing traffic flows and available capacity of the state highways, the level of traffic generation from the wind farm would be relatively small and can be readily absorbed. The only aspect of additional traffic on the state highway needing separate assessment is the addition of oversize loads.

[452] From the Port of Auckland, the usual route to the wind farm site would be via SH16, the Auckland Southern Motorway and the Waikato Expressway. Over-dimension traffic would not be able to travel on the Auckland Southern Motorway and, according to Mr Galloway<sup>59</sup>, would use a 35 km long alternative route along Parnell Road, Broadway Crescent and Great South Road, eventually connecting to SH1 at Bombay. Given the nature of the urban environment along this route, oversize loads would be restricted to night-time hours. From Bombay, SH1 is well able to accommodate such loads.

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<sup>56</sup> Galloway, EIC at [85]

<sup>57</sup> Galloway, EIC at [86] – [87]

<sup>58</sup> Galloway, EIC at [97]

<sup>59</sup> Galloway, EIC at [98]

[453] The state highway route from Tauranga (SH29, SH1 and SH1B) contains less impediment than does the route from Auckland. Although there would be time constraints on the transport of oversized loads, both in urban areas and on the Waikato Expressway, we accept Mr Galloway's view that the state highways along the routes from both ports would be able to accommodate wind farm construction traffic without unduly affecting other road users.<sup>60</sup>

[454] Several submitters were concerned about restrictions on the Tuakau Bridge, over the Waikato River, leading to queuing delays. We have concluded that the use of the State Highway by Contact is reasonable and any constraints are matters that can be minimised by the adoption of an appropriate TCMP.

#### 18.6.7.2 *District road routes*

[455] Mr Galloway has assessed these routes in some detail in his evidence.<sup>61</sup> We do not propose to repeat here all that he said. However, we note that Mr Galloway has identified many parts of the district road network where roading improvements would be required to accommodate wind farm traffic. These include widening and realignment of curves to improve turning radii and sightlines.

[456] A particular point of concern to some submitters is the potential effect of construction traffic on the Port Waikato School Camp, which is located on the northern route to the wind farm site, just to the south of the Port Waikato township. Mr Galloway noted that:<sup>62</sup>

The camp has facilities on both sides of the road, and makes use of overnight camp sites further south on Port Waikato-Waikaretu Road, and the range of educational and recreational opportunities at the Port Waikato beach to the north. As such, when the camp is in use, children are regularly on the road running through the camp ...

[457] To provide for the safe movement of construction traffic in the vicinity of the school camp, Contact Wind have offered a package of safety improvements, including driver speed protocols, in the CTMP.

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<sup>60</sup> Galloway, EIC at [107]

<sup>61</sup> Galloway, EIC at [108] et seq

<sup>62</sup> Galloway, EIC at [124]

[458] The submission from the Board of Trustees at Waikaretu School, and also that from S and D Paulsen, raised concern about the number of pupils who cycle to school. Mr Galloway noted that this would require particular attention in the CTMP, which would include speed restrictions for construction traffic both immediately adjacent to the school, and also on the adjoining sections of roads when children are cycling or walking to or from school. The CTMP would include similar provisions with respect to the Te Akau and Waingaro Schools.

[459] Several witnesses suggested the use of Waikaretu and Te Akau Roads were inappropriate given that schools were located on them. Mr Reeves, a resident, suggested Waimai Valley as an alternative. Under questioning, Mr Galloway said that the pavement condition of Waimai Valley Road was not particularly good as it would require more in the way of upgrade and protection, and the alignment is not as good as that offered by the Te Akau route.<sup>63</sup> We also acknowledge that there appear to be sections of Waimai Valley Road that do not appear to follow the legal alignment. Acquisition could be both difficult and protracted.

[460] Several submitters referred to the importance of the Rally of New Zealand and also trail-rides, which provide fundraising opportunities for the local communities. Appropriate measures would be included in the CTMP including road closures (in the case of the car rally) and a mix of restrictions on vehicle types, routes and speed.

[461] The regular use of roads by heavy vehicles in construction zones is expected to cause accelerated deterioration of the pavement. Mr Galloway has recommended that Contact Wind maintain these roads during the construction period and leave them in their pre-construction condition, or better, once construction has been completed.

#### ***18.6.8 Construction traffic management plan (CTMP)***

[462] We have referred to the CTMP a number of times. Mr Galloway referred to this in his evidence as:<sup>64</sup>

... a key component of the management of traffic effects from a construction project of this nature. A plan would be prepared for each stage of the project by a Chartered Professional Engineer with appropriate experience in construction

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<sup>63</sup> Transcript page 592

<sup>64</sup> Galloway, EIC at [178]

traffic management, in consultation with the contractor, the Community Liaison Group and the Councils. A CTMP would be submitted to the Councils for endorsement before each stage of physical works begins.

[463] A CTMP would need to particularly consider impacts on the community facilities and schools. In addition the school bus routes, if impacted by the construction traffic, would need to be specifically provided for in the CTMP to avoid or minimise risks and affects. This might include making specific arrangements for pick-up and drop-off of children. These are matters that might be addressed in consultation with the Community Liaison Group.

[464] Copies of the CTMP are to be made available to stakeholders, including residents within the wind farm area and the Community Liaison Group, in order to keep them fully aware of how and when the project would affect the roads they use. The CTMP would be updated regularly to incorporate such things as changes in the construction schedule.

[465] Details of the CTMP and its contents were described in some detail in Mr Galloway's evidence. We are satisfied that the conditions and measures proposed would minimise any adverse effects of construction traffic. The Draft Decision and Report recorded our concern with the use of Waikaretu and Te Akau roads as we were unconvinced that Waimai Valley Road had been adequately assessed. We concluded that Contact Wind should review the use of Waimai Valley Road. If, on review, Waikaretu and Te Akau roads were to be used during school transport periods, further consideration was to be given to specific speed restrictions or managed traffic movement to increase pupil safety if consent was otherwise approved. For example, this might include an adult traffic warden on duty at the school between 7.30 and 9.00am and 2.30 and 4.30pm, paid by Contact. The final commentary from Contact reiterates their decision to utilise Waikaretu and Te Akau roads, although they have now adopted several of the Board's suggestions for improved traffic management. Extensive commentary was received on this aspect of the Draft Decision and Report. We acknowledge the very real concerns of residents and agree that the concern relates to both the operation of the school itself and also in relation to children travelling to and from school. We also recognise the interconnection with the proposed construction zones and the need to ensure that such construction zones increase traffic and pedestrian safety. We conclude, by majority, that Waikaretu Road and Te Akau Road South may be utilised for construction traffic, subject to an improvement to the district conditions to require:

- [a] Signs at the nearer of approximately 3km or the junction with a major road advising that there are likely to be school children in the area and extra care needs to be taken.
- [b] LED notification signs at the same positions, limiting construction traffic to 40 km/hour between 7:00am - 9.00am and 2.30pm – 4.30pm on every school day.
- [c] An on-site Traffic Management Officer, paid for by the consent holder, to facilitate the safety of school children when construction traffic is present on the roads passing the school during drop-off and pick-up times.

The conditions of consent have been amended to reflect this.

#### ***18.6.9 Provision for sightseers***

[466] Contact Wind has acknowledged<sup>65</sup> that construction of the proposed wind farm would attract sightseers wishing to stop and view the project. Experience at other wind farms, such as Te Apiti, suggests that an average of about 130 cars a day may visit during the initial stages. This volume could be expected to taper off to a few vehicles per day during the later stages of construction and post construction.

[467] Mr Galloway has recommended<sup>66</sup> that temporary viewing areas be provided for each stage of the project and, once construction has been completed, a permanent viewing area be established next to Turbine E20. We accept that conditions can be imposed, should consent be granted, to provide for adequate facilities (signage and parking) at each viewing area, and that the effects would be minimal.

#### ***18.6.10 Our evaluation of traffic effects***

[468] While, during the construction period, there would undoubtedly be inconvenience from time to time to local residents who necessarily use the local roads affected by construction traffic, we generally accept the extensive evidence provided by Contact Wind on these matters. We are generally satisfied that any adverse effects can be

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<sup>65</sup> Galloway, EIC at [229] and following

<sup>66</sup> Galloway, EIC at [234] and following

minimised through the use of a detailed CTMP, and that conditions have now been imposed to ensure that this would be the case.

[469] From the evidence presented to us, we accept that the State Highway routes to the wind farm site, from the ports of both Auckland and Tauranga, are well able to cope with construction traffic and, particularly, transport of the large turbine components.

## **19 ECOLOGICAL EFFECTS**

### **19.1 General**

[470] We now consider the very detailed evidence presented by Contact Wind and submitters on this topic, the possible adverse effects of the wind farm on indigenous terrestrial fauna and flora and aquatic fauna, our conclusions, and our reasons for them.

[471] Throughout the course of survey and analysis of the wind farm site and possible effects, ecologists representing Contact Wind, DOC and the Councils have caucused and worked together constructively. Differences of opinion were held but the rigorous testing, debate and review resulted in a robust analysis of issues. Through the course of the 2010 hearing, caucusing continued and the Board received the combined advice from a broad range of very competent experts.

### **19.2 Indigenous vegetation**

#### ***19.2.1 Existing vegetation cover***

[472] The proposed wind farm is within the Raglan and Meremere Ecological Districts and the Tainui and Waikato Ecological Regions. Prior to the arrival of humans most of the area of the wind farm was forested. Since European occupation and development for pastoral farming, over the last 130 years or so, sparse and scattered remnants of that original forest persist. Many remaining plant communities are heavily degraded. The remnant cover of terrestrial indigenous vegetation in the Meremere Ecological District is assessed at 9 percent, which is below the threshold 10 percent thought prudently needed for sustainability, and is regarded as a highly modified landscape. The Raglan Ecological District has more indigenous vegetation remaining in relative terms but is, nevertheless,

still regarded as a highly modified landscape by ecologists. Seventeen percent of the original indigenous terrestrial vegetation remains.

[473] There are some larger remnants including kanuka (*Kunzea ericoides*) scrubland forest patches throughout the wind farm area. The most extensive remnant is Te Umukaraka Bush, known by local farmers as the ‘*Thousand Acre Bush*.’ Other remnants are scattered throughout the farmland, some of which are fenced, some are unfenced and grazed by stock, most are browsed by pest species including pigs, goats and possums. Some remnants have been sprayed relatively recently with herbicide and are in poor condition. There appears to be no control of native vegetation clearance in the Franklin District Plan and no active management requirements in the Waikato District Operative and Proposed Plans, although consents are required for certain clearance activities on farm land. The dominant land cover is exotic pasture species. Exotic weed species such as gorse, pampas and woolly nightshade also occur in expanding patches.

[474] Rangikahu Bush, Natural Conservation Area Number 43, is shown on the OWDP planning maps. This is described in planning documents as Coastal Forest, typical of region. This Nature Conservation Area was identified by Ms D’Aubert for Waikato District Council<sup>67</sup> and Mr Chrisp, for Contact Wind. However, neither the ecologists nor the landscape architects recognised the area, which they identified as Te Kotuku Bush, as a Natural Conservation Area. For example, Mr Kessels, in addressing impacts on Section 6(c) indigenous vegetation, considered the clearance proposed in Te Kotuku Bush.

[475] Rangikahu Bush is affected by Block H turbines, particularly Turbines H001-005 and H006 to H009. The proposed development of these TCA’s and access roads would have the effect of clearance of 6.02 hectares of indigenous vegetation. The total bush stand in this area (although not necessarily the area of the Natural Conservation Area, which may be different) is some 292.22 hectares. This amounts to clearance of 2.03 percent of this area, although some involves what Mr Kessels describes as ‘core’ bush. The mitigation and offset BRES proposals address the effects on this area, in conjunction with the other affected Section 6(c) vegetation.

[476] Indigenous vegetation is important for a number of reasons but most particularly as part of the natural New Zealand ecology of indigenous plant communities and ecosystems valued for their intrinsic qualities, as specific plant species and as habitat for

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<sup>67</sup> D’Aubert EIC at [25] – [27]

indigenous fauna. Indigenous vegetation varies in characteristics by ecological district and region, as well as altitude and latitude. The characteristics of plant communities in a district or region contribute to the perception of sense of place. The diminished remaining cover, as well as the very low proportion of most vegetation or habitat types in each of the relevant ecological districts, is one reason why removal of indigenous vegetation is an issue for the wind farm proposal.

[477] The location and analysis of indigenous vegetation found in the wind farm area was originally undertaken based on a literature review, and aerial geographic information system (GIS) mapping and field surveys. Having identified the location of indigenous vegetation Mr G Kessels, an experienced ecologist, determined its significance based on the criteria in the Regional Policy Statement in conjunction with his own best practice guidelines.

[478] Concerns of the Board during the First Hearing in 2009 included the lack of accurate mapping, which gave rise to doubts about the extent of possible adverse effects on vegetation, as well as gaps in information. Over the 16-month adjournment period more accurate maps were prepared and more detailed investigations were made of indigenous vegetation areas. In addition, design and layout changes were made, particularly to access road widths and extent, which reduced the amount of vegetation clearance required by half. Nevertheless, there were still some worrying gaps in information. While indigenous vegetation was identified, the relationship of patches and possible corridors was not. The area of good quality podocarp forest adjacent to Te Umukaraka Bush on the Grey property only came to light after questioning.

[479] The mapping and significance assessment was further refined through caucus meetings with the DOC ecologist. Mapping was restricted to within 200 metres of any proposed works and/or contiguous with directly affected vegetation types but was undertaken in more detail and with greater accuracy. Fourteen indigenous vegetation communities were identified and described. As a result of this review process, the number of indigenous vegetation areas affected by the proposed wind farm infrastructure was reduced from 56 to 11.

### *19.2.2 Classification of indigenous vegetation*

[480] The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna is an issue that we must recognise and provide for as a matter of national importance in terms of Section 6(c) of the Act. There was dispute among the ecologists as to the appropriate criteria or factors that should be taken into account in assessing which vegetation was significant. The Waikato Regional Policy Statement (**RPS**) provides criteria for identifying sites of significant indigenous vegetation. Following assessment using the RPS criteria a further evaluation was made by Mr Kessels using reference to the Norton Roper-Lindsay criteria and his professional judgement. Adopting this method, Mr Kessels distinguished both core Section 6(c) significant indigenous vegetation and what he termed buffer vegetation. Mr M C Smale, who peer reviewed the survey and analysis undertaken by Mr Kessels, particularly the classification and assessment of the significant indigenous vegetation, also applied both the RPS and Norton Roper-Lindsay criteria. However, there was dispute about how Mr Smale had undertaken this work and it appeared that he had confused or misapplied documents. Mr Smale was not helpful in responding to the Board's questions.

[481] The Board preferred the evidence of Mr W B Shaw, who appeared for DOC, on the method of classification of significant indigenous vegetation. He adopted the RPS criteria and worked with the Contact Wind ecologists to assist in refining vegetation mapping. The reason for our preference is that there is no statutory basis in the relevant regional or district plans for applying other criteria. In addition, there seemed inconsistent approaches to applying the Norton Roper-Lindsay criteria between Mr Kessels and Mr Smale. The outcome of this is that there was dispute about the character and extent of the Section 6(c) vegetation. One aspect of this dispute focussed on how much of the buffer vegetation should be identified as significant vegetation.

### *19.2.3 Significant indigenous vegetation*

[482] Notwithstanding this dispute, evaluation and refinement of the proposal continued, with DOC and Contact Wind working cooperatively on field assessment. Significant vegetation included areas that had been specially set aside by statute, covenant, or had been recommended for protection by such agencies as the Queen Elizabeth II (**QEII**) National Trust.

[483] Design refinement set out to avoid significant indigenous vegetation by modifying access tracks, minimising encroachment with fill, and removing a turbine. Eleven areas remained potentially affected. These were mapped using the GIS software Tatuk. The main areas were identified as Te Tehe Bush, which is immediately north of Block A, Te Umukaraka Bush, where Block C (as well as transmission lines) is proposed, and Rangikahu Bush, where Block H is proposed. Other smaller fragments of significant vegetation including conifer-broadleaf forest, which is under-represented in Waikato, were also potentially affected. The outcome of the dispute about the identification of significant indigenous vegetation did not prove so important when analysis and remediation proposals were refined, as all indigenous vegetation cover affected was assessed and included in survey and evaluation information, and provided for in mitigation proposals.

[484] We note that ecology field work and evidence was prepared well before PC14 became operative. We see no need to re-evaluate the matter as all indigenous vegetation cover affected was considered by the ecologists.

[485] After further refinement the 550 hectare area of Te Tehe Bush was excluded from potential effects of the wind farm. The areas that remain potentially affected by vegetation clearance are the edge of a bush stand at Turbine A25, forest and bush margins affected by tracks and turbine sites at Te Umukaraka Bush, the buffer zone of two bush stands in Block E, vegetation at Rangikahu Bush, which would be affected by some Block H turbines, and the buffer areas of bush between turbines D8 and D9. Mr R Smith referred to the Waikorea Stream wetland of 291 hectares as well as the Opuatia wetland. Whilst we understood these two areas may be regarded as significant vegetation and habitat, because only a small proportion of original wetlands remain, these would not be affected by the wind farm. Of the total surveyed area of over 2,300 hectares of significant vegetation, (including other areas of significant indigenous vegetation identified in the wind farm area), comprising forest, coastal sedgeland, flaxland and raupo wetland, most would be unaffected.

[486] Proposed indigenous vegetation clearance to enable formation of access tracks was reduced by half at the time of the commencement of the second hearing, and comprised 13.8 hectares in the wind farm area, of which some 7.8 hectares was assessed as being significant vegetation. Buffer or setback areas of 10 metres between sensitive areas were established, as well as 50 metre '*cautionary zones*' to minimise effects. The

13.8 hectare sum also includes areas of proposed vegetation clearance on public roads of 0.53 hectares. These areas contain no significant vegetation, mainly being small patches of re-growth.

#### ***19.2.4 Effects on indigenous vegetation***

[487] The areas of vegetation clearance on Blocks A, C and H were assessed in some detail. The overall loss of vegetation was calculated to be less than 0.1 percent of the remaining primary, logged forest, and secondary forest units within the Raglan Ecological District. The majority of vegetation removal proposed is for constructing or widening vehicle access tracks. Under a quarter of the removal would be for turbine and spoil sites. There are also some small scale effects of incursion into seeps and wetlands, which were not identified as having significant vegetation. Three hectares of the proposed forest clearance is of coniferous broadleaf forest with the remainder being manuka and kanuka dominated vegetation.

[488] In addition to the loss of vegetation, the potential negative edge effects were addressed, particularly desiccation, fragmentation of patches and risk of weed incursion and wind throw. While edge effects were thought in most places to be unlikely to extend more than 5 metres into scrub, where there were clearance areas on exposed hilltops or where high stock numbers were likely to inhibit establishment of mitigation plantings, greater risk of edge effects was acknowledged. The overall area calculation of edge effects was assessed as being 35.2 hectares. Therefore we calculate the area of vegetation potentially affected by clearance, edge effects, or infilling on the wind farm, to be in the order of 50 hectares, of which 8.1 hectares was assessed as significant vegetation by Contact Wind's ecologists. The loss of biodiversity values arising from the proposed direct removal of some 13.8 hectares of vegetation were assessed by Contact Wind experts as being relatively permanent because, although replanting and regeneration is planned to address edge effects, some areas would remain clear of vegetation over the life of the wind farm. Weed spread and incursion was noted as a critical aspect of the project.

[489] Evidence given by Contact Wind and Contact Energy was that, overall, the clearance of indigenous vegetation would not compromise the long-term sustainability of the affected stands (whether identified as significant vegetation or otherwise). Although the total area of indigenous vegetation was proposed to be reduced by clearance prior to mitigation, the limited amount of clearance at each site would not significantly affect the

viability and ecological integrity of the individual forest stands involved. This was not seriously disputed, although DOC experts were concerned about fragmentation of the forest and weed incursion and sought care in management of the clearance process and vegetation re-establishment, and mitigation to compensate for the loss of indigenous vegetation.

### ***19.2.5 Mitigation of effects on indigenous vegetation***

[490] In addition to mitigation through Biodiversity Remediation and Enhancement (**BRES**) proposals a detailed programme of ecological management measures are provided for in the proposed conditions. The Earthworks and Construction Management Plans (**ECMP**) and Supplementary Environmental Management Plans (**SEMP**) require rehabilitation of earthwork areas. Particular care is proposed to be taken with overburden sites to ensure that no ecologically sensitive indigenous forest areas are directly affected. Buffer areas are to be established around significant vegetation to avoid accidental damage.

[491] Restoration planting on exposed soil, sealing edges with a dense band of fast growing species and reducing the effect of bush fragmentation by increasing overall patch sizes are the measures provided for in conditions. Plant material would be sourced locally from stock from the ecological district.

[492] All machinery and aggregate would be thoroughly cleaned or guaranteed weed free before it is brought to the site. Vehicle movements would also be confined on the site and construction vehicles cleaned between jobs. Turbine sites within indigenous forest areas would be promptly re-sown and or replanted with locally sourced vegetation. Routine monitoring of site works and post construction monitoring would be required to prevent weed infestations.

#### ***19.2.5.1 The BRES offset mitigation proposals***

[493] A comprehensive range of offset mitigation proposals has been offered to address the assessed ecological effects, which cannot be avoided. Contact Wind's objective is to achieve an outcome from the remediation where the environment is enhanced, and the off-set mitigation exceeds the scale of effect. A detailed technical approach was taken to planning the necessary off-set mitigation and the effects of mitigation were calculated

over a time scale of 30 years. Notional values at each off-set site were calculated, and management models were adjusted to achieve potential net benefits.

[494] The remediation proposals below address effects on vegetation and the potential effects on habitats of indigenous bush birds, herpetofauna and terrestrial invertebrates. Detailed species recovery targets have been set for indicator species at each of the three sites. In addition, mitigation and remediation measures are included in the BRES proposals to address effects on shore birds, NZ falcon and other effects. Those are described later. The particular programmes, which are described in more detail later, are:

- [a] Te Umukaraka Bush
- [b] Bramwells Bush or Scrub
- [c] Kotekaraka Bush

#### *19.2.5.2 Conclusion on effects on indigenous vegetation*

[495] Our conclusion on the effects of the wind farm on indigenous vegetation is that overall it is likely that there would be a positive benefit to the vegetation identified as significant in terms of Section 6(c) of the Act because areas of such vegetation and regenerating bush would be fenced and managed for pests. Although some 14.2 hectares (some 8 hectares of significant vegetation) would be destroyed for access road widening and turbine site formation, and edge effects would occur to 35.2 hectares of vegetation, significant vegetation remaining would attain better condition. Cleared areas would be replanted and managed. In addition, indigenous vegetation overall in the area would benefit from the culling of exotic pest species such as pig, goat and possum.

[496] The consolidation and protection of the existing indigenous vegetation would be reinforced by the BRES proposals, and would further increase any positive benefits. Nevertheless, the direct mitigation alone would be sufficient to improve the vegetation and its capacity to provide habitat for indigenous fauna. We will consider the overall impact under Section 6(c) of the Act after discussing the effects on fauna and habitat.

### **19.3 Indigenous fauna and habitats**

#### ***19.3.1 Identification of fauna and habitats at risk***

[497] Under this category we consider the habitat of resident species that require particular consideration, as well as the range, quantity, threat status and species diversity of fauna whose habitats include the wind farm area. The main effects on fauna associated with the wind farm were identified as habitat loss, collision fatalities associated with the flyway habitat of migratory birds and disturbance and displacement. In the adjournment period specific fauna surveys and intensive migration surveys were undertaken.

[498] DOC revised the New Zealand Threat Classification System in 2007 and we adopt classifications from that system. The particular concern of DOC, a submitter, was the potential risk of collision strike to New Zealand avifauna and bats. In relation to migratory birds there was no real dispute that those migratory pathways constituted part of the habitat of those species. The migratory habitat was along-shore and included the coastal part of the wind farm. Extensive modelling was unable to determine the exact extent of that flyway habitat.

[499] We address fauna passing through and residing in the area in the following groups: migratory shore birds, resident shore birds, international migratory birds, resident bush birds, and farm birds, wetland birds, bats, herpetofauna and indigenous terrestrial invertebrates. The effects on fauna of most concern to all ecologists were the risks posed to migratory shore birds. A considerable body of evidence from monitoring was collected and regular caucusing of experts took place. The Board notes the efforts of these experts.

#### ***19.3.2 Migratory shore birds***

[500] Migrant shore birds breed elsewhere and move along the coast from their breeding to wintering areas and back, usually twice a year. Migrants using the flyway included indigenous species that breed and winter in New Zealand, and external species which breed in the northern hemisphere and migrate to New Zealand in their non-breeding season.

[501] The focus of much of the evidence before the Board was in relation to the South Island pied oystercatcher (SIPO) and the wrybill. Both these species travel between nesting areas in the South Island (braided rivers, including the Rangitata) and feeding areas including the Manukau Harbour and the Firth of Thames. There was no dispute that the migratory flyway for these birds included the wind farm.

#### *19.3.2.1 Collision risk modelling*

[502] Shore birds using the Waikato coast consist of migrants and residents. The aspects given most attention were the migratory routes of shore birds, known to traverse the site, and the modelling of risk of turbine collision. Although data has been collected at wind farms overseas, particularly in Scotland in recent years, from which predictions can be made of likely collision mortality from turbines in flyways, there is no such information available for New Zealand birds.

[503] New Zealand birds are long-lived and their breeding productivity is generally low. Small increases in adult mortality may lead to more marked population impact. In addition, some species of New Zealand migrant shore birds are known to be naive and may not avoid collisions with the same frequency as overseas birds.

[504] Considerable effort was given by both DOC and Contact Wind to model collision risk based on models used overseas to identify the expected range of collision mortality. Expert advice from ornithologists and modellers who had experience of such models was obtained, together with help from statisticians. However, the applicability of these studies to New Zealand species was disputed. The model adopted to derive collision predictions was the Band model, developed in Scotland. The most critical factor in the Band model is the estimate of avoidance rates for each species. Figures debated for this factor ranged from 95 percent to 99 percent plus, i.e. whether 95 percent or 99 percent of each species will avoid turbines. The outcome of these models provided an annual mortality estimate. This, in turn, was thought to be a useful basis for setting mitigation figures. However, there was considerable, and it appeared bitter, dispute between experts acting for Contact Wind and DOC. The ecologist acting for the Councils held opinions that seemed to fit between the two opposing teams of experts.

[505] The most attention was given to modelling collision risk for SIPO and wrybill. These two endemic species were considered to be most at risk by the project. A range of

mortality estimates were derived for each of these species. The experts were particularly at odds over the outcome for SIPO, where larger numbers using the flyway, and therefore at potential risk, were involved. Experts caucused a number of times. They agreed that no particular cluster of turbines was more likely to create risk of collision than any other cluster but, although the modelled per annum mortality estimates were within tens of each other rather than larger numbers, it was clear from the debate there could be no agreement or certainty because the model was only an estimate and the experts held different views on the collision avoidance characteristics of New Zealand birds.

[506] The Board accepted that the models of collision risk and predicted mortality of SIPO and wrybill may provide a guide to possible outcomes, but they were estimates only and were not a sound basis for robust decision-making on mitigation or other actions to respond to shorebird collisions. The difficulty is that such modelling is dependent on a series of assumptions, most of which are highly debatable given there is a lack of sound data. There is no evidence that the wrybill, for example, will behave in the same way as Scottish migratory birds. The Board accepts evidence from the avifauna experts that there would be bird fatalities, but despite expected losses, offset mitigation measures could be put in place. Nevertheless, we have concluded that robust review measures need to be in place in case fatalities are more significant than anticipated.

#### *19.3.2.2 Survey research on the flyway*

[507] Contact Wind undertook extensive studies of flight paths and use of the migratory flyway over the period of more than two years determined to be required for reliable information by the group of avifauna experts. The surveys were undertaken using teams of expert spotters and listeners at nine observation stations, as well as up to three radar stations (a new technique for an extensive area). The surveys recorded the flight paths taken by larger birds, particularly at night when the southward migrating birds passed the site. This flyway information was applied to collision risk modelling.

[508] About six species of migrating birds other than SIPO and wrybill, which we discuss below, are known to migrate through the area but were generally too small to be reliably identified by radar or spotters. These species include the black stilt kaki (*Himantopus novaezelandiae*), which is classified as Nationally Critical (passing through in very small numbers), the pied stilt (*Himantopus himantopus*), which is classified as Declining (probably about 6,000 use this route twice a year), and the banded dotterel

pohowera (*Charadrius bicinctus*), which is classified as Nationally Vulnerable (about 10,000 thought to migrate through the area twice annually).

[509] The numbers using the flyway were disputed by the avifauna experts but there may be some 200,000 bird movements through the wind farm site each year. Of this number, some estimated 22,000 movements are by members of threatened species (wrybill and banded dotterel) and 160,000 by members of At Risk species (SIPO and pied stilt).

#### 19.3.2.3 *South Island pied oystercatcher SIPO*

[510] The flight path of SIPO (*Haematopus finschi*) was monitored as they were large enough to be recorded by radar. Experts noted though that they were not an ideal proxy for flyway use by other birds because of behavioural differences among bird species. Although population totals are disputed by the experts, the national population of adult SIPO is approximately 70,000 - 110,000. They are endemic and breed inland in the South Island. The species is classified as At Risk (Declining). Most, but not all, migrate to the North Island, with a large majority using the west coast route.

[511] SIPO is the most prolific user of the flyway. Their migration periods are protracted, being over some two to four months northward and three months southward. The avifauna experts agreed that SIPO use the flyway for both north and south migrations but also migrate inland over the proposed wind farm. The recorded radar trails from monitoring of migrations show that the migration front is at least 20 km wide over land and sea.

#### 19.3.2.4 *Wrybill (Anarhynchus frontalis)*

[512] The wrybill has a classification of Nationally Vulnerable. The population estimate is about 5,250, and most of this population migrates from the braided river beds of Canterbury and Otago where they have bred, north along the west coast flyway, and most move south again with SIPO.

[513] Wrybills were identified as being naive birds, which have a propensity to collide with objects. They have, therefore, been specifically provided for in the mitigation measures. They are smaller birds and therefore are more difficult to monitor by radar.

#### *19.3.2.5 Possible effects on bird mortality*

[514] The avifauna experts agreed that collision mortality of birds was expected during each migration, but could not agree on numbers predicted by modelling.

[515] Recommended monitoring methods to establish actual collision mortality were requested by the Board. The avifauna experts caucused and agreed on protocols and methods for monitoring that would adequately identify bird mortality, which in turn could enable adaptive management. In addition they agreed on a review period and review parameters to address unexpected bird mortality.

#### *19.3.2.6 Mitigation of bird mortality*

[516] Breeding sites were suggested by the avifauna experts where programmes could be undertaken to control predators and so increase SIPO and wrybill survival rates. However, they noted the practical constraint of the low density of SIPO breeding. Contact and DOC eventually agreed on a set of conditions to provide specifically for productivity monitoring and a predator control programme to improve survival rates and increase the adult population of SIPO and wrybill. These conditions would specifically provide for review where mortality rates exceed certain trigger points.

[517] The possibility of extending SIPO breeding protection to farmland where SIPO are known to breed or to other catchments where SIPO and wrybill breed is provided for as an option where the initial breeding programme does not achieve the objective of no-net-loss. There is also an obligation in the proposed conditions to commence the shorebird predator control programme in the Rangitata area after establishing 'Before' productivity rates through monitoring. This obligation is intended to apply whether or not wind farm construction has commenced.

[518] The avifauna experts acknowledged the need to provide for significant adverse events which would require immediate response and notification outside the general review process. The conditions would provide specific triggers for prompt action on the part of the Ecology Peer Review Panel and the councils and the option of commencing a review of conditions under Section 128(1) of the Act.

[519] The objective of the off-set mitigation (and BRES) is to replace birds, which may collide with turbines, with those that would not otherwise survive were it not for a predator control programme. The predator control programme is intended to increase the productivity of breeding for both SIPO and wrybill. The replacement breeding is intended to respond to monitored collision mortality. The avifauna experts had varying degrees of confidence as to whether a no-net-loss outcome could be achieved. The overall objective is that there would be no-net-loss of SIPO or wrybill.

#### *19.3.2.7 BRES offset mitigation breeding programme*

[520] The proposed Upper Rangitata Project in Canterbury was considered by DOC and Contact Wind experts as a possible means of replacement breeding subject to preliminary monitoring being undertaken in the area. It is known as a breeding area for both species of bird. The project aims at protection of breeding habitat by predator control and increased breeding productivity. It could be extended to a larger, or other, areas if required. There was discussion amongst three avifauna experts providing evidence about the possibility of extending the project on farm land adjacent to the Rangitata River, for SIPO. An advantage of this appeared to be the possibility of minimising adverse breeding conditions caused by the frequent occurrence of flooding.

[521] Further work would be required to establish current breeding rates in order to set targets for the programme. Gains would be measured by annual monitoring of fledgling success from a sample of SIPO. The initial gains aimed for are 23 adult and two fledgling SIPO per annum and eight wrybill. The gains estimated for wrybill are above the estimated mortality figure. However, the conditions provide for the Ecology Peer Review Panel to review the project as success rates and wind farm mortality are established.

#### *19.3.2.8 Conclusion on migratory shore bird effects*

[522] Contact Wind's objective is a no-net-loss outcome and their mitigation and monitoring proposals are designed to achieve this. However, the proposed conditions provide for the loss of up to seven SIPO per year before a review is triggered. Mr Kós said, in closing:

... With that approach in mind, it is perhaps instructive to recall Dr Dowding's view in evidence that seven additional SIPO deaths per year ("the lower limit of the

range of deaths predicted by members of the expert group”) would have a “clearly negligible” [impact] at the population level.

Thus, whilst no-net-loss is an objective agreed between the principal parties to be appropriate, there is also recognition that due to “biological and statistical uncertainty” a measure of tolerance in trigger levels is necessary. What Dr Dowding’s evidence does is reassure the Board that even were that tolerance in reality to involve a small annual loss, there would be an insignificant impact on SIPO at a species level. With respect, that is on all fours with the Board’s concern that the overall population be protected.

[523] Although the Board accepts that there may be variabilities in mortality from year to year, we do not accept the proposition that seven SIPO deaths is acceptable on an ongoing annual basis. We would have thought that such statistical anomalies should average out over three years and therefore, have concluded that if there is more than no-net-loss over a rolling three-year period, this should trigger a review. There is no magic to the selection of three years beyond our clear view that we should be cautious where the no-net-loss objective is being exceeded. Such a provision would encourage Contact Wind to over-provide for the species and, therefore, hopefully obtain a positive net benefit.

[524] There is scant information on the impact of turbines in a flyway on New Zealand birds. We were told that New Zealand species may behave differently from species that have been monitored overseas. In addition, the estimated number using the flyway is imprecise. We accept that establishing population estimates of birds at risk is difficult and that numbers change from year to year, sometimes as the result of unfavourable breeding or other conditions.

[525] While provision has been made for careful carcass monitoring from the start of wind farm operations, and triggers would be provided for in conditions, there remain risks in the breeding programme. Furthermore, the proposed mitigation breeding measures do not cover all species of birds at risk. However, Contact Wind is prepared to extend or add other areas to the breeding programme should that be deemed necessary after monitoring the effect of the turbines and the success rates of the proposed predator control programmes. In addition, Contact Wind agreed that the predator control programmes would not be reduced should they be more successful than their objective.

[526] The Board has carefully considered the extensive research and advice provided, and the agreed outcomes from the caucuses of avifauna experts. We conclude that with

an initial commencement of the predator control programme prior to construction of the wind farm, ongoing monitoring of this programme, collision monitoring at the wind farm, as well as the careful avifauna review provisions, effects on migrating birds may not be significant. In reaching this conclusion we acknowledge that the conditions provide for adaptive management and particular attention would continue to be required concerning potential bird mortality. We retain residual concerns because the triggers and reviews, in themselves, do not necessarily achieve no-net-loss. We are therefore reliant on review conditions ensuring the stated outcome. This might involve requiring certain turbines or blocks of turbines to cease operation at certain times of the year. We conclude that the assumptions as to breeding rate made on the basis of 5 years of monitoring will need to be checked:

- [a] every 5 years at least during the operation of the wind farm (or part thereof); and
- [b] more often if the Ecology Peer Review Panel considers it necessary i.e. high mortality, major events, etc.

We have adopted our own approach, notwithstanding the agreement of the DOC and Contact, because we conclude that a stepped response needs to be adopted to mortality rates through the trigger responses. After considering comments on the Draft Decision, we have concluded there should be conditions providing for three levels of response:

[a] General Review

Where the Ecological Peer Review Panel and/or Council consider no-net-loss target is not or may not be achieved. This review under Section 128 of the Act gives Council power to amend conditions relating to turbine mortality, enhance BRES programmes, and also to stop permanently or for shorter periods of the year, one or more turbines.

[b] Urgent Review

Where annual mortality rates are well above no-net-loss estimates and reach 25 SIPO and/or 5 wrybill and/or 1 black stilt, or such other trigger levels adopted by the Ecology Peer Review Panel and approved by the District Council.

[c] Immediate Review

Where annual mortality rates indicate major ecological effects or reach 50 SIPO and/or 10 wrybill, Contact will cease operation of any turbines involved in the mortality, unless the Ecology Peer Review Panel recommends operation and only with approval of the District Council. The Ecology Peer Review Panel immediately commence investigation and report to Council.

[527] We remain concerned about the black stilt, which is a Nationally Critical species, and we were told this uses the flyway in very low numbers. No offset mitigation has been proposed. If monitoring should indicate any loss, this should trigger an urgent review by the Panel, and final conditions reflect this intent.

**19.3.3 Resident shore birds**

*19.3.3.1 Species at risk*

[528] Resident shore birds live and breed in the area and move through the site on a daily and sometimes seasonal basis. Four threatened species were identified in the area. The variable oystercatcher (*Haematopus unicolor*), is At Risk (Recovering). Dr Dowding estimated, on the basis of pairs located by Mr Kessels in his 2009 survey, that some 20 pairs may be in the area (or about 1 percent of the national population), and it appears they may gather along the coastline at Port Waikato in post-breeding flocks over winter.

[529] The endemic northern New Zealand dotterel (*Charadrius obscurus*), is classified as Threatened (Nationally Vulnerable). The total population in 2004 was estimated to be 1,700 birds. Surveys indicated that there may be 22 birds in the area. These birds and variable oystercatchers routinely fly overland to visit feeding, roosting or flocking sites.

[530] The Caspian tern (*Hydropogon caspia*,) is classified as Nationally Vulnerable. The total population is about 3,000. Although birds were seen in the area, no estimate has been made of numbers but they are known to breed at Port Waikato.

[531] In addition, the white fronted tern (*Sterna striata*), which is classified as At Risk (Declining), was identified in large numbers by Mr Kessels at Kaawa Beach. There is no

reliable estimate of population size as this species is found throughout New Zealand and change their breeding sites frequently. The pied stilt (*Himantopus himantopus*) is also a resident shore bird which feeds in the Kaawa Valley. This is a very mobile species and risk assessment was thought to be difficult.

[532] On the last day of the presentation of submitters evidence at Poihaakena Marae, Mr M Hamilton referred to a taonga bird species of Tainui Aawhiro, the oi (North Island muttonbird or grey-faced petrel), (*Pteradroma macroptera gouldii*), and his concern that these birds may be at risk from the wind farm. In closing submission, Mr Kós advised that this sea bird nests in a colony near Block J. Although the species is not included in Dr Seaton's list (Exhibit Seaton 1) of bird species recorded in the area and their threat status, we were advised by Mr Kós that the oi is classified as Not Threatened. However, we acknowledge Mr Hamilton's concerns.

#### *19.3.3.2 Monitoring of resident shore birds*

[533] Resident shore birds were considered to be potentially at risk from the turbines, although no particular clusters or turbines appeared to the experts more likely to create risks. No specific agreed mortality estimates were made. However, intensive collision monitoring when the first clusters of turbines have been commissioned will allow adaption of a management response should it be needed.

[534] The monitoring conditions are intended to identify any incidents of collision of resident shore birds. Where resident shore bird mortality levels are above those expected by the Ecology Peer Review Panel, are statistically significant and exceed anticipated mitigation from BRES proposals then Contact will undertake a review of its management with a view to mitigating the effects of the activity on resident shorebird populations. Where mortality counts remain above expected levels for more than two years, this will trigger a review of the conditions of consent with a view to identifying acceptable mortality levels and trigger points for further intervention and mitigation.

#### *19.3.3.3 Mitigation of risks to New Zealand dotterel*

[535] Mitigation specifically addresses possible effects on New Zealand dotterel and a management programme had been agreed with DOC to enhance fledgling success

through predator control and limitation of human interference, proposed to be located at Aotea North Head, south of the wind farm area.

[536] An area at Aotea North Head is to have intensive predator control along the seaward and estuarine foreshore. Species to be targeted by trapping are hedgehogs, mustelids and cats, with the possibility of also trapping rats and possums. A management plan would guide predator control and public awareness programmes. A performance target has been set at an average of 0.75 chicks per breeding pair per season, over a three-year or longer programme. These matters are covered as one of the BRES programmes and constitutes both direct and offset mitigation.

#### *19.3.3.4 Conclusion on potential effects on resident shore birds*

[537] While numbers of resident shore birds are relatively few, we conclude that the specific mitigation programme designed for the New Zealand dotterel would address the effects on the species and possibly enhance the population in the area. The conditions provide for an appropriately qualified expert with knowledge of cultural aspects of local ecology to be nominated by Tainui Aawhiro and Ngaati Tahinga through the Kaitiaki Management Group and the appointments panel to the Ecology Peer Review Panel. This panel would receive information on monitoring and provide advice on any mitigation required.

[538] We conclude overall that the effects of the wind farm on the population of resident shore birds will not be significant because mitigation is provided for in conditions, and potential numbers affected are low. Further, the breeding programme for the nationally vulnerable species of New Zealand dotterel is expected to have a positive effect.

#### *19.3.4 International migratory birds*

##### *19.3.4.1 Bird species using the flyway*

[539] DOC does not consider international migrant birds on their threat listings. However 'absolute protection' is afforded them under the Wildlife Act 1953. In addition, New Zealand is a signatory to two international conventions, the Bonn and Ramsar Conventions, which apply to the conservation of avian migratory species and their

habitats. Four Ramsar designated sites in New Zealand are habitats for godwits and knots (among other species).

[540] Dr Battley, for DOC, provided written evidence on avifauna matters, including northern hemisphere shore birds. His evidence noted three species that visit New Zealand: the godwit, the red knot and the ruddy turnstone. His evidence stated that the ruddy turnstone (*Arenaria interpres*), population about 2,500, were few in number, little was known of the birds' migratory movements and he thought there would be much lower risk to this species from the wind farm than the two we discuss below.

#### 19.3.4.2 *Bar-tailed godwit*

[541] Godwits breed in Alaska and migrate some 11,700 km to New Zealand to a range of non-breeding grounds. When the first godwits of the season arrive in Christchurch the Christchurch Cathedral bells are rung. The bar-tailed godwit (*Limosa lapponica*), is thought to have a New Zealand population of some 89,000 and although they appeared to be declining, this trend may have reversed.

[542] Substantial numbers of godwit, perhaps 10,000, are expected to migrate along the flyway heading south, but a low number on pre-migratory movements north. In addition godwits are likely to pass over inland portions of the wind farm, with the population thought to be most at risk being from the Firth of Thames. Their movements along the coast are spread over longer time frames than movements of SIPO, and are outside proposed carcass monitoring periods. For these reasons movement estimates and mortality predictions have been difficult.

#### 19.3.4.3 *Red knot*

[543] The red knot (*Calidris canutus*), is an arctic wader migrating to New Zealand through Australia and Asia. Red knots have a population in New Zealand of about 45,000, although they appear to be in decline. A reason for this decline could be substantial estuary reclamation works undertaken in South Korea, a significant migratory stopping point for the birds. Further reclamation is reported as about to commence. There is evidence that the birds move widely within New Zealand, and they have been observed departing to the south from the Firth of Thames on a similar flight path to SIPO and godwits, possibly passing the Waikato coast and crossing the wind farm location.

#### *19.3.4.4 Mitigation offset for international migrant birds*

[544] Although we have reservations about the estimates from risk modelling, the collision mortality estimate is two birds per year each for godwit and red knot.

[545] The offset mitigation is an annual sum of \$10,000 for research and conservation work for international migratory shore birds, to be administered by the Miranda Naturalist Trust. The Miranda Naturalists Trust is an established and active group of ornithologists dedicated to research and conservation work for shore birds.

[546] Dr Battley considered that the mitigation offered by Contact Wind for godwit and knot is an appropriate response and we agree. In our view research to identify means of beneficial management for godwits and other international migrants has the possibility of providing for a better future for these birds and we conclude that effects on international migrant birds would be minimal, because there is a possibility of minimising risk to the migrants that might extend beyond the risk posed by the wind farm itself. Again, this payment to Miranda Trust is provided for within the BRES and may have wider offset implications than direct mitigation for migratory bird loss.

#### *19.3.5 Bush birds*

##### *19.3.5.1 Habitat loss*

[547] We are required to recognise and provide for the significant habitats of indigenous fauna in terms of Section 6(c). The removal of forest and bush as part of wind farm infrastructure development has already been discussed and particular patches of bush classified as significant vegetation. A reason for habitat being identified as significant is its potential to support at risk or threatened species. However, the vegetation survey indicated that only a small proportion of original indigenous vegetation remained so the residual vegetation now left might also be significant for a range of species of bush birds. In addition to actual habitat loss, bush birds may also be threatened by habitat disturbance, more particularly during construction.

[548] The loss of significant vegetation was halved during the design refinement process. Of this potential habitat loss, the most important is the 2.9 hectares of mature

secondary forest, although all the 13.6 hectare habitat to be removed was thought to be of some value for bush birds.

#### 19.3.5.2 *Bush bird surveys*

[549] Surveys were undertaken by Mr Kessels, then expanded by Dr Seaton to provide further information in the adjournment period on bush birds as well as the New Zealand falcon (*Falco novaeseelandiae*). Intensive bird counts were undertaken at a considerable number of stations, including turbine sites. Visits were repeated, including surveys at night to identify and count morepork (NZ owl, ruru) (*Ninox novaeseelandiae*). A range of resident bush birds were observed in the area including fantail, grey warbler, and kingfisher/kotare (*Halcyon sancta*).

#### 19.3.5.3 *Species identification*

##### *Kaka (Nestor meridionalis)*

[550] Kaka was the only threatened bush bird identified in the wind farm area. Kaka were seen only briefly despite intensive monitoring, and numbers in the area were estimated to be few.

##### *Tui and Kereru*

[551] Particular attention was given to tui (*Proshemadera novaeseelandiae*), and kereru or New Zealand wood pigeon (*Hemiphaga novaeseelandiae*), which has a threat status of Nationally Vulnerable. Dr Barea's evidence explains that these two species are important to ecosystem functioning as both are seed dispersers, and tui also pollinate many native plant species. They therefore assist in maintaining plant species diversity. On the basis that tui and kereru covered large spatial scales they were agreed by the avifauna experts to be at greater risk of collision. A detailed survey programme with observer stations at high points and point count surveys in A, C, D and H Blocks was conducted to establish flight rate and height data, as a basis for informing mitigation required. Further behavioural data was collected to assist with collision risk modelling undertaken by Mr Christie. These detailed surveys provided identification of all bush bird species present in the wind farm area as well as information for risk assessment.

#### 19.3.5.4 *Effects on bush birds*

[552] As with migratory shore birds a great deal of attention was given to collision risk modelling and disputes occurred between experts over avoidance rates, a key aspect of the model adopted. However, while experts placed some faith in the models which appeared to verify the appropriateness of the measures outlined in the BRES proposals, they agreed that the mitigation proposals would, with robust monitoring, appropriately address biodiversity losses. They noted that collision monitoring of tui and kereru would need particular care as carcass retrieval in bush would be difficult.

[553] We note that many of the bush birds identified do not commonly fly at rotor height and so are unlikely to be at risk of collision.

#### 19.3.5.5 *New Zealand falcon*

[554] Further attention was also given to monitoring to identify whether the New Zealand falcon nested in the area (including in Te Tehe Bush) and also to determine the extent of falcon breeding habitat within 2 km of the wind farm. The survey information was inconclusive. No falcons were seen by the bush bird monitors but three possible sightings were recorded by the shore bird spotters in Block G, as well as a possible sighting of a young falcon, which may have been raised in a nearby pine plantation. Although no nests were located, falcons inhabit the wider landscape and Dr Seaton acknowledged that they may enter the wind farm site. Whether there are New Zealand falcon present currently or not, experts accepted that falcons fly in and above the height of the rotor blades and so may be at risk of collision if they are in the area. They are Nationally Vulnerable so a BRES off-set measure is proposed to provide research and/or conservation initiatives for the NZ falcon. In addition, monitoring before infrastructure development was recommended to minimise the risk of breeding disturbance.

[555] The BRES proposal for addressing any wider effect on the New Zealand falcon is funding of research and conservation work on NZ falcon through the Wingspan Birds of Prey Trust. A budget of \$30,000 is to be provided for falcon research and conservation.

#### 19.3.5.6 *Conclusion on bush birds and NZ falcon*

[556] We accept the advice from the avifauna experts that the BRES proposals and monitoring, and supporting consent conditions, will address potential bush bird and falcon risks from the wind farm development.

[557] We are required to recognise and provide for significant habitats. Significant bush habitats appear to be Te Tehe Bush (which is beyond the wind farm), Kotekaraka Bush and Te Umukaraka Bush. While some vegetation removal is planned in Te Umukaraka, additional vegetation protection measures and BRES programmes are likely to have beneficial effects on tui, kereru and other bush birds. We therefore conclude that the effect of the wind farm on bush birds will be minimal.

#### 19.3.6 *Farmland birds*

[558] Farmland birds could be at potential risk from turbines in open pasture. Although this type of habitat is plentiful and will not be substantially reduced as a result of the proposal, Dr Seaton surveyed farm lands to identify species present and assess potential risk to them.

[559] The New Zealand pipit, pihoihoi (*Anthus novaeseelandiae*), was identified as the only species with a risk status (Declining). The species appears to benefit from bare ground and short sward and Dr Seaton's advice was that, although some collision mortality had been recorded of pipit overseas, his view was that the bird spends most time well below the height of turbines and that the effect would be minimal.

[560] Effects of the wind farm on Australasian harriers, kaahu (*Circus approximans gouldi*) were also considered. They are a common species throughout the wind farm area and harriers are prone to collision mortality. Dr Seaton's advice was that this species may be legally shot and mitigation was therefore not warranted. Although harriers are not in decline we understand them to be a protected species (since 1983). Nevertheless any collisions will be monitored and the Ecology Peer Review Panel or the local authorities can address the issue if mortality occurs.

### ***19.3.7 Wetland birds***

#### ***19.3.7.1 Risk to wetland birds***

[561] Surveys were undertaken to identify whether there were any at-risk birds in wetlands in Blocks C, D and H. Wetland birds recorded in the wind farm area were generally species that are locally and nationally abundant. However, it was thought that spotless crane, puweto (*Porzana tabuensis*), may be present at some coastal wetland sites. In addition, Australasian bittern, matuku (*Botaurus poiciloptilus*) were observed by winter shore bird monitors alongside streams in the wind farm area. The majority of sightings were of single birds. The birds are very cryptic and no records were obtained of flights through the proposed wind farm.

[562] Wetland habitat may increase in the wind farm area given the riparian planting and storage ponds proposed. The conclusion of Dr Seaton was that effects of construction and operation of the wind farm on these two species and their habitat would be minimal. However, he identified risk to bittern, including habitat disturbance, at Punga Punga Wetland and we address this when assessing the effect of the NOR.

### ***19.3.8 Overall conclusion regarding effects on birds***

[563] The greatest risk identified to birds and their habitats was that to migratory birds through potential risk of collision with turbines. This has been assessed very carefully and the conclusion is that while collisions are anticipated, the proposed BRES programme and conditions seek to achieve no-net-loss. The Ecology Peer Review Panel is to oversee detailed carcass and other monitoring to ensure that the outcome of no-net-loss can be achieved.

[564] Stringent controls are proposed to ensure the no-net-loss outcome. The conditions would provide for a review where the mortality rates anticipated are exceeded (trigger point). The review includes the power to require individual turbines or groups of turbines to cease operation if necessary to avoid bird mortality. Generally, we accept that the BRES proposals and conditions of consent, with the extended powers of review, would address effects on birds affected by the wind farm, and significant habitats within it.

### ***19.3.9 Long-tail bats***

#### *19.3.9.1 Threat status of bats*

[565] The long-tailed bat (*Chalinolobus tuberculatis*), belongs to a widespread family of bats, (*Vespertilionidae*), but is one of only two known bat species in New Zealand. They have a large population but are categorised as Nationally Vulnerable, and North Island populations are thought to be acutely threatened. Populations have dropped by 30 percent in the last 10 years and continue to decline. They are also a taonga species for local Maaori.

[566] Bats are nocturnal and this bat species roosts during the day in knot holes or under loose bark in indigenous forest, so is rarely seen. They require mature trees for forest roosts but forage on the edges of forest and over open farm land for food. Studies overseas indicate that related species of bat appear attracted to turbines. This is thought to be because the turbines remain warm at night and moths and other insects are attracted to that heat, which in turn attracts the bats.

#### *19.3.9.2 Surveys for identification of bats within the wind farm*

[567] No bat activity was detected during acoustic surveys in Blocks A, D and H, but a previously unknown population was detected at several sites in Block C during more intensive surveys in the adjournment period, including in the vicinity of two turbine sites.

[568] The surveys were conducted carefully but mitigation proposals provide for further work on location and monitoring.

#### *19.3.9.3 Potential effects on bats*

[569] Long-tailed bats are capable of foraging at heights that would bring them into the sweep of the rotor blades. They are therefore at risk of potential collision with turbine rotors as well as at risk of barotrauma, which is understood to be a pressure effect caused by blade movement.

[570] A bat tree-roost was located near the proposed External Transmission line route. Although they are at no direct threat from the transmission lines, removal of trees during

road widening and transmission pylon construction may cause risk of indirect harm. Management to limit this risk is discussed later.

#### *19.3.9.4 The bat mitigation proposal*

[571] The bat experts, Dr S Parsons, Dr B Lloyd and Dr V Keesing; and Mr M Tonks agreed on a very detailed staged programme of assessment and monitoring pre and post-commissioning and mitigation options for the impact of mortality by turbine strike or barotrauma on long-tailed bats.

[572] The BRES offset mitigation provides for adaptive management with options. One proposal is to translocate some 30 bats, and more if further survey results indicate their population is over a base amount. In addition, a survey is required before works commence so that breeding bats are not disturbed. This requires careful checking of trees identified in Goat Haven and deferment of works till later in the season if bats are resident. The bat experts caucused extensively and agreed the very detailed proposed programme for further survey and management of the bats.

[573] Tainui Aawhiro sought input into mitigation decision-making and there is provision for this in the appointment process to the Ecology Peer Review Panel.

#### *20.2.8.4 Conclusions on bat effects*

[574] We accept that a very thorough programme of mitigation has been developed by the ecologists. With the robust monitoring and management programme proposed, supported by relevant conditions, the experts are satisfied that the effects are intended to be minimal. Accordingly, notwithstanding our concerns relating to this acutely threatened species, we accept the uncontroverted evidence of the experts.

## **19.4 Herpetofauna**

[575] Comprehensive background population monitoring of herpetofauna was undertaken over the 2009 to 2010 adjournment period. The objective was to survey the most ecologically sensitive habitats for herpetofauna (lizards and frogs) within the wind farm footprint. Only one (exotic) species of frog was found but two indigenous lizard species were observed, with evidence of up to a further three species in the area. These

were in A, C, D, F and H Blocks. Species identified were the copper skink (*Oligosoma aeneum*), which is not considered threatened, and the Pacific gecko (*Hoplodactylus pacificus*), which is classified as Chronically Threatened-In Gradual Decline. A sloughed skin, thought to be from this species, was found in Te Umukaraka Bush. Evidence of other lizards were found from unidentified scats, but their distribution was considered patchy and in low abundance.

[576] Potential effects on herpetofauna were thought likely to occur particularly during construction and included disturbance, displacement, injury, mortality and loss of habitat, which was the estimated loss of some 13.5 hectares of indigenous vegetation. Mr Kessels thought that the risk to small and fragmented populations could be further exacerbated by the localised habitat loss. He described remaining populations as remnant.

[577] Recommended mitigation of potential effects during construction was a capture and translocate process, which would take place immediately prior to vegetation clearance and earthworks. A permit to capture and transfer lizards would be required from DOC as all indigenous herpetofauna are protected under the Wildlife Act 1953 (this was noted in draft consent conditions as an Advisory Note). Details of translocation will need to be developed with DOC.

[578] Off-set mitigation proposals to address vegetation clearance and potential effects on bush birds, particularly predator prevention and control measures, as outlined in the BRES proposals will also benefit lizards, particularly gecko species. In addition the connectivity proposals in the Landscape Concept Plan may be of benefit to herpetofauna, generally by providing for future habitat linkages.

[579] With care at the pre-construction stage, adopting capture and translocate processes, and the additional off-set mitigation proposals, together with attention directed to connectivity in future, we believe the small and fragmented lizard populations will have a better chance of future survival. We therefore conclude that the effects on herpetofauna of the wind farm would be minimal.

## **19.5 Terrestrial invertebrates**

[580] A comprehensive survey of the terrestrial invertebrate population was undertaken by Dr C H Watts, a specialist invertebrate ecologist, in Blocks A, C, D and H of the

proposed wind farm, adopting the methodology finalised after consultation with Dr Barea for DOC.

[581] The areas of native forest and scrub sampled were found to have an indigenous-dominated beetle fauna. The remnant vegetation was thought to provide important refuges in the otherwise pastoral northern Waikato landscape. A total of 5,980 beetles representing 174 species were captured during the collection period. Of these 599 were introduced beetles from 12 species, the majority being captured in Block A. The highest species richness was identified in Block C and no threatened invertebrate species were found in the survey traps.

[582] The potential risk to the invertebrate population is from loss of habitat of 13.8 hectares (approximately) of native vegetation through clearance. Mitigation for this effect is to provide enhancement of terrestrial invertebrate habitat in other nearby native forest. Existing forest remnants currently receive only limited predator control. The integrity of the invertebrate community is likely to be enhanced by predator control and exclusion of stock (although predators may change from exotic species to indigenous birds, as a part of a restoration to a more natural New Zealand ecosystem).

[583] The mitigation and enhancement in the BRES proposals respond to the effects of vegetation removal. Dr Watts' evidence was that the mitigation and enhancement would result in the wind farm having a net positive effect on terrestrial invertebrates and the Board concurs with her opinion.

## **19.6 High quality soils**

[584] Although the planning documents address high quality soils and their conservation and retention, this was not raised as an issue to be addressed by Contact Wind nor by Federated Farmers as a production threat. However, Mr B Brown raised concerns about the impact of the wind farm on high quality soils, a range of which are referred to in the planning documents. He noted, in particular, Policy 4.2.2 of the Waikato Proposed District Plan, which directs users to use and rehabilitate the productive capability of the soil. Policy 4.2.4 states that activities that do not utilise or rehabilitate the life supporting capacity and the productive capability of high quality soils should not locate on land containing such soils.

### ***19.6.1 Areas of soils impacted***

[585] We have considered the planning maps submitted by Contact. There are areas of high quality soils within the area of the wind farm but it appears that the internal transmission line will overfly those areas in Waimai Valley and Matira Road.

### ***19.6.2 Impact of turbines***

[586] The proposal for soil management is for the removal and stock piling of topsoil prior to removal of subsoil and construction of the 168 turbine areas. Soil will be replaced after completion of turbine erection, including a cover over the foundations so that pasture can be re-established. The actual removal of any areas of high quality soils for the turbine sites would therefore be minimal.

### ***19.6.3 Impact of roading and earthworks***

[587] Topsoil would be removed from the 95 km of access roads proposed to be developed, and reused on cut and fill surfaces nearby. This area is equivalent to 72 hectares. However, little of this area appears to be within the area of high quality soils. In addition, topsoil would be removed from the fill disposal areas and storage pond areas but replaced, and used for re-vegetation. All topsoil from access roads and other development is proposed to be reused on the site. The amount of high quality soils which may be lost, if any at all, would be minimal (*de minimis*). We therefore conclude that the effect of the wind farm on high quality soils of Waikato District would be minimal, if at all.

## **19.7 Freshwater resources**

[588] Fresh water aquatic biota surveys were undertaken as the project layout was refined. Habitats monitored included small streams, seeps and wetlands in relation to culvert, bridge, fill deposition and storage pond designs.

### ***19.7.1 Wetlands, streams and seeps***

[589] Other than in a general manner, wetlands and seeps were not addressed in detail in the evidence presented to the Board by Contact Wind.

[590] The surveys of aquatic habitat and biota at the proposed culvert crossings indicated physical and biological characteristics typical of degraded and enriched habitats that had been modified by agriculture. The survey of water quality indicated high silt loadings, which limits aquatic invertebrate species to those that can survive in such environments, and which indicates probable moderate to severe pollution and poor to moderate habitat quality. However, freshwater mussel (*Cucumerunio websteri*) was found in the Waikaretu Stream, and the uncommon native snail *Leptopygus manneringi* was located in a seep, 1 km upstream of the Whitford Spring.

[591] The lower reaches of streams have moderate to good fisheries values despite their pollution. Long and shortfin eel and a number of fish species have been recorded and are likely to be found in the pasture dominated catchment. There are barriers to fish passage and for this reason, together with lack of suitable habitat and the ephemeral nature of upper reaches, low or no fisheries values were reported by Mr Kessels. Wetlands and seeps in the area are currently grazed by stock and very few, if any, are fenced or protected in any way from farming effects.

[592] Some wetlands may include significant vegetation in terms of Section 6(c) of the Act but are not affected by the wind farm. Seeps weren't clearly identified by Mr Kessels but were referred to by witnesses addressing engineering matters.

[593] The potential effects of the wind farm on aquatic biota are mainly associated with sediment runoff during construction, the proposed storage ponds, and water abstraction. In addition there is potential to create further barriers to fish passage and affect seeps and wetland areas. Water quality effects and storage ponds are addressed separately under construction effects. However, the evidence was that the storage ponds may have beneficial effects on indigenous vegetation and perhaps aquatic fauna as aquatic plants were expected to colonise around the ponds.

[594] Water abstraction, required for construction, could potentially affect biota through reduced or irregular flows and loss of habitat, increased in-stream temperature, fish entrainment and increased periphyton cover. Abstraction sites are within the Waikawau, Kaawa, Waikaretu and Waikorea Streams. The existing largely channelised profile of the banks of these streams would limit the effect of loss of wetted habitat, and the steeper banks preclude significant vegetation growth.

[595] Conditions recommended by the expert ecologists include:

- [a] limiting the maximum rate of abstraction and abstraction limits to maintain environmental flows;
- [b] reducing the effect of in-stream temperature increases; and
- [c] automatic stream gauging.

The Regional Council Conditions for water takes (Conditions 10, 12 and 14) relate the stream temperature and low flows to the Naikē Stream for takes on the Kaawa, Waikaretu and Waikorea streams. The final Regional Council Conditions provided to us contain Conditions 15 and 16 that require water measuring devices to measure water quantity and temperature at particular times on a time-related basis. This will enable correlation between actual data and that from the Naikē Stream. Regional Council Condition 25 provides for review of the conditions of consent. We are satisfied this would include the power to ensure any correction to correlation of data if necessary. Mitigation of effects on stream habitat is also proposed by fencing margins of streams and providing a fund for further stream fencing by landowners, as set out in conditions and the BRES proposals. In addition new culverts and other works, which have already been approved by Waikato Regional Council, have conditions to ensure they would not create barriers for fish passage. Overall, we are satisfied that the final conditions address the conditions recommended by the expert ecologists.

### ***19.7.2 Inanga spawning***

[596] Abundant inanga catches were noted during the aquatic surveys within the Kaawa Stream, Ohuka Creek, as well as the Waikaretu and Waimai Streams, despite their limited habitat values. Inanga are a valued resource for local iwi as well as other local people. Particular attention has been given to fisheries values in several documents, including those addressed under Cultural Matters, and in the proposed BRES mitigation measures, and the funding offers and proposals for stream fencing. The effect of this would be to prevent stock trampling of stream edges and reduce stock effluent, which in turn would enhance the in-stream habitat for inanga.

### ***19.7.3 Whitford Spring***

[597] The Whitford Spring was identified as the proposed source of potable water for the project, and initially all, then later part of its flow was proposed to be abstracted. A proposal to cap the spring to maintain water quality for abstraction was also initially included, then deleted. The Whitford Spring is also of particular interest to local iwi.

[598] Contact Wind withdrew their proposal to abstract water from this spring but maintain their previously offered mitigation proposals of planting and fencing around the spring and 100 metres along the banks of the outlet channel. This is included in the BRES proposals. This would enhance the spring, which is located within the Whitford Quarry, and minimise impact from use of the quarry.

### ***19.7.4 Conclusion on freshwater resources***

[599] The Board takes into account the current impact of farming on wetlands, streams, and seeps in the wind farm area. The proposed consent conditions would minimise sediment impact during construction, and ecological benefits in the longer term would be likely to accrue from stream fencing and protection of the spring, as well as the storage ponds, and improved monitoring and management of freshwater resources. The Board's conclusion is that there may be minor short-term impacts on aquatic biota during construction, but there would be positive long-term effects on the freshwater resources.

## **19.8 Effects on marine mammals**

[600] Several submitters raised the possibility that the wind farm may have an adverse effect on Maui's Dolphin (*Cephalorhynchus hectori maui*). This dolphin lives off the Waikato coast and is critically threatened. There are reported to be only some 150 of the species surviving and so any new development that may threaten the dolphins is of concern. DOC did not raise this as an issue and we understand they do not have a concern about the wind farm with respect to the dolphin. Submitters noted pollution from the wind farm as a particular issue of concern. Otherwise they were concerned about general impacts. Issues which have been known to affect the dolphin, include set netting and water pollution.

[601] We have considered this carefully and understand there to be no effect from the turbines. Strict controls are being applied through conditions on siltation and any other effect on water quality, and the BRES proposals would be likely to improve the quality of water reaching the sea in the longer term.

[602] The wind farm does not promote boating or fishing. Therefore, possible adverse effects on Maui's dolphin from boats, diesel pollution, propellers of motors or set nets would have no link to the wind farm. We heard no evidence on any effects on the dolphin and conclude that there would be no effect from the wind farm on the dolphin.

## **20 LANDSCAPE AND NATURAL CHARACTER**

### **20.1 Issue outline**

[603] We now consider the temporary and longer term effects of turbines, roads, fill areas, and ponds as part of the wind farm on the landscape and natural character of the area.

[604] The major adverse effects of wind farms in New Zealand are often perceived as effects on landscape and natural character. This is the result of the considerable height of the turbines currently being constructed, the movement of the blades, which attracts attention, the location of arrays of turbines on hilltops and prominent places, as well as the perceived visual effects of access roads and other earthworks and infrastructure. Wind turbines contrast with the natural landscape. People hold various opinions about the visual effects of wind farms, more specifically the turbines, and we acknowledge that. Although we address their visual effects as adverse, many people, including some of those affected by this wind farm, regard their effect as positive.

[605] We now outline the specific effects on landscape according to the provisions we are required to recognise or take into account. More general effects on landscape and visual effects are addressed following assessment of the effects on the natural character of the coastal environment, and on outstanding natural features and landscapes.

[606] We acknowledge, as with other factors we take into account, landscape aspects overlap with visual amenity, ecological and cultural factors. When addressing effects on landscape and natural character, we also acknowledge that many people, including iwi,

understand landscape as an holistic matter. However, we assess discrete factors for ease of analysis.

## 20.2 The landscape of the wind farm site

[607] The definitions of landscape, natural character and rural character included in the submission by Mr A J Carr are a useful starting point. Mr Carr described landscape as both a physical area and the relationship and interaction between people and the environment within the area. He further described landscape values as meaning more than the visual aesthetic and the natural environment, but also a sense of place.

[608] The definition of landscape in the European Landscape Convention is clear, useful and applicable in terms of the Act. The Convention defines landscape as:

An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.

[609] We note that an important part of this definition is people who live in, pass through, influence, and are or were associated with a landscape. For too long landscapes, in terms of the Act, have been described in biophysical or biogeographical terms only, without adequate recognition of people's perceptions, relationships and values. The evidence of submitters to this Inquiry often emphasised perceptions, uses and values of the landscape, and we understand that all these aspects contribute to people's sense of place, as referred to by Mr Carr.

[610] We also note that policies about landscape management, or the lack of them, inevitably affect the changing landscape and we take those numerous district and regional plan policies into account when considering effects of the HMR proposal and assessment matters.

[611] The existing landscape of the wind farm site was described briefly in its regional setting by landscape experts for Contact Wind, and then under categories termed the *Pigeon Bay* factors. We find these factors to be a mix of objective and subjective matters and not sufficiently differentiated to clearly address the effects of change on people and communities identified in Section 5 of the Act. We acknowledge that they have been used in Environment Court decisions but conclude they should not be adopted as a formulaic framework for landscape assessment.

[612] We find that the landscape:

- [a] is a biophysical entity;
- [b] is valued, used and modified by people; and
- [c] it is also perceived and experienced by people.

We assess the wind farm landscape using these three categories, taking information from the factors in the analyses undertaken by the landscape experts, and submissions by local people.

### ***20.2.1 Biophysical***

[613] The most significant biophysical characteristics of the wind farm site are the complex geology and topography of the area, which together give rise to diverse and twisting hills and valleys. The underlying rock formations show notable limestone features on hillsides in various places, and there is a mixed pasture and remnant forest cover. The coastline, although apparently relatively linear, is eroded in places from steep cliffs into coastal hills, and interrupted by stream mouths at intervals. The vegetation communities include extensive remnant forest, random and fragmented degraded patches of shrub vegetation, wetland vegetation, and pasture, with exotic pine plantations and weeds in patches. Pasture grasses are often sparser on steeper hillsides where soils appear to be eroding in patches but indicate greater stability in the valleys. The generally generous rainfall can scour soils from hillsides, clouding streams with silts.

### ***20.2.2 Relationships and values***

[614] The relationships and values people hold relative to this landscape is manifest by the land form modifications, land cover and land use, from pa sites created by iwi and carved into coastal hills to the pastoral farming fences and stock, scattered farm houses and very occasional small clusters of farm buildings. Winding, often unsealed, roads follow the hillsides, ridges and valleys and there are other low density indicators of rural development and habitation, such as quarries and air strips. The hilly character of the area limits access. The links between towns and beyond are relatively distant. Occasional marae indicate lasting relationships of iwi to the area, and strong historic associations. Archaeological features in the area are numerous. Land uses other than

farming include forestry and some adventure tourism as well as boating, fishing and surfing in the sea on the western side of the site. The proximity to the sea is valued by people in and beyond the area, even though views of the sea are infrequent from roads. The landscape values people hold include the strong relationship with land development and farming change over the years. This is regarded as a sometimes hard but productive rural landscape. Submissions demonstrated a strong sense of place and community. People value the extensive views over the hills to the sea and distant rolling landscape, the karst formations within the area, and productive farming.

### ***20.2.3 Perceptual and experiential***

[615] The visual and perceptual aspects of landscape are reflected in responses, be it to sound (or lack of it), ephemeral aspects such as shadows, or scale, patterns and textures in the landscape, and effects over time. Residents' perception is of a natural rural landscape. Mr Smith, and DP and LC Ward, were also concerned that the beauty of the coastline would be affected.

[616] From beyond the wind farm the Raglan community perceives the landscapes along the coast to the north as a natural and rugged coastal landscape. Seasonal changes and moving fauna will be evident to local residents. The perception of a visitor to this area is one of a relatively remote, quiet rural area. The people living at Port Waikato also appear to perceive the area as a pleasant scenic landscape.

## **20.3 Effects on the natural character of the coastal environment**

### ***20.3.1 Statutory provisions***

[617] We are required under Section 6(a) of the Act to recognise and provide for:

... the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands ... rivers and their margins, and the protection of them from inappropriate ... use and development.

[618] We must also have regard to the relevant provisions of the New Zealand Coastal Policy Statement (NZCPS) in Section 104(1)(b)(iv) of the Act.

[619] In addition, in considering effects on the natural character of the coastal environment, we note provisions of the various plans that apply to this area, including the Operative Waikato District Plan which identifies a coastal policy area, and the Proposed Waikato District Plan and PC14 to the Franklin District Plan, which include a coastal zone.

### ***20.3.2 The coastal environment***

[620] Photomontages of the coastline along the 34 km between Port Waikato and Raglan (Whaingaroa Harbour) prepared for Contact Wind show a series of steep eroding cliffs behind a long series of beaches fringed with waves. The escarpment does not extend the length of this coastline. The steep landforms are interrupted by stream valleys with occasional rock stacks or islets punctuating the coastline.

[621] The two Contact landscape witnesses identified three adjoining zones in the coastal environment where coastal influences existed. The first zone, the coastal marine area, includes rock platforms and intertidal areas and extends to the wave-cut cliffs and active fore-dunes. In this area the transient qualities of the natural character of the coast predominate: waves, tides, and wind induced changes. The long stretches of sandy beach appear desolate but are populated during particular events, as photographs produced by a submitter indicated. The Board notes that this zone does not necessarily match the Act's definition of the coastal marine area, which normally extends to mean high water springs rather than low tide.

[622] The coastal escarpment extending some 300 metres from the back of the beach was identified as another discrete zone. In this, and the coastal marine area, the coast is the dominant element. These two areas were agreed by the Contact Wind landscape experts to have high natural character, with low native vegetation making a contribution to this character in some places.

[623] A third zone of coastal environment (of diminished coastal influence) was identified as the hills between the coastal ridgeline and the

... leading watershed ridgeline, generally from 1.5 to 2.5 km inland.<sup>68</sup>

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<sup>68</sup> Buckland, EIC at 10 (quoting evidence of G. Lister).

There were different opinions expressed about the location of the boundaries of this zone of coastal influence, particularly the location of the coastal escarpment.

[624] Natural character in the latter two areas was found to be modified by managed landscape change for pastoral farming. The former cover of natural coastal vegetation has been largely replaced by exotic grasses. Fencing and grassed farm tracks have been formed. The coastal character is not one of wilderness or pristine landscape as there are indicators of landscape change to a working pastoral landscape beyond the beach. Overall, the outermost zone of coastal influence was thought to have high to moderate natural character, whilst the inland zone of coastal influence has moderate values.

[625] Reference was also made to landscape changes induced by hundreds of years of Maaori habitation. Archaeologists and others noted the carved landscapes of pa sites within the zone of coastal influence. Extensive Maaori occupation is indicated by numerous archaeological sites, but the degree of landscape change from a natural to a cultural landscape was not assessed. However, overall the layers of landscape change brought about by iwi and farmers on the natural character of the coastal landscape, largely by vegetation change and animal husbandry, seemed to be at least balanced by the more homogenous natural character of the coastal cliffs and rolling hills beyond.

### ***20.3.3 Coastal values***

#### *20.3.3.1 Coastal natural character*

[626] Our task is to consider the preservation of the natural character of the coastal environment from inappropriate development, based on our understanding of natural character, the coastal context and the effects of the wind farm. We note that preservation is a high threshold. We also note that preservation may be a matter of degree and particular aspects of natural character may be preserved but others not. That is, there may be no effect on the natural processes of the coast, but visual effects on part of the coastal environment may occur.

[627] Natural character has been understood as a continuum from pristine to totally modified<sup>69</sup> and criteria have been identified for assessing natural character.<sup>70</sup> While

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<sup>69</sup> *Harrison v Tasman District Council* Decision W42/1993; [1994] NZRMA 193 at p. 5

<sup>70</sup> *Meridian Energy Ltd v Wellington City Council and Anor*, Decision W031/2007

scales and criteria may be helpful to evaluate an effect on natural character, in our view, scaling or criteria cannot be conclusive. That is because natural character is, in part, a matter of perception, and because the context of the landscape is relevant.

[628] Ms Buckland referred us to a 2002 Ministry for the Environment study<sup>71</sup> that noted the effect of different types of modification upon the natural character of the area varies with the context, and may be perceived differently by different parts of the community. In our view, this perception referred to extends to the perception of natural character as well as perception of the effects of modification. Therefore, although biophysical aspects and the extent to which they have been modified by human intervention may be taken into account in the perception of natural character, this is not an objective assessment. Knowledge and understanding of natural elements, patterns and processes will differ as will the understanding of their contribution.

[629] The coastal environment in this case, we understand, consists of three zones with the coastal marine area being the most important aspect of the environment. We have described that environment and its elements of cliffs, beaches and working rural landscape behind the beaches and cliffs, with few structures within a kilometre or so from the beaches. We have described the characteristics of relative isolation and remoteness. We also note the relatively pollution-free beaches but limited cover of native vegetation and predominant pasture away from the escarpment edge. This is the context of the coastal environment of the 34 km length of the west coast beaches adjacent to the proposed wind farm site.

[630] Preservation of natural character requires the natural features to remain intact and natural processes to occur as well as the perception of naturalness to continue. We understand from the landscape analysis that we must take the coastal marine area as the focus of the coastal environment but also must consider the area of coastal influence which extends to a modified landscape of rolling hills in pasture, with views to the coast and sea in places, particularly through valleys.

[631] Where preservation of natural character is not achieved the question arises as to whether the particular development is inappropriate. This is a broad test involving value judgements, perceptions and questions of degree. The use of the word **inappropriate**

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<sup>71</sup> Ministry for the Environment, *Environmental Performance Indicators, Landscape Aspects of Natural Character, 2002*. In Buckland EIC at 25.

itself signals that there may be change to natural character but that there is change which is acceptable and unacceptable.

#### 20.3.3.2 *Definition of a coastal setback*

[632] The respective district and regional plans for the coastal environment include a coastal policy area (in the OWDP), and coastal zones (in the PWDP and PC14 of the Franklin District Plan). The coastal zones are defined by straight lines, sometimes along property boundaries, rather than following the topographical features of the coastal environment.

[633] During the First Hearing in 2009 the Board expressed concerns about the proximity of proposed turbines to the escarpment and coastline, and during the adjournment turbine locations were reappraised by the landscape peer reviewer (as well as by engineers).

[634] Ms Buckland carefully assessed the location of the coastal escarpment (where it occurred) together with the area of coastal dominance, and to the landward side, the area of coastal influence where the effect of coastal processes reduced and the degree of natural character was perceived as less. She identified the boundary of this area and noted that the width varied, and that in some places a precise boundary could not be determined, as coastal dominance was not distinct. Ms Buckland's advice was that, to ensure preservation of the natural character of the coastal environment, the turbines must be set back east of the coastal dominance line she had identified. She further reviewed their location in comparison to the line she had defined, taking into account the height of the turbines. She assessed their proposed location and visual prominence in relation to the shape and trend of the coast as well as to topographical features and pa sites. In noting the uniform setback distance indicated by the Franklin District Plan, she concluded that this was too rigid and did not reflect the meandering line of coastal influence she had identified, some of which extended well beyond the prescriptive 60 metres setback. She also noted the arbitrary aspect of the Proposed Waikato District Plan, which identifies the status of buildings within 1,000 metres of mean high water springs as a non-complying activity.

[635] Setback of the turbines behind the coastal escarpment, as established by the two landscape architects for Contact Wind, is one of the means by which the natural character

of the coastal environment would be preserved. Access roads and earthworks in this area would be minimal.

#### ***20.3.4 Effect of turbines and infrastructure on the coastal environment***

[636] The pattern of hills with intervening stream valleys extending from the coast forms the context within which turbines would be located on hills back from the coast. The wind farm would have effects on the biophysical values and relationships of people to the coastal environment and its natural character, and perceptual and experiential understanding of this landscape. We consider these aspects in the following paragraphs.

##### *20.3.4.1 Biophysical aspects*

[637] The impact on geology and landform is restricted to impacts behind the first ridge or escarpment, as identified by Ms Buckland. Earthworks associated with the TCA's and access roads have been refined to minimise the extent of cut and fill by following topographical features where practical and possible. Spoil disposal sites would be located inland of the coastal turbines. There were still some locations where further reduction of the effects of earthworks, such as at Turbine J07, needed to occur and the Board were advised that final design details could further minimise effects. The Board is satisfied that the final conditions satisfactorily address these requirements.

[638] At almost all turbine sites the vegetation cover is pasture and this cover can be replaced following construction. Conditions propose rehabilitation. In Block H1-11 the turbines and access roads proposed would have an impact on regenerating indigenous vegetation, which would be cleared and then replanted following works. We accept that the proposed final conditions, as well as off-set mitigation, address the effect of this clearance.

##### *20.3.4.2 Perceptual and experiential*

[639] From offshore the whole proposed wind farm may be seen, appearing behind the coastal escarpment as a series of clusters along the length of the coastal landscape. The cliff escarpment heights vary between 106 metres and 181 metres and the turbines would extend up to 150 metres, including blades. The turbines, we were told, could be perceived as vertical structures rising as counterpoints to the underlying landscape. The

height of the turbines was thought to have a dominating effect on the natural character of the coastline by at least one submitter, being taller than the height of the many cliffs rising from the beach. The Board has considered the perception of dominance and concludes that height would be perceived in relation to the extensive coastline rather than the height of the cliff. We accept that the turbines would be visible and impact upon visual amenity.

[640] Views to the coastline would be interrupted and create a barrier between views from inland to the beach. While this would be partly an effect on amenity it might also be considered as a matter relating to perception of natural character of the coast.

[641] The turbines would have limited physical effect on the area seaward of the coastal setback or first dominant ridge and, while the turbines would not create the perception of domestication, the evidence was that the turbines would have a significant effect on people's perception of the naturalness of the coastal environment, and may be perceived as contrasting with the open and extensive natural and pastoral environment of the area.

[642] Landscape witnesses were questioned about the contribution of both resident shore birds and migratory birds to the natural character of the coast, but neither had observed significant birdlife. We accept that while resident shore birds may be scarce or cryptic, and the major bird migrations may not be readily noticeable (as evidenced by the extensive research undertaken to establish the events and their routes), knowledge of both resident shore birds and bird migrations contribute to the understanding of the natural character of the coastal environment. Preserving these elements was a particular concern of Ms K Opie, a submitter.<sup>72</sup>

#### 20.3.4.3 *Values and relationships*

[643] Some local submitters expressed concerns that the turbines and access roads would affect the values they held for the coastline and particularly the natural beaches. The opinions of Tainui Aawhiro were related to Blocks H, I and J and we understood their values to be affected. Ngaati Tahinga did not express concerns about natural character.

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<sup>72</sup> Opie, K submission No. 47, received 3 November 2008

[644] Submitters expressed concern about the effect of the wind farm from Whale Bay, Ngarunui Beach and the Te Whaanga coast, all of which are popular surfing and picnicking locations. Their submissions were that the perception of the natural character of that coastal environment would be diminished by the turbines. They drew particular attention to their coastal environment and the high use and quality of the surf for recreation. They noted that the surf break has received international attention and that the presence of the turbines would diminish this value.

[645] The nearest part of the wind farm is some 10 km from the Te Whaanga coast. The coastal environment in this area has housing and other existing infrastructure and, while wild and attractive, is much less natural than the coastline to the north. While we address this concern in terms of visual amenity, we do not think the effect of the turbines on the natural coastal environment of Te Whaanga and neighbouring beaches is a significant issue.

#### ***20.3.5 Avoidance and mitigation in relation to the coastal environment***

[646] To minimise the acknowledged visual impact of the proposed turbines on the natural coastal environment particular attention was given to removal of turbines near the coast and implementation of a setback from the coastal escarpment. The edge of the escarpment was carefully identified, where it occurred, and all turbines set behind it.

[647] More than 20 turbines were moved further inland from their initial proposed location, and 11 turbines were removed from the coastal environment during refinement of the design. The turbine consent areas (TCAs) were reduced by half, which provided greater certainty about their location and effect. In addition, further study was made of the access road formations and cuts, which may be visible from the sea or beaches. Although road formation and TCAs were not depicted on the photomontages, the two Contact landscape witnesses accepted that size and location of earthworks, particularly cuts, could have a negative impact on natural coastal character and accordingly most earthworks were confined to the east side of the identified escarpment line. Those exceptions to this were reviewed and conditions proposed for remediation. Following the redesign process, three small sections of earthworks remained. These would extend somewhat into the escarpment line, but were not thought to create visual impact on natural character. In addition, consideration has been given to turbine location with respect to topographic natural features and pa sites.

[648] There are several mitigation and offset proposals that would address some of the effects discussed, including effects on wetlands and streams, which we consider below. The first is a funding offer for fencing of the escarpment where that is not in place at present. This would enhance vegetative cover and prevent future damage by stock. In addition there are fencing proposals for several streams. The Landscape Management Plan and Landscape Concept Plan provide for integration of fencing and planting initiatives with the objective of developing a more cohesive natural landscape within a productive farming area. A community liaison officer is also proposed through the offered consent conditions and this person would have an education and facilitation role to provide information and support on the planting and pest management programmes for those farmers who have escarpment or stream fencing. There are also guidelines for landscape requirements for design of the wind farm and its earthworks and rehabilitation.

[649] Taking into account the mitigation proposed, the Board is confident that there would be minimal physical impacts on the natural character of the coastal environment. However, we recognise that, inevitably, there will be people who would perceive the turbines and earthworks to be adverse visual impacts on the natural character of the coastal environment, despite the mitigation and avoidance measures provided by setback and design modification. The turbines are large structures and would form a prominent backdrop to the coast, reducing the perception of naturalness. While these effects are largely reversible, that is, should the turbines be removed in the future, the coastal character could remain, this does not alter the effect of the proposal on people. We thus find that the proposed wind farm would not preserve the natural character of the coastal environment. However, that is not the end of our consideration. We consider the other matters we must recognise and provide for under Section 6(a) of the Act and then consider whether or not the proposal is appropriate.

#### ***20.3.6 Effects on wetlands under Section 6(a)***

[650] Several wetlands were identified in the area of the wind farm. These were not specifically addressed in terms of Section 6(a) matters. These wetlands are within the working farming area and, although they survive, they are generally open to stock grazing. The wind farm turbines and access roads are not proposed to enter these areas and stringent conditions will limit sedimentation.

[651] There are some seeps that would be affected by infrastructure development. While the objective of Contact Wind was to avoid all seeps there are some that would be affected and, again, there are controls to minimise damage.

[652] We conclude that, although not all seeps would be preserved, mitigation to minimise effects would be undertaken. This includes buffer areas, fencing and controls on sedimentation. Wetlands are intended to be beneficially affected by the mitigation and BRES works proposed. We conclude that the impacts of the wind farm on wetlands and seeps, after mitigation and BRES works, would be minimal.

### ***20.3.7 Effects on rivers and their margins***

[653] There are no rivers in the wind farm area but there are a number of streams. The major streams do not have high natural values as stock have access to them in many places and banks are heavily pugged, eroding in places, and water quality reflects the use by stock and sometimes minimal pasture cover near edges. No turbines are proposed close to streams and conditions control any access crossings, which have already been consented.

[654] The physical effects on the streams are addressed elsewhere and we have concluded that the proposal has the potential to improve in-stream values. We therefore conclude that the natural character of streams and their margins would not be adversely affected. We note that there are significant mitigation or BRES offset proposals on the Kaawa, Tauterei and Waikaretu Streams for riparian fencing providing for 1 km of electric fencing on both sides of the lower Waikaretu stream and 2 km on the Kaawa Stream. While the purpose of the fencing proposals is to enhance inanga spawning, other stream values including water quality and fauna health would also be enhanced.

### ***20.3.8 Inappropriate use and development under Section 6(a)***

[655] The edge of the coast is a favoured location for turbines, as the wind is often strongest beside the coast. Here, turbines receive the predominant wind from the sea without topographic or other wind flow interference.

[656] The landscape architects and submitters noted the high natural character of the coastline in places, but behind the escarpment Contact's landscape architects found that

the landscape is highly modified and in pasture as a working rural landscape. Their opinion was that the proposed turbines were appropriately sited.

[657] Both landscape architects who appeared for Contact Wind agreed that turbines, in their final proposed locations, were not inappropriate forms of development. The reasons they gave were:

- [a] the turbines have been set back from the immediate escarpment into pasture;
- [b] the turbines engage with the natural coastal processes (that is the wind);
- [c] there are no outstanding landscapes that would be affected by the wind farm;
- [d] the expansive scale and productive rural landscape is appropriate for the wind farm; and
- [e] the underlying landscape and land use is able to continue uninterrupted.

[658] We also note that, following mitigation, adverse effects on wetlands, seeps, and streams and their margins would be minimal.

### ***20.3.9 Conclusions on Section 6(a) matters and NZCPS***

[659] We have considered the location, and extent of the coastal environment. We accept the evidence of the two Contact Wind landscape experts that the influence of the coastal environment extends beyond the beach and beyond the dominant or first hill line to over a kilometre inland, although the precise location is not a firm line. This is the area perceived to be affected by coastal influences.

[660] We have also assessed evidence on the effects of the turbines on the natural character of the coastal environment. We have concluded that, when evaluating whether the proposed change preserves natural character, we must consider values and perceptions of natural character, natural elements processes and patterns, the biophysical elements, natural landforms and surf breaks (and other aspects identified in Policy 12 of the NZCPS).

[661] We have noted that considerable attention has been given to the proposed siting of the wind turbines. Turbines have been moved behind the dominant ridge lines but still within the zone of coastal influence and, therefore, would still be within the coastal environment. Noting that care in setback of turbines and TCAs has been undertaken to partially screen the turbines from the coast and to minimise the effect on the natural character, we find the visual effects on natural character have been addressed to the extent possible, while seeking suitable windy sites for the turbines. We accept that the setbacks of turbines now proposed after modifications during the adjournment are appropriate.

[662] We have concluded that the natural character of the coastline would not be preserved, at least in terms of visual effects. Despite the careful siting of turbines, the mitigation by setback beyond the coastal escarpment, the minimisation of earthworks in the coastal environment, and proposed mitigation works included in the BRES programme, the landscape experts' views were that the turbines would significantly diminish the natural character of the coastal environment. We accept their opinion.

[663] However, we also agree with their view that the wind farm is an appropriate form of development on the coast and this is supported by NZCPS Policies 6(1) (a) and (2)(a), as well as (with respect to mitigation) Policy 4 and Policy 11 of NZCPS.

[664] We therefore conclude that the wind farm is acceptable in terms of Section 6(a) because it is not an inappropriate development, for the reasons given above.

## **20.4 Protection of outstanding natural features and landscapes under Section 6(b)**

### ***20.4.1 Section 6(b) of the Act***

[665] The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development is a matter of national importance and one we are to recognise and provide for in terms of Section 6(b) of the Act.

[666] There is considerable case law on this matter. Referring to some aspects of that case law we understand that a feature means a distinctive or characteristic part of a landscape and that an overall appraisal or judgement is required rather than a formulaic approach. In addition we look to outstanding landscape on a district-wide basis as a

comparison with other landscapes in the district and that an outstanding landscape should be well-defined, coherent and distinctive.

[667] We also note that the definition of landscape, which we have adopted, includes people's perceptions of and their interaction with the landscape. We are not simply assessing the biophysical aspects of landscapes in the area.

#### ***20.4.2 Outstanding landscapes under Section 6(b)***

[668] No operative or proposed plan identifies an outstanding landscape in the Franklin or Waikato Districts in the area of the wind farm. The landscape assessment recently carried out for the Waikato Regional Council does not identify an outstanding landscape in the wind farm or designation area either. In addition, Mr Lister assessed the landscape of the wind farm and could identify no outstanding natural landscapes that could be affected by the proposal.

[669] However, several submitters, including Mrs Granshaw, Ms Rutherford and Mr Smith thought the landscape of the northern area, or of all of the wind farm area, to be an outstanding landscape.

[670] The landscape architect who appeared for Mr and Mrs Walter, Mr S Brown, invited the Board to consider the possibility that Te Umukaraka Bush might be an outstanding natural landscape. We acknowledge that we may consider whether a landscape is outstanding even though it may not be identified as such in a district plan. Mr Brown couched his assessment of outstanding as a possibility, because he had not considered the area on a district-wide basis, in the context of assessing outstanding landscapes.

[671] Mr Brown extended his evaluation of this landscape to Kotekaraka Peak, just south of Port Waikato and to the stretches of the coast south of Port Waikato. In his assessment he included the bush, including Te Umukaraka Bush and landforms, limestone features and stream corridors. Although set in the context of farmland his consideration was, we understand, of all of this area and his opinion was that the landscape contained a collection of outstanding features.

[672] From the evidence that the Board has received, Te Umukaraka Bush is not sufficiently distinctive or coherent to be identified as outstanding. There are several areas of bush close by, including Te Tehe Bush, which also covers a sizeable area. Although somewhat larger and extending to a higher elevation, Te Umukaraka Bush is part of and not particularly distinct from the rolling hills of which Te Tehe Bush is also part. These areas include pastoral farm land. Mr Brown included all of this area within the one landscape (or as several features, this was unclear).

[673] Further Te Umukaraka Bush (and other areas) are not well-defined. Some parts of the bush are fenced and there is a distinct boundary in some places but some of the area has been grazed, such as Goat Haven, and other parts of the bush blend into pasture areas. The fenced areas are simply paddock boundaries rather than the edges of distinct topographical features and so do not indicate a landscape, or series of natural features.

[674] The patches of remnant and regenerating bush of Te Umukaraka Bush, Te Tehe Bush and Kotekaraka, and the area surrounding these hills and other parts of the wind farm, have natural landscape qualities but are not distinctive as landscapes or features individually or as an overall landscape. The area is somewhat distinctive by its size and locally higher elevation and we agree with the undisputed ecological advice that the bush is significant in terms of Section 6(c) of the Act, but that does not imply that it must also be an outstanding natural landscape.

[675] Mr Brown's suggestion was not supported by any other landscape architect's evidence. While some submitters identified the karst rock formations and other features as being outstanding, we received no detailed information on where the outstanding features or landscape(s) might be. Several submitters thought that the coastal area (rather than Te Umukaraka Bush) was an outstanding landscape but we heard no detailed evidence on this.

[676] We cannot conclude that the area including Te Umukaraka Bush and Kotekaraka either is a series of outstanding natural features, or overall is an outstanding natural landscape because the area is neither clearly defined nor distinctive and local perceptions and values were mixed. We conclude that the area of the wind farm has scenic qualities in parts but is not outstanding.

### ***20.4.3 Outstanding natural features***

[677] A significant geological feature is identified in the Kaawa Creek-Ngatuturu Bay section of the Franklin District Plan. This is not affected by the wind farm. In addition, Mr Lister identified two further rock features on the coast, which could be considered to be outstanding natural features in terms of Section 6(b) of the Act. These are at Otehe Point and at the north end of Carters Beach. He describes both these as picturesque rock features. Ms Buckland concluded in her review that these two coastal features were distinctive on a district-wide level. Her conclusion was that they, therefore, did not invoke the provisions of Section 6. In our opinion, a feature may be distinctive at a district level and still be significant. Features do not need to be nationally or regionally significant. However, the features will not be affected by the wind farm so we do not make a determination on the significance of the rocks.

[678] Two features were identified as significant by Dr Kahotea in the cultural values assessment he was commissioned to prepare for the Board. The first feature is the sandspit at the mouth of the Kaawa Valley, which is associated with the outrigger of the Tainui waka. This is discussed in the section on cultural matters but we accept that, in terms of significant features, the area is identified and recognised. The wind farm will not affect this feature. The nearest turbine (D018) would be on the opposite side of the headland at a distance of 1 km from the site.

[679] A second site associated with Maaori history is the resting place of the bailer from the Tainui waka. This area is identified as south of the Waikaretu Stream. Although this area is not identified on any district plan, it is our view that the site has been an important landmark in the memory of iwi for generations and should be identified as a significant natural feature. Again this is discussed in terms of Section 6(e) of the Act as well. The nearest wind farm turbines are approximately 300 metres from the site and located behind the escarpment ridge. The site is situated below the cliffs. The turbines would not therefore impinge on this site.

[680] Evidence was also presented on the parts of the landscape having special scenic amenity or quality. This was not argued as being a Section 6(b) matter and we address these aspects under impacts on the visual landscape.

#### ***20.4.4 Inappropriate use and development under Section 6(b)***

[681] As we have noted, one expert, Mr S Brown, suggested that Te Umukaraka Bush, together with other features in the area, may be an outstanding landscape. We have concluded that it is not. The factors we would need to consider were it to be deemed an outstanding landscape would be the effect of the turbines and the transmission line on the landscape and people's perceptions, and values and relationships to it. We instead consider the effect of turbines, and in terms of the NORs, the transmission line, on the significant fauna and flora of the bush as a Section 6(c) matter, and in this case, appropriateness is not a matter to take into account.

[682] No landscapes were agreed as having outstanding qualities in terms of Section 6(b) of the Act, and there are no outstanding landscapes that would be affected by the wind farm.

[683] However, several features by the coast were considered outstanding for various reasons. One geological feature is already identified in the Franklin District Plan, two rock stacks were identified as being significant for their visual qualities and two for their cultural values. The turbines are located behind the coastal escarpment and so do not physically have an impact on any of these sites. However, the turbines are within 400 metres of one of the features, therefore we consider whether the wind farm (and specifically these turbines) are appropriate in this context.

[684] We acknowledge that there may be conflicting views on the proximity of the nearest turbines to the site of the Tainui waka bailer. However, we conclude that the Tainui waka bailer is unaffected by the proposal, and the positioning of the turbines has been sensitive to the site's proximity. We conclude the effects would be minimal and, further, that the siting of turbines in this vicinity is supported by other provisions in the plans and is, therefore, generally appropriate.

#### ***20.4.5 Conclusions under Section 6(b)***

[685] We conclude that there are no outstanding natural features or landscapes that are affected by the wind farm, accepting the advice of two experienced landscape experts. Alternatively, in relation to natural features identified, the wind farm is not inappropriate.

## **21 EFFECTS ON AMENITY VALUES UNDER SECTION 7(c)**

[686] Amenity values means 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. Section 7(c) of the Act requires the Board to have particular regard to the maintenance and enhancement of amenity values. This is related to natural character, which has already been specifically considered as a Section 6(a) matter, and outstanding natural features and landscapes have also been assessed separately as a Section 6(b) matter. Other effects such as dust, noise and glare, which might normally be part of amenity values, have been considered in Section 23 of this decision.

### **21.1 Visual amenity under Section 7(c)**

[687] Contact Wind, through Mr Lister, prepared a comprehensive set of photomontages to assist parties to understand likely visibility and the effect of the turbines. Further montages were prepared at the request of parties such as those from Raglan who thought insufficient attention had been given to the views from the coastline at Te Whaanga as well as further north. There were disputes about the photomontage representation and to what extent misty conditions and distance would obscure the turbines. In addition, some submitters sought insertion of roads and other infrastructure proposed in the photomontages.

[688] We accept that a photomontage is a tool to help with assessment of visual effects but is not the human eye and, at the current stage of technical development, should not be taken as an exact replication of effects. We also acknowledge that the montages were prepared carefully and, although some aspects were disputed, we accept the general accuracy of them as well as the visibility diagram also prepared by Mr Lister.

[689] Several landscape experts and submitters referred to particular features of the wind farm area. These included Te Tehe Bush, the limestone rock features in several valleys in the area, the mouth of the Kaawa Stream and Waikawau Valley as well as Te Umukaraka Bush.

[690] Two of the three landscape experts we heard from referred to areas they thought should be identified as special amenity landscapes. These particularly were the rim rock

karst landscapes. The Board accepts that there are areas within the wind farm and beyond that have attractive visual and physical qualities. Our role is to consider the effects of the wind farm and, while there are no special amenity landscapes indicated on any of the planning documents, it may be that there is sufficiently strong public interest in identifying such areas. We leave that to the Councils.

[691] Some scenes of “The Lord of the Rings” were filmed in these landscapes and we were told film-makers struggle to find natural landscapes that are not cluttered by infrastructure. Mr R Jennings, who is a film producer and who appeared as a witness for Mr R Gemmell, spoke of this. The combination of indigenous bush, steep topography, limestone bluffs and streams was considered a very valued asset for filming as well as to local people. We were asked to consider retaining the uncluttered appearance of the landscape for the film industry as well as to protect the visual and aesthetic values people held. The wind farm would not be located in the particular areas identified although the transmission line would cross into parts of one area. Block C turbines, some 2 km away, would form a backdrop to the area used for “The Lord of the Rings” filming.

[692] The rural character of the area reflects farming as a land use, natural qualities, low density settlement, few structures and a sense of spaciousness. Some submitters valued this character and sought to conserve it. They also sought to protect the views of and to the rural area and the sea. We address the concerns of individual submitters but note that views and the introduction of turbines into loved scenery were of concern to a number of submitters. The concern was felt also by submitters living beyond the wind farm such as Ms M J Caird of Whale Bay. Her perception was that the wind farm would represent an industrial preserve in a landscape that is rural, coastal and outstanding. Ms Caird is an artist and referred to the coastline as a continual source of artistic inspiration. She believed the turbines would be completely out of place in a rural, coastal landscape.

[693] We recognise that the visual environment and people’s relationship with it affects people deeply, and that landscape amenity values are part of living in or near relatively remote areas. We also noted the conflict between people’s desire for peace and isolation, and emphasis on recreation and tourism, which would bring larger numbers of people into the area. We accept that the wind farm would affect the visual amenity of a number of people.

[694] We also noted that some people understand a wind farm as having neutral effects on amenity, and some perceive positive outcomes based on renewable energy. We now address the particular visual concerns of submitters who were affected by views of turbines and the wind farm.

## **21.2 Amenity and people**

[695] Mr R F Smith submitted a very comprehensive analysis of concerns he held about the wind farm, ranging from planning to noise and traffic effects, as well as impacts on amenity. He noted the natural elements and, particularly, the aspects of ecology and biodiversity, as well as effects of the wind farm on spiritual and cultural values. Mr Smith referred to the 3 km of flat Waikaretu Beach, which he submitted could be popular in the future. He referred to the natural character of the landscape and seascape. Mr Smith sought dismissal of the application. In detailed submissions, which he gave on behalf of his family, he noted that his property was called Glenview, referring to the view from the rear of his property. His interest in landscape was as a farmer working outdoors and he strongly expressed the loss of enjoyment and amenity he would suffer.

[696] Both Mr Smith and Mr A Reeves, another farmer and local resident, expressed concern about the effect of turbines close to their farms, as affecting their rural values, homes, community, and aesthetic values, as did B D & M W Jones.

[697] An amendment to the location of Turbine F012 was offered by Contact Wind with respect to Mr Smith's property. The amendment would move the turbine 80 metres so that it would be 190 metres or more from his property boundary. While the turbine would not be markedly lower in elevation, the change would represent a small improvement to Mr Smith's situation. We appreciate this will address only a part of Mr Smith's concerns and that, from his situation in the Waikaretu Valley, he currently appreciates views throughout the rural landscape to the sea. Mr Smith listened to and took part in almost all of the hearing and the Board valued his assistance in directing attention to particular issues.

[698] Mr Reeves was also concerned about the effect of the turbines on farming properties and on his local school. Mr Reeves stated that the turbines would destroy a landscape of beauty enjoyed by his family in the Waimai Valley. We accept that the wind farm would have an adverse effect on Mr Reeves and his family's rural values. Mr

Reeves also participated fully in the hearing and we found his questions gave us a much better understanding of his concerns.

[699] Mr R Townshend presented a wide-ranging submission to the Board on behalf of R E & P D Townshend Foundation Trust. Mr Townshend's submission included his concerns about the visual impact on his property, located on Te Akau Coast Road. He opposes the whole wind farm application. He noted that 17 turbines would be visible from his farm house, which looks directly down the valley to Block G11-27. He was not prepared to have any visual exposure and demanded that the turbines to the north and south of his property be removed (Blocks H to I), with no turbine closer than 2 km. He also sought the removal of the Te Akau substation and the Internal Transmission line designation from Te Akau.

[700] The Board, during its site visits, had noted the careful farm management and attractive rural landscape of properties such as that of Messrs Smith and Townshend. We accept that the wind farm turbines would have a marked adverse effect on the amenity values of those who perceive wind turbines as ugly. Mr Townshend described the wind farm as visually offensive. We note his very strong concerns.

[701] Ms Caird drew our attention to the Ridgeline Protection Policy in the Waikato District Plan. In her original submission she stated that the proposed wind farm would be in conflict with this policy. The landscape architects' evidence did not address the Ridgeline Protection Policy. None of the ridgelines identified in the OWDP are within the wind farm area. However, the PWDP contains policies that address the impact of earthworks, roads or tracks on or within 20 vertical or horizontal metres of ridgelines in the Coastal Zone. The turbines are all located on elevated land and their impact has been addressed in terms of Section 6(a) and (b). As we have identified, construction within 20 metres horizontally or vertically of the ridgeline requires a restricted discretionary consent. We have already identified the relevant criteria and these are subsumed within the general visibility and amenity issues we are considering.

### **21.3 Effect on school amenity**

[702] Several submitters drew our attention to schools such as at Te Akau and Waikaretu and, apart from other issues, expressed concerns on the effect of the turbines on amenities for school children and teachers. Vegetation would screen the classrooms

of Waikaretu School and the school house from Block F turbines, 2 km distant. Although the turbines would be visible from the playing field, carpark and school house gate, teaching is not likely to be disrupted because the turbines would not be seen from classrooms.

[703] We have considered the effects on schools and accept that some families who dislike turbines may find the views of turbines abhorrent or unattractive. There would be minimal effect though on teaching or outdoor recreation at the schools. However, as part of a community affected, a fund has been offered annually to each school to mitigate impacts. Condition 12.14 of the District consents proposes payment be offered to three schools; Port Waikato (Te Puaha), Waikaretu and Te Akau. We have concluded that all three schools should receive the same initial and annual payments notwithstanding differences in their roll.

[704] In addition, a further sum is proffered to a community trust proposed to be established to provide amenities in the area (see District Council Conditions 12.11). We accept that this is a positive proposal but is unlikely to mitigate the visual impact for those who hold values in opposition to the wind farm, such as Messrs Townshend, Smith and Reeves.

[705] A number of other submitters expressed their dismay at the proposed effect on rural and visual amenities. Their concerns were related to properties within the area as well as from outside the area.

#### **21.4 Effects on views from Raglan**

[706] The Board received a number of submissions from Raglan residents. While some were focused on recreation, their particular concern was about visual impact. Although those residents are some 10 km from the wind farm, they sought removal of Blocks H, I and J in particular and some sought dismissal of the application.

[707] Ms Grey expressed concern about the impact of turbines on views from their bach at Whale Bay. In addition, Mr K A Hanson, Ms J M Keir and Dr R King, Mr G J Divett, Mr D T Grant, Ms C A Ross, Mr P L Barry, Mr D Conquest and Mr R J Brown all expressed concerns about the Whaanga coast. Many of these submitters wrote about their love of the natural beauty of the coastline and their loss of visual amenity. Most sought

removal of Blocks H, I, and J and some sought dismissal of the application in its entirety. The Board visited the Te Whaanga area and accepts there are extensive views from houses above the coast.

[708] The Board accepts that, for those who regard the view of turbines as visually intrusive, distance or mitigation does not address the problem they perceive. We accept that there will be adverse effects from the turbines for those people.

## **21.5 Tourism amenity**

[709] Several submitters raised their concerns about adverse visual effects the proposed turbines could have on tourism in the area. Mr P H McCabe and Mr R J Brown raised concerns with respect to tourists to Raglan in their submissions to the Board. Mr R J Brown estimated that there were 38,300 tourist visits to Raglan in 2009. While the numbers of tourists visiting Raglan each year was disputed, we accept that the numbers are increasing. Mr Brown was particularly concerned about Blocks H, I and J and sought a setback of turbines from the Whale Bay vicinity of 24 km.

[710] Mr A J Carr was concerned about the turbines closest to Port Waikato, particularly those between Port Waikato and Limestone Downs and their impact on tourism, recreation and other effects. His evidence was that a large percentage of overseas tourists chose a self-drive travel option through New Zealand and that domestic tourists also travelled through the district. He submitted that the road from Port Waikato was a popular scenic drive and that the clutter of the turbines would have an adverse effect on tourism. In addition, Franklin District Council asked that consideration be given to effects on tourism and recreation. We also noted the tourism business based at Nikau Caves. The land of this latter business is part of the wind farm development.

[711] We accept that the turbines may be perceived as an adverse visual effect by visitors to Whale Bay and Te Whaanga coastal locality who have sought a natural landscape experience. We also accept that this visual effect would be compounded by the 28 turbines at the Te Uku wind farm, as a cumulative effect. However, evidence was that Block J turbines, the nearest point to Whale Bay, were 10 km from this area so although visible and noticeable, particularly because of blade movement, their effect would be limited.

## **21.6 Effects on other views under Section 7(c)**

[712] Mr B Brown raised concern that the wind farm would result in visual conflict with Mt Karioi, which Ms Buckland has recommended to the Regional Council as worthy of identification as an outstanding natural feature/landscape. Mr B Brown was concerned that the scale of the turbines would compete visually with that of the mountain. Mr Lister's evidence was that the turbines would be 20 percent of the height of the mountain, were thin structures and would be at least 10 km from the mountain. This is also the opinion of Ms Buckland. The Board accepts that there would be no serious discord with Mt Karioi, because of the distance of the turbines from the mountain.

[713] A number of turbines in the Limestone Downs area were removed by Contact Wind from the 2009 proposed layout. Some remain, although they would not be visible from Port Waikato or from much of the road between Port Waikato and Raglan. This is a very winding route and a number of road sections are in valley areas where visibility over hills is restricted. Traffic numbers provided by Mr Galloway are low. By contrast we accept evidence that some people find turbines an attraction and Contact Wind propose three areas on this route for people to stop and view the turbines. Turbines also indicate a commitment to what is understood as clean, renewable energy so tourists may have different perceptions about them and what they represent.

[714] Our conclusion is that there would be a visual effect from the turbines, and that those tourists who seek the experience of a natural landscape, either at Raglan beaches or passing through the area, may be affected. However, we conclude that the presence of the turbines will not reduce numbers of tourists to the area. Although we accept that the construction zone would have an effect on tourists passing through, in the longer term, our view is that any effect would be minimal. This is because there are currently relatively few tourists to the area (as opposed to those who visit Raglan for surfing), and there was no evidence that turbines deter tourists.

## **21.7 Effects on nightscape amenity**

[715] Several submitters noted their concern about lights at night. Conditions would require safety lights for aviation to be screened from below. In their elevated position above and 10 km distant from Whale Bay, experts advised that these lights would not be

visible from houses on the Te Whaanga Coast, or from few if any properties within or beyond the wind farm area.

## **21.8 Effects on recreation amenity**

[716] Several submitters opposed the wind farm because they were concerned about the effect of the wind farm on recreation. Most of those were concerned about the effect on particular forms of recreation, which we deal with below.

[717] There was evidence from Mr Galloway that there are a number of trail bike events in the area held on an annual or biannual basis. One of those is trail bike riding at Sunset Farms. Another event is the Waikato Bush Carnival. Some of these events are held to raise funds for charity and other local purposes. Both Messrs Yates and Galloway agreed that provision should be made in construction road planning and communications to enable these events, and conditions provide for this.

[718] There was limited evidence on use of the roads in the area for informal recreation such as cycling or horse riding but we note that conditions concerning road use and management will need to take account of those using roads for recreation. The area is rural and such activities might be expected.

### ***21.8.1 Surfing amenity***

[719] The NZCPS (2010) is a national policy statement under the Act. In Schedule 1 it identifies Surf Breaks of National Significance. The NZCPS defines surf breaks as a natural feature comprised of swell, currents, water levels, seabed morphology, and wind. The definition explains that the hydrodynamic character of the ocean (swell, currents and water levels) combines with seabed morphology and winds to give rise to a surfable wave. Three surf breaks are listed in Schedule 1 in Waikato (Raglan), at Manu Bay, Whale Bay and Indicators. We must have regard to the relevant provisions of the NZCPS and therefore consider whether the proposed wind farm could have any adverse effect on the surf breaks identified. From the description of the factors influencing a surf break, any effect which the wind farm may have on the wind resource may be important.

[720] Mr R J Brown presented oral and written submissions on behalf of the Raglan Point Boardriders' Club. Mr Brown identified increasing use of beaches north of Raglan,

identifying surf breaks at Mussel Rock, Te Hara Beach, and Carters and Gibsons Beaches, as those that were also valued by board riders as high quality curling surf breaks. He identified two types of effects about which he was concerned. The first was the physical effect of the turbines on the surf breaks. He also referred to the adverse visual effect of the turbines. We understood this to refer to effects on visitors on shore and also to effects on surf riders.

[721] A wind turbine creates a wake that acts downstream of the turbine from the swept area of the turbine blades in a conical shape and gradually dissipates with distance. Wind speed wake effects are well understood by the wind energy industry, as turbulence created by wake effects must be taken into account in design and layout of wind farms. Contact Wind's evidence was that Te Hara and Mussel Rock are located more than 4 km from a turbine and there would be no wind effect from any turbine on the surf breaks at these locations because of this distance. The surf breaks identified by Mr Brown at Carters and Gibsons Beaches would be closer to the turbines but the evidence was that the vast majority would be more than 500 metres from the surf breaks. In addition, the proposed turbines would be 80–140 metres above the surf breaks, which further reduces the potential for turbulence and wind speed reduction effects. The wind engineer for Contact Wind, Mr O Manins, also stated that the wind flowing over the cliffs has a moderately high turbulence intensity as a result of the local topography, and therefore there already is an effect of turbulence from wind from the east. The concluding evidence from the wind engineer was that the wind effects on the northern beach surf breaks would be immaterial. In addition, the wind turbines would have a negligible effect on the overall direction of the wind.

[722] No other conflicting evidence was offered although Mr M Hamilton, an experienced surfer, commented that forestry located on cliff tops was a particular concern to surfers due to their possible 'mushy' impact on surf breaks. This effect would not be caused by the turbines. We understand that the much greater distance from the turbines of the three identified surf breaks in the NZCPS at Raglan (and Ngarunui Beach and the Raglan Bar also identified by Mr R Brown) would preclude any effect of the turbines.

[723] We deal with general visual effects separately. However, particular concern was expressed by the Boardriders' Club about the effects on the visual resource backdrop of the wind farm, particularly Blocks H, I and J, which they sought removed in the interests of recreation. The Club noted that there was international interest in the surf breaks of

Raglan and the wind farm would clutter an otherwise green and natural landscape backdrop and thus diminish the recreational experience.

[724] We accept that there would be a discernible effect on the views from all surfing beaches. However, we note that the beaches on the south side of Raglan have a residential rather than rural backdrop with housing appearing to be less than 100 metres from the shore. The comparison we make is not of an uncluttered view but of residential housing. We conclude therefore that the wind farm would have no material physical effect on the surf breaks identified. While those who strongly dislike the visual effect of turbines may have their recreational pleasure diminished, we conclude that the overall effect on surfing would be minimal because the turbines are not close to the waves and are generally a marked distance from the activity.

### ***21.8.2 Boating amenity***

[725] Mrs S A Hart, representing the Raglan Sports Fishing Club, appeared as a witness for the Bernard Brown Family Trust. She had been concerned that the turbines may interfere with radio communications, which were very important to the safety of their members. She provided information and estimates on boating activity noting that 10,500 boats were recorded entering and leaving Raglan Harbour on an annual basis.

[726] Ms Hart accepted the expert evidence of Mr J Hills that turbines would not interfere with their radio communications.

[727] We acknowledge the substantial interest in boating in the Raglan (Whaingaroa) Harbour. We have already referred to the dissipation of any turbulence the turbine blades may create, and their less than minimal effect on surfing from the northern beaches including Carters and Gibsons. The same outcome would also apply to boating. In addition, the wind farm would not have a safety effect on boating because the turbines would not have any effect on radio communications.

### ***21.8.3 Fishing amenity***

[728] The use of the beaches between Port Waikato and Raglan for boating and fishing events was also raised by Mr R Smith and some other submitters. Although Mr Smith's photos of participants on the beach for the Waikaretu Beach Fishing contest were not

recent, we understand that such events are very popular, particularly in suitable weather. We understand that fishing is undertaken from the beach as well as away from the coastline and several kilometres out to sea. The concern of these submitters was that the adverse visual effect of the turbines would diminish the enjoyment of fishing and boating.

[729] We accept that boaties and fishers may perceive the effect of the turbines as unattractive visual clutter. We also accept that although turbines may be partly or completely concealed from the beach immediately below the cliffs (and therefore be of less effect visually) from several kilometres at sea, many of the turbines would be seen. However, although more numerous, distance from the turbines would also be greater and therefore of less visual effect.

[730] Our conclusion is that there are various perceptions of wind turbines and for some people this impact on the natural or rural character of their landscape may be very negative. Other people may regard the visual effect as positive or neutral. We therefore conclude that there would be an effect on marine recreation arising from adverse visual impacts for those who perceive the turbines as in conflict with natural values. We come to this conclusion because the turbines would be very noticeable from the coastal marine area.

#### ***21.8.4 Hunting amenity***

[731] Several submitters noted their interest and participation in hunting for pigs and goats in the area. The wind farm is not expected to create any long term barrier to such recreation (although the pest eradication proposed is intended to lower their numbers) but there are likely to be barriers to hunting during turbine construction. No evidence was given about recreational hunting on the wind farm and we conclude, through lack of any evidence to the contrary, that there would be no long term effects on hunting except the normal private property barriers.

#### ***21.8.5 Car rallying***

[732] Rally New Zealand made a submission although they did not appear before the Board. Their submission was neutral on the wind farm proposal but they claimed there were 200 million television viewers of the rally, which uses the roads between Port Waikato and Te Akau South. In their view the rally would be of more photographic

interest with the wind farm present. They sought conditions and considerations relevant to a number of aspects:

- [a] Access to the roads for the Rally and practice prior to the rally during construction. Contact Wind accepted that construction traffic would need to cease at this time. The conditions offered and the CTMP are intended to provide for this.
- [b] The roads remain a world class rallying route and that, at the end of construction, the roads should be left in a suitable state for continued rallying. To this end Contact Wind has agreed to liaise with Rally New Zealand during final design of road upgrading for the wind farm to ensure that their interests are taken into account.
- [c] While Contact Wind proposes three viewing platforms for the public to have suitable parking areas to view the wind farm, Rally NZ hoped that the viewing platforms might serve a dual use for viewing the rally as well. Again, Contact Wind agreed to liaise with Rally New Zealand and the Councils at the final design stage.

[733] In the event consent is otherwise appropriate, we see the inclusion of those conditions as being reasonable and a helpful way of supporting recreation as well as the local community.

## **21.9 Overall conclusions on effects on amenity under Section 7(c)**

[734] The effects on amenity and recreation arise primarily from effects on views and visual impact. These vary in type and scale between submitters. The turbines are substantial structures and cannot be hidden by ground contouring or other methods. For those people who are concerned about visual impact, it seems the only solution would be to not construct some, or all, of the wind farm.

[735] The Board accepts that mitigation and collaboration (such as with Rally New Zealand) can be provided for and that there are some activities that would not be affected, or may be affected during construction only. We must consider the adverse impact on amenities for the submitters and groups within the community and take particular account of these concerns in our broad evaluation of the application. The amenity impacts vary

from those that are minimal, for example for hunting and boating, to those that are significant, for example on individual landowners who overlook significant portions of the wind farm (e.g. Smith, Reeves and Townshend). Those impacts are left to be considered as part of our overall evaluation later in this decision.

## **22 PUBLIC ACCESS TO COAST AND RIVERS UNDER SECTION 6(d)**

[736] Particular emphasis is placed on matters of public access, relevantly, to and along the coast and rivers under Section 6(d) of the Act. This application would not interfere with maintaining existing access, but there were limited proposals for enhanced access. Mr G Black suggested an access point over his property for pedestrians. Contact agreed to provide money to support this proposal, but accepted that it was speculative. Their proposition was that, if the money was not used for access, it would add to the monies available for coastal fencing.

[737] There are currently few public access provisions to and along streams, rivers and the coast in the area. The proposed fencing provided for habitat protection and enhancement through the BRES scheme would not inhibit public access. No other aspect of the wind farm proposal would inhibit long term access to the coast and marine area. However, the proposed access to the coast offered through Mr Black's proposal, and the support in the BRES scheme, could have beneficial effects in terms of Section 6(d) of the Act and we discuss this in more detail under positive effects. We conclude that there would be no adverse effects to public access along streams, rivers and the coast as a result of the wind farm.

## **23 HEALTH AND SAFETY EFFECTS**

[738] Various potential health and safety effects have been raised either by the applicant's experts or by various submitters. We deal with those that relate to construction of the wind farm and its operation.

### **23.1 Dust**

[739] Mr Breese and Mr Millais discussed this issue in different contexts. Mr Galloway also briefly mentioned the potential for dust from traffic. There was the possibility of dust arising both from traffic and also from general earthworks. Most of the earthworks

are well within property boundaries and dust was not seen as a significant issue. More problematic was the potential for dust created by traffic movement, particularly if it was tracking from earthworking areas. Mr Millais saw the simplest solution for this to be utilisation of water trucks to dampen down dust in circumstances where it could be problematic beyond the property boundaries. This also seemed to apply on some public roads, particularly the road to and from Whitford Quarry. Overall, we consider that the applicant's proposals to manage dust are appropriate and we conclude that these effects are likely to be minimal.

### **23.2 Noise**

[740] Mr N Hegley gave evidence for Contact Wind on this issue. He was confident that all the New Zealand noise standards, including those for wind farm construction and operation, would be met. His calculations demonstrated that noise would not be a problem either from the works on the site or from traffic noise, provided the conditions of consent suggested by him were adopted. Mr R Walker initially raised particular concerns over noise, but subsequently signed an affected parties' Memorandum of Consent. Accordingly, we do not take into account any potential noise effects on the Walker property. Various other parties raised questions relating to infrasound and other forms of energy transfer from inaudible sounds either too low or too high for the human ear. Mr Hegley was satisfied that this issue would not arise on this wind farm and we accept his evidence.

[741] A submitter raised concerns about noise from the Orton switchyard affecting nearby residences. Again, Mr Hegley's evidence was that the expected noise from the switchyard would be well within relevant standards. He also considered that insulator hum and coronal discharge would be minor issues and unlikely to affect residents. Having regard to the National Grid adjacent we conclude additional noise issues from this deviation and connection would be minimal at Orton. The balance of the line would have fewer noise issues given the separation from residences.

[742] Concerns were also raised about noise and vibration from the reopened quarry. Mr Hegley's evidence is that noise would meet relevant standards. Operation of rock crushing machinery is well away from the nearest boundary and no evidence was given of any effect. Blasting may have short-term impacts, but no more than the nearby

Ravensdown Quarry. We similarly see vibrations and dust, from the quarry itself, being entirely contained within the boundaries of the wind farm sites.

[743] Overall, we conclude that the wind farm, quarry and transmission lines could operate within the appropriate noise standards and meet the District Plan requirements for noise. Although the Proposed Waikato District Plan suggests that these need to be met at the property boundaries, we acknowledge that these provisions are subject to appeal and that all sound requirements would be met at all notional boundaries. In respect of potential for the provision to remain into the adopted plan, we keep in mind that most of the sites in question, which could be affected by noise, were ones well away from areas likely to be used for habitation. For example, although wind turbines are within several hundred metres of Mr R Smith's boundary, this boundary is several kilometres from existing farm houses over rolling land. The cost of providing power and water to such positions is likely to be prohibitive. We see the siting of houses in such positions as fanciful.

### **23.3 Glare**

[744] There was little evidence given to the Board on the subject of glare, but it was acknowledged that the turbines should be painted in a non-reflective neutral colour. There was no particular view of the experts or any residents as to what that colour might be, and those favoured by the experts seemed to be either a light grey or low-reflective white. We acknowledge that there could be times during the day when, whatever colour or design of the turbine blades, there would be some glare, however we consider that the conditions now offered concerning the colour of the turbines would provide sufficient mitigation for glare.

[745] Overall, we consider that, with mitigation, the effects of glare are likely to be minimal.

### **23.4 Turbine flicker**

[746] This issue seemed to arise in the context of concerns over the potential for susceptible persons to be adversely affected by turbine flicker. Mr A Kerley gave evidence on this matter. Mr Kerley's conclusions were that many of the farm owners had given written approval and therefore effects on them could not be taken into account.

[747] For those who had not given written approval, the shadow flicker effects are well within the established Sustainable Energy Authority Victoria guidelines for maximum realistic shadow flicker. This standard permits no more than thirty hours of realistic shadow flicker on any house per annum. In fact, as we understand Mr Kerley's evidence, there are no properties likely to be affected by this subsequent to the deletion of Turbine E18. In short, Mr Kerley concludes that shadow flicker would be negligible at distances greater than 2 km.

### **23.5 Road safety**

[748] We have already discussed traffic issues generally. However, issues were raised by various parties concerning road safety. These included Contact Wind's proposal to turn parts of the public road into a construction zone while the wind turbines and transmission towers and other infrastructure were being constructed. This particularly seemed to affect areas from Whitford Quarry to the relevant sites where turbines were being laid down. There were concerns as to the use of school buses through construction zones and how bus drivers would be notified of large construction related vehicles utilising the road. There were also concerns about how other persons using the road, such as pedestrians or cyclists, would properly be alerted to the presence of one of the large construction related vehicles.

[749] The Board was concerned about the use of the off-road construction vehicles and whether they were certified for safe use on the public roads. Nevertheless, we acknowledge Mr Galloway's evidence that the construction zones could be operated safely with an appropriate traffic management plan. Given that there are few alternative roads, which could be utilised in the area, it would be necessary that the construction zones minimised inconvenience to local traffic, and ensured at least an equivalent state of safety for the road.

[750] We conclude that with such controls most effects would be minimal. We have already discussed our concerns over the use of Waikaretu and Te Akau roads. These are already narrow rural roads and, with the presence of construction crew, it is likely that far more attention would be paid to safety issues than would normally be the case. We acknowledge that it is important that Contact Wind address the traffic routes past the schools, and we are satisfied that the conditions now inserted by the Board provide for increased protection around schools during drop-off and pick-up times.

[751] Concerns were raised about the increased number of heavy vehicles on the road and there clearly would be times when the entire road would be utilised to transport turbine blades or the nacelles, towers or transmission route infrastructure to the various sites. Overall, our view is that road safety would be maintained on these roads given the necessity of ensuring proper turns for the large vehicles utilised for the wind farm. Moreover, there is no doubt that the applicants would be required to have a proper traffic management plan and ensure that traffic is warned of the presence of these large vehicles to minimise any prospect of accidents. The final conditions of consent adopt measures to ensure road safety.

### **23.6 Air safety**

[752] We understand that the New Zealand Civil Aviation Authority (CAA) has agreed that the turbines can be placed in their proposed positions, provided certain safety steps are taken. Overall, we understand no particular issue was seen in relation to the proximity with any major airfield, and the turbines would be below normal flight heights.

[753] Nevertheless, we were advised that lights meeting CAA requirements would need to be installed on the turbines, as with any other major structure. These lights could be designed to face upwards so that they would not be readily evident to residents in the area, but would be visible from aircraft flying in the locality.

[754] Overall, the turbine light system is intended to give guidance to pilots in the area, and increase rather than reduce air safety. We are satisfied any effects are likely to be minimal.

### **23.7 Radio and TV interference**

[755] The applicant has identified that there may be some minor impacts on television reception in the area. Conditions are proposed that would ensure that this would be rectified by Contact Wind at its cost. Contact Wind does not see any problems with radio operation. Nevertheless, the Raglan Boating Club is concerned that the safety issues in relation to radio transmission may be affected.

[756] Looking at the placement of the turbines in relation to the coast, we are satisfied that there is not likely to be any interference. However, to the extent that any interference

is identified, this is a matter that must be rectified at full cost to Contact and conditions have now been included to make this clear.

### **23.8 Conclusions on health and safety effects**

[757] Overall, we have concluded that potential impacts on health and safety from the wind farm construction and operation are minimal. In relation to noise and dust, this would require diligent compliance with the conditions of consent. Provided those are adhered to, we are satisfied that those minimal effects can be disregarded for the purpose of this assessment.

## **24 MAAORI<sup>73</sup> CULTURE AND TRADITIONS**

### **24.1 Local hapuu**

[758] Although other hapuu were referred to in the evidence, it was accepted by all that the two hapuu most directly affected are Ngaati Tahinga and Tainui Aawhiro.

[759] It was also accepted by all that Ngaati Tahinga have extensive interests within the general area of the wind farm, from Port Waikato to the Tauterei Stream. This includes Blocks A to I, the Internal Transmission line and substations and the External Transmission line. During the hearing, an existing but moribund trust, Nga Uri o Tahinga Trust (**Nga Uri**), was re-established to represent Ngaati Tahinga in respect of this application and Nga Uri appeared to have widespread support amongst their hapuu members.

[760] Tainui Aawhiro were represented by Ms A Greensill with Mr M Hamilton, who have both participated in numerous environmental issues on behalf of Tainui Aawhiro. It was accepted by all parties that Tainui Aawhiro have extensive interests at least from Karioi in the south to the Tauterei Stream in the north, including Block J.

[761] Tainui Aawhiro also claim interests north of the Tauterei stream, particularly in Blocks I and H. Mr Yates gave evidence for Contact on consultation with members of Ngaati Tahinga and Tainui Aawhiro. He gave evidence that Ngaati Tahinga did not

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<sup>73</sup> In deference to regional dialectic preference, we have used the double-vowel rather than the macron as recommended by the Maaori Language Commission.

consider Tainui Aawhiro to have a mana whenua interest, although he was not qualified to give an opinion. This created some difficulty for Contact, particularly when considering the involvement of Tainui Aawhiro north of the Tauterei Stream. Even in closing submissions, Contact explicitly acknowledged Ngaati Tahinga's relationship, but remained silent on the Tainui Aawhiro relationship.

[762] However, Section 6 of the Act does not refer to mana whenua, and we consider it both unnecessary and unwise to attempt to assess mana whenua. The Board's obligation under Section 6(e) of the Act is to recognise and provide for Maaori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

[763] We accept that hapuu traditionally did not have immutable boundaries, but that their interests were at places permeable and overlapped with their neighbours, particularly where hapuu are closely related by whakapapa. We conclude that such a relationship and overlapping rohe (tribal area) is the situation between Ngaati Tahinga and Tainui Aawhino, both hapuu of Waikato Tainui.

[764] We are required to recognise each relationship, and then provide for that relationship, which we turn to now. We note that Contact Wind would have been on safer ground if it had made explicit statements to the same effect, rather than giving the appearance of too closely aligning with one hapuu over the other.

## **24.2 Consultation**

[765] When Contact Wind began to investigate the proposed wind farm, it approached landowners whose land might accommodate turbines. This included Maaori freehold land in multiple ownership and general land owned by Maaori. In late 2007 Mr Yates began discussing the wind farm proposal with Ngaati Tahinga marae. In July 2007 Contact Wind also established a working party comprising representatives of Contact Wind and local kaumaatua. Edited versions of the working party's Terms of Reference were produced to the Board, but there was no evidence regarding who appointed the representatives, or how, or whether the hapuu themselves approved the Terms. It was unclear when the Terms we saw were edited although this was well after July 2007.

[766] Although meetings were held at marae, there was no evidence that these were advertised, who attended, the matters discussed, any concerns raised or resolutions passed

at those hui. In the absence of such evidence, while we accept that meetings were held, we can give no weight to those hui as evidence that Ngaati Tahinga generally supported the detail of the proposal.

[767] Although we heard evidence that there was no central legal entity (in 2008 and 2009) representing Ngaati Tahinga on environmental issues, this is not uncommon. As referred to by Ms Greensill, many hapuu rely almost exclusively on volunteers, as they seek to participate in resource consent applications and planning processes (as well as participating in other submissions processes at a district, regional and national level).

[768] Therefore, the question for the Board is whether adequate information is provided by the applicant to allow a robust assessment of Maaori culture and values under the Act. It was clear to the Board that better processes were available for engaging with local hapuu. However, this was not clear to some of Contact Wind's witnesses, who stood by the flawed process, even with the benefit of hindsight. We prefer the evidence of Mr M Love, who considered that Contact could have engaged expert advice both on how to conduct the consultation process and on the particular effects of the proposal on Maaori.

[769] In relation to Tainui Aawhiro, Contact Wind was advised at an early stage that consultation with this hapuu was required. Upon contacting Tainui Aawhiro, Contact Wind was advised that they required a full hard copy of the application and supporting documents. Despite repeated requests for this information, it was never supplied, and accordingly, Ms Greensill for Tainui Aawhiro did not consider that they had sufficient information to be able to discuss the matter in detail. Why Contact Wind allowed this situation to persist well into the call-in process is a mystery to the Board. We conclude that Tainui Aawhiro's request for a hard copy of the information was entirely reasonable.

[770] Although the situation was later rectified, and Tainui Aawhiro and Contact have engaged extensively in consultations since that time, the position of Tainui Aawhiro is largely conditioned by their early interaction with Contact Wind. Certainly, by the conclusion of this case, we are satisfied that Contact Wind and Tainui Aawhiro had both actively engaged in consultation with a view to identifying and remedying concerns. However, a number of Tainui Aawhiro's principal objections could not be adequately addressed by Contact Wind.

[771] Ultimately, the effect was that the Contact Wind working party responsible for developing the proposal did not include an expert to advise on effects regarding either hapuu. The difficulties were compounded by Tainui Aawhiro's lack of involvement, due to failure by Contact to comply with information requests. This meant that Contact confused cultural impacts with effects on archaeology. Further, despite Mr Lister acknowledging that cultural values are a proper part of landscape assessment, neither he nor any other Contact witness carried out that assessment or a study of Maaori cultural values.

[772] It surprised us that Contact Wind and Contact Energy did not provide direct expert evidence on Maaori culture and traditions. At the time of the adjournment we sought comment from the parties on a brief, then commissioned Dr D Kahotea to undertake an independent assessment of Maaori values. This appeared to assist the parties, given the previous difficulties they had had in engaging. During the second hearing, Contact called two witnesses who also might have been able to assist the Board. Unfortunately Mr T Flavell's evidence only addressed the Pukerewa A Block. Mr Love's evidence only reviewed Dr Kahotea's report rather than providing his own assessment. A cultural values report by Mr R Thompson was produced but he did not give evidence to the Board at the Second Hearing. His earlier report explicitly did not address any effects on Tainui Aawhiro.

[773] We consider that the engagement with local hapuu prior to the Second Hearing was flawed. However, in the course of the Second Hearing we received sufficient information to enable us to make a decision in respect of the effect on Maaori culture and traditions. Nevertheless, we make it clear that, but for Dr Kahotea's report, the involvement of Nga Uri and Tainui Aawhiro, we would have had serious concerns regarding the adequacy of Contact Wind's engagement with local hapuu.

### **24.3 Waikato River vision and strategy**

[774] We now consider the Waikato Tainui Raupatu Claims (Waikato River) Settlement Act 2010 (**Waikato River Act**). The Waikato River Act sets out the Vision and Strategy for the Waikato River, which was developed in consultation with the community, including iwi. The Vision is:

Tooku awa koiora me oona pikonga he kura tangihia o te maataamuri

“The river of life, each curve more beautiful than the last”

Our vision is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.

[775] None of the wind farm is within the catchment affected by the Waikato River Act. Only a small portion of the transmission line route is affected by the Act, the area adjacent to the Waikato River at Orton. The area relevant for current purposes is Punga Punga Wetland, and we will consider the implications of the Waikato River Act when we come to discuss that area.

#### **24.4 Principles of the Treaty**

[776] The ordinary position is that the principles of the Treaty of Waitangi apply to the Crown and Maaori, rather than to applicants. In this case, the Crown is not directly represented, except in the form of EECA and DOC. The hapuu involved made no comment in respect of either agency.

[777] Tainui Aawhiro advised that they have extant claims to the Waitangi Tribunal, so sought to preserve their position in respect of the extent of their rohe. There were otherwise no claims issues raised before us.

[778] For completeness, we consider that the principles of the Treaty support the involvement of tangata whenua in the consenting process and in on-going monitoring of the proposal. These matters are also assessed in respect of Maaori and their culture and traditions and kaitiakitanga.

#### **24.5 Ancestral lands**

[779] The parties agreed that Dr Kahotea’s report provided useful historical context, which otherwise was not discussed in the parties’ evidence. He described the arrival of the Tainui waka, and summarised the ancestral occupation of the general area and some of the tupuna associated with the local hapuu.

[780] There was a pattern of occupation along the coast, and numerous pa sites reflect the mobility of the local hapuu settlement patterns over a long period of time, and their

preference for coastal areas. Historic occupation was traditionally preferred at stream mouths (for ease of access to mahinga kai, and for travel by waka) and on ridgelines (particularly for defensible pa).

[781] We accept that this is not uncommon across New Zealand, and that there may not necessarily be a greater archaeological value in terms of national themes or general patterns of occupations. However, we also accept that in terms of Maaori culture and traditions the general patterns of occupation are of greater local significance to hapuu, including for what they reveal or confirm about their history.

[782] It is from this perspective that ancestral lands should be assessed in terms of Sections 6(e) and 7(a) of the Act.

[783] None of the expert landscape witnesses fully assessed the impact of the proposal on tangata whenua in terms of landscape values. However, lay witnesses did provide a cultural perspective. The Nga Uri cultural values caucus report records that effects of the proposal include:<sup>74</sup>

Change in the way that we view places (they won't be the same). It is hard to tell and understand the stories if you can't see the landscape. It is no longer there in your mind. The landscape continues to change. The stories of old won't be viewed the same.

[784] On the other hand, Mr T Flavell, a kaumatua of Ngaati Tahinga, gave his view that the project was appropriate in a rural area, particularly because Maaori landowners were contributors to the scheme. For example, many of the turbines in Block H are on multiple-owned Maaori freehold land. We accept that communities who are participants in local development are more likely to view the proposed development in a positive way. We agree with Mr Love that this is an element of rangatiratanga.

[785] For Tainui Aawhiro, Mr Hamilton considered that the effect from the Whaingaroa Coast would be immense, particularly Blocks H, I and J. He referred to the natural character of Whaingaroa and Whaanga Coast, and to the isolation, remoteness and peacefulness. Their concerns included the size and scale of turbines, which are man-

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<sup>74</sup> Clarke and Stewart, 26 October 2010 Report from Cultural Values Caucus for the HMR Board of Inquiry, 11(b)

made structures, light spill, and effects on waterways and shore birds (as contributing to natural character).

[786] We have already described the natural character, landscape and visual effects of the proposal, including the impact on the Raglan area. We do not consider that light spill would affect the Raglan area. We address the effects on waterways below. In terms of the size, scale and man-made character of turbines, we accept that there would be visual and landscape effects for Tainui Aawhiro, particularly because of Blocks H, I and J. However, this is partly mitigated by the removal of structures and earthworks from the coastal escarpment and the BRES in respect of shore birds.

[787] As well as adverse impacts there are benefits of the proposal including re-vegetation of the coastal escarpment, fencing of the mouths of streams (which is intended to assist restoration of the whitebait fishery), and the potential provision of beach access near Block E, and the economic benefit for Maaori land owners. Overall, we consider the adverse effects on ancestral lands would be minor for Tainui Aawhiro and minimal for Ngaati Tahinga when offset mitigation and other relevant mitigation is taken into account.

#### ***24.5.1 Historic heritage, waahi tapu and sites***

[788] Contact engaged Dr Clough, an expert archaeologist, to assess the wind farm area. As well as a survey of existing archaeological records, he also carried out his own assessment of the wind farm area, making repeated trips by foot across the proposed earthworks area, including with the hapuu working party and with Tainui Aawhiro. Within the wind farm area, Dr Clough identified 151 archaeological sites, mapped the visible surface extent of each site, ranked their importance in terms of archaeology values and described the conditions proposed to address effects on them. The criteria for ranking the significance of archaeological sites extends from A (large and complex sites in good condition) to E (recorded sites that could not be located on the ground). Urupaa were not ranked.

[789] The proposal originally included the modification, and in some places, destruction of particular recorded sites. NZHPT has granted 11 general authorities under the Historic Places Act to destroy or modify archaeological sites, a decision currently under appeal by Tainui Aawhiro. In the course of the hearing, the proposal was modified to delete certain

turbines and realign turbine access roads to avoid or minimise effects on archaeological sites. In addition, the surface extent of all archaeological sites would be avoided, and a 10 metre buffer zone would be avoided for most sites. A 50 metre cautionary zone requires additional precautions to be taken during construction. Four pa sites would be protected through covenants against the land title and stock-proof fencing.

[790] As a result of the modifications, the archaeology expert witnesses, in their caucus statement, agreed that the wind farm would have no effect on recorded archaeological sites, although it would have effects on specific heritage landscape areas (for example the siting of Turbine G7). They also agreed that the Chance Find/Whenua Tapu documents provided appropriate processes and outcomes to adequately address any effects on historic heritage.<sup>75</sup>

[791] However, from a Maaori cultural point of view, the effects of the wind farm are not limited to archaeology. For example, Nga Uri referred to land features such as ana (crevices in the ground), traditional place names, kowhatu, Karioi, Te Puke o Tahinga and Onepoto. They were also concerned about the effects if kooiwi and taonga were to be uncovered, including on wairua and the potential for these to be taken (legally and illegally). Nga Uri has agreed a protocol that addresses their concerns, and also agreed that the buffer and cautionary zones were appropriate (given the Chance Find and Significant Find protocols).

[792] However, although Tainui Aawhiro has provided a draft protocol, agreement has not been reached with the applicants. Unfortunately, the two protocols are not consistent.

[793] We would have endorsed an agreement from the two hapuu that the Nga Uri protocol applies north of the Tauterei Stream, and the Tainui Aawhiro protocol applies south of the Tauterei Stream. Unfortunately, although this was suggested and, we are told, was supported in principle at a caucus of the parties, it was not finally agreed. We are therefore required to make a decision. We also note that the proposal was considered on the basis that it was a compromise for the purposes of this application only. It is not an agreement that the Tainui Aawhiro rohe is only south of the stream, and would not affect their position in their Treaty of Waitangi claims, or even in respect of other applications under the Act.

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<sup>75</sup> Clough, Kahotea, McGovern-Wilson, 19 October 2010, Board of Inquiry questions for the archaeology caucus.

[794] The differences between protocols appear to be:

- [a] the method and extent of pre-works investigation;
- [b] observers during construction; and,
- [c] whether any discoveries should be reinterred as soon as possible, or whether any discovery may be temporarily stored in a climate-controlled box.

#### *24.5.1.1 Pre-works investigation*

[795] The Nga Uri protocol requires investigations, in the presence of a four-member Tiaki Group (comprising a kaumaatua, a kuia and two Ngaati Tahinga representatives), a Cultural Spiritual Advisor (although it is unclear who appoints), an archaeologist, consent holder representative and plant operators who would carry out site works, to take place at least six months before construction begins. The methodology for carrying out the works is undefined, but must occur in a manner that respects Ngaati Tahinga kawa and tikanga. Exploratory earthworks may take place only if necessary.

[796] The Tainui Aawhiro protocol does not provide for pre-construction investigations, partly because they prefer to disturb the sites as little as possible. We agree that exploratory earthworks with (for example) heavy machinery would be inappropriate. However, investigation with hand tools to determine the subsurface extent of mapped sites may be appropriate to ensure that the 50 metre buffer is adequate, particularly for those sites that are listed as exceptions to the buffer and cautionary zones.

#### *24.5.1.2 Observers during Construction*

[797] Both protocols require the hapuu to be notified if taonga or kooiwi are found during pre-investigation or construction. This would mean that Nga Uri would be notified for Blocks A-I, and Tainui Aawhiro for Blocks H-J. This is consistent with the long occupation by the Waikato Tainui peoples of this coast, and the likelihood that very old kooiwi may be tupuna for both hapuu. There is no dispute resolution proposed. All parties agreed that their kaumatua would be able to confer and between them agree the appropriate steps to be taken if any taonga or kooiwi are found during pre-construction works.

[798] There is only one other significant disagreement: the Nga Uri protocol allows Nga Uri to choose to undertake the archaeological analysis of taonga (but not kooiwi); the Tainui Aawhiro protocol requires re-interment as soon as possible. Again, this is only an issue within Blocks H and I. It is unfortunate that we do not have evidence regarding the values on which Nga Uri base their position. We do know, however, that the Nga Uri protocol merely preserves their opportunity to undertake the analysis, it does not require the analysis or even state a preference. Therefore, in our view, it is best left for kaumatua to decide amongst themselves when the event occurs. If agreement cannot be reached, then the taonga should be re-interred as soon as practicable, elsewhere if necessary.

[799] The other differences can all be reconciled. For example, the Nga Uri protocol requires a 50 metre protection zone for taonga and 100 metres for kooiwi; Tainui Aawhiro requires a 100 metre protection zone for both. There is no reason why the 100 metre protection zone could not satisfy both protocols in Blocks H and I.

[800] The Tainui Aawhiro protocol provides that if kooiwi are found then works would not recommence until the kooiwi or taonga are protected, and that any legal obligations have been satisfied by agreement of all parties. The Nga Uri Significant Find protocol requires agreement from both Nga Uri and the consent holder on the response, which may include discontinuing construction in the area and avoiding the sites. We note that the applicant has agreed to the Nga Uri requirement, and we see no reason for applying a lesser provision to Tainui Aawhiro.

[801] Finally, the Nga Uri protocol also provides for the use of a temperature controlled storage container unit, which was opposed by Tainui Aawhiro. Unfortunately, we received no evidence as to the purpose of the box, the extent of the time that taonga might be stored, and what might next happen to any taonga. Also, we were not told if any of the hapuu are registered collectors of protected objects.

[802] Tainui Aawhiro considered that reburial as close as possible to the site is preferred. However, we are mindful that neither the hapuu entities nor the applicants own the subject land, which could affect the timeliness of any decision regarding re-interment. On that basis, we would endorse the use of a temperature-controlled box at Blocks H and J for the time it would take to make a decision and carry out the works for re-interment, and not as a means to extend the time to make a decision.

[803] We need to make a clear decision on protocol. In the absence of the hapuu reaching a consensus prior to our final decision we have concluded:

- [a] the Nga Uri Protocol should apply to Blocks A to I and north of Tauterei stream;
- [b] that any discoveries in Blocks H and I would have to be notified to Tainui Aawhiro;
- [c] Tainui Aawhiro-appointed kaumatua would have to be consulted on any finds in Blocks H and I; and
- [d] the Draft Tainui Aawhiro Protocol should apply to Block J.

#### ***24.5.2 Current landholdings***

[804] Within the general wind farm area, members of Ngaati Tahinga retain landholdings, including Maaori land in multiple ownership. Several of these blocks are participants in the proposal, and would have turbines built on their land. The income those land owners would receive from the project would significantly supplement the returns from their existing farming activities, which could continue over the life of the project. We accept that the proposal would support the retention and development of this Maaori freehold land.

[805] Section 7(a) of the Act does not require an assessment of only the adverse effects of a proposal. All of the effects on the Section 7(a) relationship should be recognised and provided for, including positive effects. In this case, that would include the increased income for Maaori land owners.

[806] DOC argued that positive effects could not be taken into account in respect of a party who had provided written approval in relation to the adverse effects of the proposal on them. They point out that Section 104(3)(b) of the Act<sup>76</sup> notes that:

- 104(3) A consent authority must not,—
- (a) ...

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<sup>76</sup> Section 104(3)(b) of the Act in force prior to 1 October 2009

- (b) when considering an application, have regard to any effect on a person who has given written approval to the application ...

[807] DOC pointed out that the wording of Section 104(3)(b) is not limited to only adverse effects, but can include positive effects. To our knowledge the proposition is novel. Without reaching a firm conclusion as to whether such an argument could apply in an appropriate case, we consider that the issue is overcome in this case by the mandatory requirement under Section 6(e) to take into account the relationship of Maaori with their culture and traditions.

[808] Accordingly, in our view, beneficial effects of the proposal on that relationship are a matter that we must in any event take into account under Section 6(e), even if they are excluded under Section 104(3)(b) of the Act.

### ***24.5.3 Cultural cautionary zone***

[809] We heard evidence regarding a proposed 1-1.5 km cultural cautionary zone being a proposed development setback from the coast. Contact's witnesses opposed a setback if it would prohibit all development. However, in support, Dr Kahotea suggested that this cultural cautionary zone would not prohibit all development, nor require a setback. Instead, he considered that the cultural significance of the area (based on factors including the density of ancestral occupation) required special care to be taken within this area, to ensure adequate protection for cultural values. This approach finds some support in the Proposed Waikato District Plan, which provides that structures closer than 1 km move from discretionary to non-complying activities.<sup>77</sup>

[810] Along with other submitters (such as Ms L Rutherford), Mr M Hamilton, for Tainui Aawhiro, dealt with the impact on cultural landscapes, saying:<sup>78</sup>

It is not just the physical landscape that is being affected, but also the history, historic heritage, collective meanings, memories, and identities that the landscape holds for its cultural values to Tangata Whenua and the various hapuu.

The wairuatanga and whakapapa are going to be impacted upon by having the area superimposed by a landscape of "energy" that pierces papatuanuku with

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<sup>77</sup> Proposed Waikato District Plan, Rule 26.10.3.

<sup>78</sup> Hamilton, EIC 2010 page 9, at 52-53

giant manufactured industrial needles similar to a pin cushion. It moves substantially away from accepted and appropriate pastoral land use.

[811] Mr Hamilton argued that no turbines should be built within the 1 km setback from the coastal escarpment, because of the overall effects of the proposal. This would impact on many blocks and reduce the number of turbines significantly.

[812] Overall we are satisfied that the importance of the coastal area to local hapuu and the density of sites requires careful location of works and consideration of the effect on landscape values within the coastal area referred to by Dr Kahotea. After questioning by Contact, Dr Kahotea acknowledged that recent caucusing and Contact's revision of turbine placement had directly considered potential cultural impacts within the zone. We conclude that Mr Hamilton and other submitters' concerns have been addressed by the detailed consideration of each turbine site.

## **24.6 Other taonga**

### ***24.6.1 Indigenous fauna***

[813] No specific evidence was given by any party in relation to the cultural relationship and value of local hapuu and indigenous fauna. Indirectly we were told of the value of oi, a native petrel, in relation to the Raglan area, and also Mr Hamilton told us that the bats held a whakapapa connection with the area.

[814] We accept there is a relationship between indigenous fauna and flora, and the cultural relationship and values of the area. This represents not only a value in terms of food and clothing sources, but also broader values in terms of the productivity of the land, oral traditions, and sense of place. In this regard, we mention several fauna species discussed.

#### ***24.6.1.1 Birds***

[815] Mr Hamilton referred to particular birds valued by Maaori, including the SIPO, wrybill and oi.

[816] We find that these relationship values are also expressed in general terms by the values and protections afforded under Section 6(c) of the Act as significant indigenous vegetation and habitats of fauna.

[817] Accordingly, the discussion that has already been had in relation to adverse effects on birds is equally applicable to these values.

#### 24.6.1.2 *Bats*

[818] Mr Hamilton confirmed that bats are a taonga species. Tainui Aawhiro's concerns included the overall disturbance and potential loss of bats, and also that the proposed translocation of bats would reduce the numbers of bats within their rohe and undermine the relationship between the hapuu and the bats. He likened translocation to taking family members to another country.

[819] We recognise the potential benefits of translocating bats to an area more protected than Te Umukaraka, but agree that translocation to an area within the district, if practicable, should be preferred.

#### 24.6.1.3 *Fish*

[820] Both Tainui Aawhiro and Ngaati Tahinga highly value both coastal and fresh water fisheries. Both hapuu are active in protecting waterways for fisheries purposes. This includes recognition of Ngaati Tahinga, under the Fisheries (Kaimoana Customary Fishing) Regulations 1998, for streams and waterways of the Kaawa and Waikaretu Streams and all wetlands and waterways within the area in Gazette Notice (No 6) 2008 (No F447). Although Tainui Aawhiro indicated they undertook active protection of waterways, the only example cited within the wind farm area was Tauterei Stream.

[821] Freshwater species valued by both hapuu include tuna, whitebait (including inanga and koaro), and piharau (lamprey).

#### 24.6.1.4 *Herpetofauna*

[822] Tainui Aawhiro confirmed that geckos are a taonga species, and were again concerned about the effect of translocation outside of the tribal rohe. Although proposals

are unclear we understand that herpetofauna located prior to construction works would not be transferred beyond this rohe.

#### ***24.6.2 Indigenous vegetation***

[823] Nga Uri highly value indigenous vegetation including harakeke (flax), and rakau (trees). Although indigenous values are represented in terms of food sources and products for usefulness, they also are representative of intrinsic values. Many aspects of indigenous vegetation are represented in terms of oral traditions and values. No particular features were described to us in relation to such oral traditions, but we suspect there is a wide-ranging group of them relating not only to the sources of inanga, but also to other indigenous vegetation such as flax and rakau. Again, this aspect of the matter was not covered extensively in the evidence of any witnesses.

#### **24.7 Water**

[824] Both hapuu were concerned about the potential effect of the proposed earthworks on streams in the area. For example, Mr R Thompson and Mr S Karaka filed a joint submission to this effect, and Pukerewa Marae trustees (who were also landowners contributing to the scheme) signed an affected party notice conditional on appropriate conditions regarding effects on waterways.

[825] The evidence was that tangata whenua value all streams and waterways. Both hapuu referred to spiritual uses of water, as well as general uses.

[826] The hapuu were concerned about the effects on streams of sedimentation, flocculants and concrete wash, and the adequacy of conditions to address these concerns. They were also concerned about the volume of water taken from streams and the Whitford Spring.

[827] As a result of discussions during the Second Hearing, Contact withdrew the application for water take from the Whitford Spring, and also reached agreement with Nga Uri in respect of waterways. The agreement includes training Nga Uri members, monitoring of the Waimai, Kaawa, Waikawau, Waikaretu, Tauterei, and Te Umukaraka Streams, and all other receiving waters, use of storage ponds where possible, and partial

fencing of the lower reaches of streams (which will exclude stock from streams, improve water quality and provide better habitat for whitebait).

## **24.8 Marae**

[828] The following marae provided letters of support indicating that they had been briefed by Nga Uri about the substance of the application and supported the agreements negotiated by Nga Uri: Ooraeroa, Tauranganui, Te Kotahitanga, Te Awamaarahi, Ngatai e Rua, Te Poho o Tanikena, Weraroa and Pukerewa Marae. In addition there were marae at Raglan that did not make submissions or formally participate in the hearing, including Poihaakena Marae. It appears that their interests are represented by Tainui Aawhiro.

[829] We therefore address effects on those marae in terms of hapuu that participated.

[830] For completeness, we note that Pukerewa Marae had initially agreed to have Turbine E018 on their land. Contact subsequently deleted that turbine during the hearing, apparently in response to the wishes of the marae trustees.

## **24.9 Kaitiakitanga – Section 7(a) of the Act**

[831] Kaitiakitanga shows itself in three general propositions which we discuss in turn:

### ***24.9.1 Active protection***

[832] Both hapuu saw themselves as having an obligation to protect the culture and values, including taonga species of waterways, flora and fauna, and sites. Ngaati Tahinga sees the agreements reached with Contact, the conditions of consent and the mitigation offset proposals as achieving active protection of matters of cultural value. We accept there is a positive benefit of this proposal on the relationship in relation to active protection.

[833] Tainui Aawhiro see the matter in a different light with remaining suspicion or concern that their cultural values will not be adequately protected by the imposition of conditions. They see the active protection as preserving as much as possible the landscape in its current state, with minimal change. We conclude that the Act does not

envisage maintaining an unchanged state, but seeks to ensure that the outcome of the Act of sustainable management is promoted with any grant of consent.

#### ***24.9.2 Involvement in the planning process***

[834] Another aspect of the obligation of kaitiakitanga, is seen as having a proper and protected role within the planning process to ensure that the considerations of the relevant hapuu are taken into account. In this case, we are satisfied there has been adequate involvement in the process and the outcomes are ones that have taken fully into consideration the position of the various hapuu. We regret that it was necessary for this matter to be adjourned and to require further caucusing to properly explore issues with Tainui Aawhiro. Nevertheless, this was achieved by the conclusion of this case.

#### ***24.9.3 Involvement in the construction and on-going operation***

[835] Kaitiakitanga is seen to extend into on-going involvement with the project and is commonly represented not only in concerns about discovery protocol, but by being involved in on-going consultation. We have concluded that the prospect of a community liaison group, in addition to kaitiaki liaison groups, has strong merit in this case and any involvement of hapuu, including Tainui Aawhiro and such groups, would ensure that there is an on-going understanding and benefit of input from local hapuu.

### **24.10 Relationship agreements**

[836] Contact and Nga Uri have concluded a relationship agreement outside of the hearing, a copy of which was provided to the Board. The relationship agreement includes a Chance Find protocol that is proposed as a condition of consent (Schedule Eight of the District Conditions and Schedule Five of the Regional Conditions in Volume 2). We understand that the Significant Find protocol is confidential, and any conditions would need to be amended to address this. The parties have used the hearing and adjournment time productively to address a broad package that includes:

- [a] design protocols to manage sedimentation and erosion;
- [b] design refinement of the earthworks layout;
- [c] Chance Find and Significant Find protocols;

- [d] a training package intended to support kaitiakitanga;
- [e] advance reconnaissance and monitoring of earthworks by Nga Uri;
- [f] BRES mitigation regarding flora and fauna;
- [g] a Streams Accord that provides for stream fencing and Nga Uri monitoring of streams, vegetation and archaeology;
- [h] ongoing access to lands, sea and streams;
- [i] covenanting of pa sites; and
- [j] a Partnership Approach.

[837] As we have noted, no relationship agreement has been entered into with Tainui Aawhiro. We would have preferred that such an agreement could have been reached with Tainui Aawhiro before our final decision is issued and still remain hopeful that the parties will eventually achieve this.

#### **24.11 Overall conclusion on Maaori issues**

[838] Although we were concerned at the way in which this matter was originally addressed by Contact Wind, we recognise that considerable effort has been put into ensuring appropriate and full consultation prior to and during the Second Hearing. We are satisfied that consultation has been undertaken by all parties in good faith, seeking to achieve appropriate outcomes under the Act.

[839] Unfortunately, the relationship with Ngaati Tahinga was significantly more advanced than that with Tainui Aawhiro, which has meant that although agreements have been concluded with Ngaati Tahinga, they have not been concluded with Tainui Aawhiro.

[840] Nevertheless, we are satisfied that, with the conditions now proposed, the effects on Ngaati Tahinga would be minimal and those on Tainui Aawhiro (in the absence of a relationship agreement) would be no more than minor, taking into account appropriate mitigation and off-set mitigation. Whether these minor effects are acceptable will require an overall analysis later in this decision.

## 25 ALTERNATIVE SITES FOR A WIND FARM

[841] It is arguable whether consideration of alternatives arises on this application. Out of an abundance of caution we deal with it briefly.

[842] The only evidence, which might be construed as discussing possible alternative sites, was the evidence of Mr O Manins on the wind resource, Mr D Hunt, and Mr F R Clark for the New Zealand Wind Energy Association. All these witnesses supported the proposed location.

[843] The area has a Class II wind resource. Additional factors relating to alternative sites include:

- [a] the relative proximity of the HMR site to a major demand centre;
- [b] a high level of location diversity (having a low level of correlation between the site and the wind resource at other wind farm locations);
- [c] the New Zealand wind resource has been mapped and Class I and II wind resources are frequently on the coast so visual issues may well arise with respect to any alternative; and
- [d] while there are other locations within and close to this site where turbines are not located (because owners chose so), these do not present a realistic alternative.

[844] Because energy companies are testing the wind resources throughout New Zealand, a wide range of alternative sites are being considered, particularly those that:

- [a] are in close proximity to population centres but with fewer people in the area to minimise noise, flicker and other effects on people;
- [b] have location diversity;
- [c] are close to the National Grid and with low levels of transmission constraint; and
- [d] have a Class II wind resource or better.

[845] Should other suitable sites be located, we are confident they will be proposed and so any alternative sites are unlikely to be true alternatives at all.

## **26 NOTICES OF REQUIREMENT**

[846] Section 171 of the Act identifies the need for adequate consideration of alternative sites, routes and methods. We deal with the two aspects of this matter we consider to be relatively straight forward, addressing alternative sites and methods first, before moving back to alternative routes. This will set a proper context for consideration of the routes.

### **26.1 Alternative sites**

[847] There are elements of the Notices of Requirement that do involve sites. There are three substations (Limestone, Matira and Te Akau) and a switchyard at Orton. These are interconnected with the questions of routes and methods and, in part, the location of the sites. We are satisfied from the discussion of Stages 1, 2 & 3 of the transmission line investigation process that a full consideration of alternative sites was given. The particular constraint in this case is the need to connect to the National Grid. Three connection points were considered: one to the north of Orton, Orton, and another further to the south. Complications arose with the northern position in relation to the Waikato River. It also involved a greater length of line and was well removed from the majority of the turbine blocks. It would have also meant traversing difficult limestone karst country. No party seriously argued that the significantly more northern siting for the connection to the National Grid was appropriate.

[848] There was the possibility of a connection in the more southerly position through the Matira/Te Akau area. Again, the evidence given to us was unanimous that such a connection created additional difficulties, including the connection point to the National Grid, which at that point was on the eastern side of the Waikato River through Ngaruawahia and Huntly. The difficulty of traversing a significantly more populated area and crossing multiple roads made this an unattractive option.

[849] We agree with the investigation team that, of the alternatives, the Orton area was appropriate. Similarly, for the selection of the switchyard site, several alternatives were considered and the decision was made as a result of an adequate analysis of the

opportunities available. Again, there was no evidence before us that the site for the switchyard was inappropriate.

[850] Similarly, there was no dispute as to the substation site selections. The Limestone Downs site is situated well away from public roads and would be largely out of sight, except from certain views on Baker Road. Neither the Matira nor Te Akau substations are highly visible. No party disputed the location of any of these substations, but we are satisfied that adequate consideration was given to alternatives and that the sites chosen were appropriate.

## **26.2 Alternative methods**

[851] Alternative methods was taken by some submitters to include alternative power supplies or more significant changes in population behaviour leading to a reduction in power demand. In our view, methods in the Act means the method by which the objective of the Notice of Requirement is to be achieved. Given that the method involves the transmission of electricity from the wind turbines from substations to the National Grid, there are limited choices.

[852] We understand the two issues relating to alternative methods to be:

[a] undergrounding; and

[b] monopoles.

### ***26.2.1 Undergrounding***

[853] A number of witnesses, particularly Mr & Mrs Walter, Mr Allan and Ms Wright, considered that the power should be undergrounded for all of the length from Limestone Downs to Orton. The uncontroverted evidence for Contact of Mr H Kent was that undergrounding was prohibitively expensive and could lead to reliability issues in the future. Mr B Leyland, who gave evidence for the Walters, was originally asked to provide evidence on undergrounding issues, but instead gave more general economic evidence. In response to questions, he accepted that undergrounding was not a practical option in the circumstances.

[854] We have concluded that adequate consideration of undergrounding as an option was given and rejected for the following reasons:

- [a] The geology and soil types are not well-suited to undergrounding.
- [b] Given their heat production, extensive excavation needs to be undertaken to provide an appropriate heat dissipating medium in which the lines can be laid. As a result the amount of earthworks involved is very significant and takes longer.
- [c] Consequential issues relating to the disposal of fill and disruption of farm operations is likely to be significantly greater.
- [d] The placement of the lines in the soil does not mitigate the electromagnetic radiation (EMR). Therefore any concerns with over-head lines and EMR remain with the proximity of the lines to humans and animals when walking over the area.
- [e] When breakages do occur, there would be significant extra costs in locating and repairing the line.
- [f] The cost of the works would be prohibitive. Mr Kent estimated a difference of \$80m for overhead compared with approximately \$240m for undergrounding.

[855] One possible alternative was to consider undergrounding over certain lengths, particularly the area near SH22 (the Allan/Wright property and through the Walter's property). Mr Kent considered that this was an undesirable approach involving as it did a station to switch from overhead to underground at both ends of the underground segment. This is would be a building with wire netting around it, which would be up to 3 metres high and relatively obvious in this pastoral context.

[856] Accordingly, we have concluded that the consideration of alternative methods of undergrounding was adequately considered and properly rejected.

### **26.2.2 Monopoles**

[857] It is intended that the power would be reticulated through lattice suspension towers, generally around 48 metres in height. However, there are areas where the lattice control structures would not need to be so high. Conversely, it is now proposed that Te Umukaraka Bush area involve the construction of towers up to 55 metres high.

[858] We acknowledge that the applicant, in dealing with a dual circuit 220 kV system, on the External Transmission line, would generally require lattice towers to provide the structural integrity necessary to carry the greater loads over longer spans. This compares with the 220 kV single circuit Internal Transmission line, where Contact believes that monopoles would be appropriate for most of the line. Where structural forces are significant, lattice towers may need to be used occasionally on that system.

[859] There was some concern expressed by Contact at changing the type of poles. No particular reasons other than visual were given for this, and we consider that it is a secondary consideration.

[860] There would not appear to be any dispute about the use of monopoles for the Internal line. The issue was largely that there were certain areas where monopoles may improve the visual outlook for the External line. This was particularly through the Allan/Wright property. Whilst we agree that consideration in the general sense has been given to the method of reticulation over the length of the route, there were no particular reasons given to the Board why monopoles could not be utilised near the Allan/Wright property. From just prior to SH22 it appeared to us that there is the potential for the use of monopoles given that the pole does not need to be as high as elsewhere on the alignment.

[861] Accordingly, we conclude that this issue can be addressed by the use of monopoles over certain parts of the External Transmission line while generally recognising that the lattice tower structures would be required over much of its length.

[862] So, while in a broad sense we agree that there was adequate consideration of alternative tower structures, we think that there is the potential for the use of monopoles in particular areas. However, this can adequately be addressed by the imposition of conditions.

### **26.3 Alternative Routes**

[863] This was a key issue of many of the submitters and reflected a generally held view that Contact Energy had presented a final route and was not receptive to alterations to it. We deal with this in relation to both the Internal and External Transmission route.

#### ***26.3.1 Internal Transmission route***

[864] A number of residents objected to the Internal Transmission line. Mr C Deane appeared before the Board to object as a trustee for a farm owner. The alignment in their area was some distance from the road, and Mr Deane's view was that it should follow the road alignment. He was concerned about the potential impact on helicopter application of fertiliser and interfering otherwise with the management of the farm. He suggested that the line be moved close to the road reserve.

[865] Nevertheless, when dealing with this, Mr Deane acknowledged that the movement of the line in the way he suggested would put it adjacent to the farmhouse on the land. Further, it was clear to the Board that the road alignment in this area was such that the line would have to be built outside the road reserve in a straight line, whereas the road followed contours and gullies.

[866] From our observation, and looking at the line from various positions along the road, we agree that the Internal Transmission route chosen is intended to minimise impacts, avoid areas of significant vegetation, and utilise the topography of the land as much as possible.

[867] Several submitters complained of the prospective views of either the Internal Transmission line or the substations and the impact on their visual amenity, and sought its cancellation. Nevertheless these submitters did not address the selection methodology for the route, but rather the impacts on them of its placement.

[868] The consideration of alternative Internal Transmission routes is not a matter addressed at great length by the applicant and we turn now to our discussion of the adequate consideration of the External Transmission route. We acknowledge that any conclusion in relation to that should also properly apply to the Internal Transmission route.

### ***26.3.2 External Transmission route***

[869] The External Transmission route was selected after the Orton switchyard site was chosen. This led to the selection of the Limestone Downs site as the other connection point. With some 25 km between these two points, the applicant team headed by Ms Yorke identified an approximately 4 km wide corridor (the central corridor) as being the appropriate corridor in which the route should be sited.

[870] We find that the process to this point was clear and transparent. Given the adequate consideration of alternative sites, the selection of these two connection points is entirely reasonable and leads to the need to connect Limestone with Orton. The 4 km band for the corridor is also appropriate, having at its southern extent Glen Murray and bounded in the north by Ramarama. Attached as Appendix E is a copy of the corridor diagram prepared by the investigation group at Stage 3 of the process.

[871] The selected location of the Limestone Downs substation was at the southern edge of the corridor, whereas the Orton switchyard is on the northern side of the corridor at the eastern end. Once those two positions were fixed then the potential corridor routes effectively forms something of a rugby ball shape between those two points. The alignment is more constrained at the Limestone Downs end than at the Orton end.

[872] As was pointed out by the parties, the actual route chosen was towards the northern extent of the potential routes available between the fixed points. We conclude that the route chosen is certainly not the most direct route, notwithstanding Ms Yorke's suggestions to the contrary. Nor would the most direct route, or even a more southerly route, necessarily have impacted upon residents of Glen Murray as was suggested by several of the Contact witnesses.

[873] The Board was drawn back again and again to the evidence of Ms Yorke as to how the actual route was selected. Her evidence in this matter was fairly apocryphal but nevertheless, Ms Yorke said a number of times in answer to questions that the objective of the team was to identify a single corridor. Much of the cross-examination of Ms Yorke turned upon the various nuances of her term "corridor". For our part, we have reached the following conclusions of fact:

- [a] the NOR identified a route between Limestone Downs and Orton; and

[b] the route was nearly identical in its conception (and in fact its execution) to the narrowed corridor or preferred corridor.

[874] This confusion was highlighted when Ms Yorke spoke about alternative routes under Stage 6:<sup>79</sup>

The aim was to review in detail the corridor options under consideration, and where alternatives were put forward, identify the alignment with the least constraints using an evaluation and rating process agreed upon by the evaluation team.

[875] In our view, this clearly conflates three steps in the ACRE process: Corridor, Route, and Easement (alignment). Nevertheless, we have concluded as a fact that the team at Stage 4 were identifying a single preferred route. We conclude Contact Energy did not generate alternative routes at this stage.

[876] Later, after consultation, the group did consider potential and mainly minor amendments to the route/alignment, but not in selecting the route itself initially. This also meant a predisposition of the group to preferring their route unless there was a demonstrable advantage in changing the route/alignment.

[877] Ms Yorke discussed<sup>80</sup> the process to refine the corridor. She identified that once the two points of termination were established there was a refinement of the corridor. She noted:<sup>81</sup>

Beca developed a computer-based model using Tatuk GIS software to capture all the data and assist in the design and selection of the transmission corridor. The model included aerial photographs, contours to 5m, topo maps and cadastral boundaries of the properties along the corridor. In addition, the specialist studies listed above that were already underway were refined. Engineering studies as to the conduct of conductor selection, number of conductors and electrical study of connecting into the HLY-OTA A line were also undertaken.

[878] Critically, in answer to questions, Mr Kessels advised that he had not addressed vegetation more than 200 metres beyond the narrowed corridor/route. Similarly, when the Board asked for the Tatuk modelling software to show areas further to the north or south, we were advised that this had not been modelled. Whether this was an error and

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<sup>79</sup> Yorke, EIC at [26]

<sup>80</sup> Yorke, EIC at [50]

<sup>81</sup> Yorke, EIC at [51]

the information was actually available but not disclosed to the Board is of no particular moment. Quite simply, there was nothing to satisfy us that there was information held in respect of the entire corridor area (up to 4 km wide) sufficient to investigate selections for the route.

[879] Ms Yorke said the alignment of the corridor identified the most direct alignment taking into consideration the terrain, dwelling locations (where possible) and best fit with the landscape.<sup>82</sup> She identified the method used was:

site visits by the design team ...

a desk-top study of the terrain to identify the most direct route using the valleys to minimise visual impacts, cadastral boundaries, dwellings and any identified constraints (ecology, property and archaeological overview maps prepared as part of Stage 1) ...

access and construction issues, but access was generally recognised as being difficult for the majority ...

five land-based visits and one fly-over between February and May 2007, and a further 9 visits between June and November 2007 with Dr McKenzie. Landscape or ecological consultants were present from time to time on these visits...

When the preliminary design had been completed, this was circulated to Contact, Beca, Mr Kessels, Mr Lister, property advisers, the Property Group, and Mr Yates.

[880] From our flyovers it appeared that there were valleys situated further to the south which could be capable of carrying transmission lines, perhaps even on a more direct route than that proposed. There was nothing in the papers produced to the Board that enabled us to understand how the selection of the various valleys was made. We were told that the decision was made to go through Te Umukaraka Bush to gain access to the valley of the Walter property. Our site visit suggested there were other routes in the Wairamarama Valley, which would have avoided the bush. Nevertheless, we were told that other properties would be affected (Van der Stadt [sic, only referred to orally] and Grey houses) together with the necessity of crossing two roads (Wairamarama/Onewhero Rd and Matakitaki Rd).

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<sup>82</sup> Yorke, EIC at [58]

[881] Ms S Allan, the peer reviewer brought in in February 2010, also expressed some concern with the process. One of her key conclusions was:<sup>83</sup>

In terms of best practice, there were a number of aspects of the evaluation methodology which might have been approached differently. Specifically, the method emphasised effects on people and property rather than on natural aspects of the environment. This led Contact to choose a route that in some areas has the potential to impact on areas of ecological value. However, the route can reliably be said to have minimised visual effects and effects on people, properties and land uses.

[882] She goes on to conclude that Contact Energy had adequately considered alternative routes prior to settling on the one notified. In other words, that Contact Energy met its statutory obligations under Section 171(1)(b) of the Act. Ms Allan expressed concern relating to the methodology used, but considered the substantive outcome met the requirements of the Act. Given Ms Allan's advice, Contact Energy should have been aware of the need to provide more detailed evidence on the route selection process to us. We conclude Contact Energy did not, and we cannot rely only on the opinion of a peer reviewer in substitution for our own findings.

[883] In the technical report submitted with Ms Allan's evidence, she notes:<sup>84</sup>

I consider that the application of multi-criteria analysis to determine a preferred route for the project has not been fully satisfactory. As a general comment, it is overly-focussed on property related and landowner issues and under emphasised other aspects that in RMA terms are quite important.

[884] We have concluded that the purpose of Sections 171(1)(b) and (c) of the Act are to provide safeguards where there is potential for serious imposition upon private land ownership. In broad terms it might be said that the question of adequate consideration is to ensure a fair process has been adopted in reaching the conclusion to place an imposition on the landowner's property.

[885] We would expect that any such decision would be one that is demonstrable and transparent. If it is possible to answer this statutory requirement in any case by simply saying, "Yes we did consider alternatives", then this section of the Act would be meaningless.

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<sup>83</sup> S Allan, EIC at [7][b]

<sup>84</sup> S Allan, 17 February 2010, Review Report page 25, 5.60

[886] After extensive cross-examination by the parties and re-examination by the Board, Ms Yorke was again invited to go through the details of the steps taken, by which time she explained in somewhat more detail the concerns her team had about the various alternative routes.

### ***26.3.3 Conclusion on alternative routes***

[887] Having re-inspected the area, the Board still has doubts as to why the particular route chosen was selected rather than several alternative routes. This doubt is compounded by many of the landowner witnesses saying to the Board that the impression they had was that Contact Energy had selected the route and was not open to further consideration.

[888] As Mr Kós pointed out, there are clear examples where Contact Energy was persuaded to alter the alignment. In the case of Te Umukaraka Bush, Contact Energy considered two potential alternatives. Yet this did not occur for the Allan/Wrights or the Walters. The reasons for that are somewhat obscure. It may relate to the fact that various members of the team were appointed to deal with different parts of the alignment and that the wishes of the Walters, the Allan/Wrights or the Balls were not communicated properly to the team. There was a minor alteration on the Ball property, unrelated to any request by the Balls.

[889] Considerations on the alignment with respect to the Walters, and the Allan/Wrights, left us with almost as many questions as it answered. From our site visit the low saddle point is on SH22, adjacent to Fleming Road, yet the Notice of Requirement route had been selected around 50-60 metres to the north, based around a very prominent knoll above the road. Given that the selection method preferred visual over other aspects it is difficult to see how that selection was made.

[890] The Board concludes that the applicant did not give adequate consideration to alternative routes for the transmission line. Given that less evidence was given on the Internal than on the External route it must follow that for the Internal Transmission route alternatives we reach the same conclusion.

[891] It was acknowledged by all parties that a conclusion that an applicant has failed to consider alternative routes under Section 171(1)(b) and (c) is one of the considerations to

which particular regard should be had by the Board in exercising its discretion under Part 2. It was acknowledged that such failure is not necessarily fatal to an application being granted.

## **27 REASONABLY NECESSARY TO ACHIEVE OBJECTIVE**

[892] A number of parties, in particular the Balls, disputed whether or not the NOR for a transmission line was reasonably necessary to achieve the purpose. Mr Kirkpatrick appeared for the Balls and Mr Cairney for the Walters.

### **27.1 Objective**

[893] The general objective stated for all NORs is to create a safe, practical and efficient means by which electricity from the HMR wind farm is able to be transmitted by the operator of the National Grid to wholesale and retail customers throughout New Zealand for their use. This gives the impression that the line for the transmission itself is provided by the National Grid, which is not the proposal before us. Nevertheless it is implicit that it will have to be able to enable the power to be transmitted from the wind turbines to the National Grid. The question is whether or not a designation is reasonably necessary to achieve that purpose. It was suggested by other parties that acquisition of the land or obtaining easement or resource consent were adequate methods. We consider that there are two fundamental reasons why a NOR was necessary for this linear project.

#### ***27.1.1 Preventing incompatible uses***

[894] With any major project of this sort covering a long distance it is always possible that a party may seek to defeat construction of the line by undertaking works upon the route which would fundamentally compromise its viability or significantly increase the cost. The interim affect of a NOR, while constraining the landowner, does ensure that incompatible use is not established pending the resolution of the notice. This is not possible either by a resource consent application or on direct negotiation.

#### ***27.1.2 Giving notice to the public***

[895] A very important aspect of a project of this sort is that it does have implications for the wider community and the necessity to include a designation within the Plan is a

matter of some importance in giving notice to the public generally of the applicant's intentions. Failing this, there would be no indication on any planning documents of the applicant's intent if Contact entered into private agreements or alternatively obtained a resource consent with the consent of the landowners. One might argue that this is a drawback to the wind turbine proposals for each block. Nevertheless those are individual landholdings whose owners have consented to the process and the alteration or removal of one party would not compromise the project as a whole. On the other hand, the route alignment does have the potential to impact on the entire project by preventing the despatch of power if a certain portion is not available. Accordingly, public notice is of particular importance in such a case.

## **28 LANDSCAPE & AMENITY EFFECTS OF NORS**

### **28.1 Effects of Internal Transmission lines and substations**

[896] Contact Energy proposes a combination of underground and overhead 33 kV lines linking the turbine blocks with the substations. This would be within the wind farm area. A single circuit 220 kV overhead monopole line would then link the three substations at Te Akau, Matira and Limestone Downs. The Internal Transmission line from Te Akau to Matira, and from Matira to Limestone Downs, is integral to the wind farm but included in the Contact Energy NOR. The proposed route of the NOR, together with the alignment of the line and substation sites, are shown on the plans attached to this decision in Volume 3B.

[897] The Internal Transmission line was thought to look somewhat similar to the conventional wooden poles commonly found in rural areas. These monopoles, though, would be up to 40 metres high, which is higher than a conventional pole. There is an exception in that the large valley 1 km or so north of the Te Akau Substation may need lattice towers in order to span the valley. The route crosses five roads and a visual assessment of the alignments was undertaken and a route of least visual and ecological effects selected. The Waikaretu Valley Road crossing was thought to be the most visually sensitive section. The alignment proposed is to the west of the route, crossing behind the quarry. The line would pass 100 metres east of two houses in Kokonga East Road and these houses would be adversely affected by the alignment.

[898] There were 2 submitters on the adverse impacts specifically of the Internal Transmission line. This may be because other property owners who were part of the wind farm project thought there would be minimal impact or had been satisfied after discussion with Contact Energy.

### ***28.1.1 Internal Transmission lines effect on amenity***

[899] Mr C Deane (as well as K A, M P and A A Deane) have a farming property near the Internal Transmission line. The line was thought to be visual pollution by the Deanes, in their perception. It would change the natural rural character of the surrounding area and would have an adverse effect on amenities. The transmission line routing was discussed with Mr Deane but his preference was to have no transmission line. Although he suggested an alignment parallel with the road, this would have effects on an adjacent house, and there seemed no possibility of an ideal amended alignment.

[900] Mr Townshend also was concerned as to the impacts of the Internal Transmission infrastructure. We conclude that the impact of the internal lines on views from the farmhouse would be minimal in comparison to the significant visual impacts of the wind farm itself. Block G is on a plateau above the level of the farmhouse and on the skyline. The substation and transmission towers are located on the valley floor, partially obscured by topography and less visible. However, we accept that there would be adverse visual effects for these submitters.

### ***28.1.2 Substations***

[901] The substations at Matira and Te Akau would cover approximately one hectare each, and would be similar in scale and appearance. They would comprise electrical equipment together with an operations and maintenance building. This would be erected on a hard surface (chip or asphalt) and would be surrounded by a security and stock fence.

[902] The Te Akau substation is proposed to be on an open, relatively flat area, which is screened from houses and roads by local topography. No mitigation planting is proposed as the site is screened by the surrounding landform and would have less visual impact without planting.

[903] The Matira substation would also be on a flat terrace. There are existing trees that provide partial screening but the conditions offered by Contact Energy provide for additional screen planting.

[904] The substation at Limestone Downs would have similar equipment and layout but be twice the size of the two other substations, with additional gantry structures and a larger building. It is proposed to be located on the existing stockyards site in Kaawa Valley. The site is open with easy access and so will require limited earthworks. It would be behind a hill spur and mostly screened from houses. No mitigation planting is thought necessary.

[905] There were no submissions on the substations specifically and we accept that there would be no identified visual or other effects on amenity or ecology.

### ***28.1.3 Orton Switchyard***

[906] The switchyard would be of a similar size and appearance to the substation at Limestone Downs and would occupy 1.4 hectares. It would comprise gantries and other electrical equipment but would not contain transformers. As with the substations, the site would be hard surfaced and surrounded by a security fence. There would also be lights on poles for occasional use. The site is currently pasture with flat access and earthworks would not be extensive. A ridge separates the site from the Waikato River, and it would be visually contained, with views from public places being restricted by the topography and adjacent wetland vegetation. The site would be close to the existing transmission line, which crosses the valley from the north, so the need for a diversion line would be minimised. There are a small number of houses nearby and in most instances the visual impact of the switchyard would be mitigated.

[907] The deviation of the existing line from Huntly to the switchyard would introduce angles in the line and have heavier towers and so would create adverse visual effects. In combination with the proposed transmission line from Limestone Downs and the switchyard there would be cumulative effects. These would be apparent to the nearby houses, although the switchyard would be screened.

[908] The property most affected by the deviation of the National Grid line from Huntly would be that of Mr J and Mrs L Partridge. The line would pass close to their house, and

both the line and switchyard would be visible from the house. Adverse effects are predicted to be very high. Three houses on the opposite side of the Huntly line would benefit from the deviation, which moves the line away from their properties, but this benefit would be reduced by the proposed heavier towers and line angles. The switchyard would be more than 500 metres away from these properties. The Hewitt property was affected by the existing line and deviation and has been purchased by Contact Energy. There are more distant or overlooking views from other properties.

[909] We have assessed the location and adverse visual and other possible effects, and agree that the switchyard location, as proposed, largely presents limited adverse effects, mainly because the need for extensive deviation is minimised, the site has limited visibility, and ecological impacts would be minimal. We acknowledge the impact of the deviation on the Partridges. This would constitute a significant adverse effect on their visual amenity. As with the substation sites, conditions are required to minimise earthworks effects such as possible siltation. This is particularly important at Orton in view of its relative proximity to the Waikato River. We do not understand that there is any mitigation proposed for the Partridge property, and the significant amenity effect has been part of our overall assessment.

## **28.2 Landscape and visual effects of proposed External Transmission line**

### ***28.2.1 Assessment approach for visual effects***

[910] The same assessment approach for landscape along the NOR route, as that used for the wind farm, applies. That is, the biophysical, relationship and values of people, and the perceptual/experiential aspects of landscape, are included in the overall understanding of the inland NOR landscape. The main differences are the relative absence of concerns expressed from those living outside the area, the lack of specific coastal concerns since this is inland from the coastal environment, and the particular focus of most submitters on views from their properties.

[911] Those who followed their written submission with more active participation in the hearing had a universal objection to the visual effect of the transmission line over properties, and some about detailed sections of the alignment. There were strongly held views about values and relationship or sense of place relative to properties. A number of submitters had lived in the area a considerable time, and some had a generation or so of

association. Views to Mt Karioi and to the coast were valued. The strong perception was that the farmland was beautiful and natural and should be left as it is. Some referred to recreation (particularly hunting), their way of life, and other activities in the area that they valued. As with the wind farm turbines, some strong concerns were expressed by submitters about adverse visual effects of the transmission line on the landscape with respect to its visibility and visual clutter, which would negate use of the picturesque rim-rock for filming. We accept that this would be a negative effect that cannot be mitigated by screening.

[912] The cumulative effect of turbines on the views of some residents was drawn to our attention. Although the turbines and transmission lines are part of the same project, they have different applicants and applications. We therefore assess the two as cumulative impacts, as did the landscape architect for Contact, Mr Lister. He drew attention to the distance from viewers of the turbines and did not accept that there would be a significant visual impact for most who could see both lines and towers. The Board accepts that the Walter and Ball properties would both be faced with the combined or cumulative impact of transmission lines, towers and blocks of turbines.

### ***28.2.2 Visual assessment for External Transmission line***

[913] The External Transmission line from Limestone Downs to Orton connects the wind farm to the National Grid. This is proposed to be a double-circuit line with approximately 81 lattice towers and is a distance of some 25.3 km.

[914] As with the assessment of effects with respect to the wind farm, photomontages were prepared to assist people to understand the visual implications of the transmission line (as well as turbines), from specific locations, which included roads and properties. There was some dispute about the accuracy of specific pylon locations but the Board accepted that the images had been prepared carefully and were accurate as montages. We accept though that the images are a tool, which is not an accurate representation of what the human eye perceives, and so their limitations should be recognised.

[915] The approach taken to mitigate the visual effects of the line was to firstly find the more suitable corridor, and then align the line through valleys and away from roads as far as possible. Recognition was taken of location of houses and settlements such as Glen Murray in an effort to minimise adverse effects. The topography did not permit

continuous valley alignment so there are proposed saddle crossings but the overall aim was to avoid areas of greater visibility.

[916] Contact Energy took a somewhat unusual approach in evaluating the proposed route in three sections. It seems though that this was simply for ease of analysis, having evidently identified a pinch point at Waimarama-Onewhero Road and at SH 22.

### ***28.2.3 The alignment of Section One***

[917] The alignment of the first section would mostly avoid the Kaawa Stream Valley, which has an open prospect, and would cross more remote areas where the landscape has a bold scale and the line would be comparatively less prominent. In the first section, the main landscape issue is the crossing through Te Umukaraka Bush. There are patches of pasture within the lower area of this bush, which enable tower placement. However, the section between towers LO12 and LO14 is more difficult and, although the line would over-sail the bush, tower LO13 would be placed in a relatively clear area within the bush. The visual implications of this were discussed in detail as options were explored with parties.

[918] The initial concern from submitters was that a swathe would be cut through Te Umukaraka Bush, severing the lower part of the bush. Although this apparently was not the intention, there were proposals to top and prune some 11 of the tallest trees thought to be within the alignment and which also may grow to enter the safety area of the line. This was partly resolved by the suggestion to increase the height of tower LO13 so that there is greater clearance for the vegetation underneath. Contact Energy has agreed to this measure. We discuss the implications of this on vegetation and fauna in our consideration of effects on ecology.

[919] The effect on the landscape would be to make a tower more prominent. However, there would also be a vegetation backdrop that would minimise the visual impact. The growth of trees would still need to be monitored over the 50 years or less period of the life of the wind farm, but a swathe would not be cut, and the bush would flow under the line.

#### ***28.2.4 The alignment of Section Two***

[920] The second section, comprising some 12.5 km, would cross a large valley system with extensive farming and occasional pockets of remnant bush. The proposed route would be at a lower elevation from roads around the surrounding ridges of the valley and would avoid the Glen Murray area. Although there are sections of attractive limestone rim-rock in the vicinity of the line, some particularly picturesque areas would be avoided. While there would be road crossings at either end, through the middle, roads are a kilometre from the line and views are more distant.

[921] Public views of this portion of the transmission line would be limited to the western and eastern ends. The alignment has been designed to be behind middle ground ridges, such as from Baker Road, and with vegetation as backdrop. Some vegetation, such as a pine plantation currently used for screening, would be removed in the future for production but the alignment at that point has one less tower than in the original design. The general adverse visual effect is the co-location of the towers and line with the picturesque rim-rock, which would negate its advantage for filming natural scenery.

#### ***28.2.5 The alignment of Section Three***

[922] The third section of the line to the Orton switchyard would cross SH22 through dairy farming land which has been drained for production. Properties appear somewhat less extensive. This section would be 5.5 km in length and would be the final section before the switchyard.

[923] Orton switchyard would be at the toe of a spur surrounded on three sides by a willow wetland. There is a notable pa site on a ridge overlooking one of the valleys and the line would avoid this site, crossing a saddle to the east of the pa, then traversing the valley below the pa site. The views are currently dominated by the existing line from Huntly, which would require a deviation to link to the switchyard. The transmission line would have effects on views as well as ecological impact on Punga Punga Wetland, which we address separately.

### ***28.2.6 The External Transmission line and outstanding natural landscape***

[924] We note that there are no landscapes identified as outstanding (Section 6(b) of the Act) in the area of the designation, or close by. Mr S Brown suggested that Te Umukaraka Bush might be an outstanding landscape and we have addressed that as part of our assessment of the wind farm, as turbines are proposed on the north side of the bush. We have held that it is not an outstanding landscape, as that is currently defined and understood, although Te Umukaraka Bush is a significant area, as is Punga Punga Wetland in terms of Section 6(c) of the Act.

### **28.3 Effects on views from houses**

[925] Contact Energy identified 44 houses that would be within 1 km of the proposed designation, of which three would be within 500 metres of the line. Two submitters (the Balls and the Walters), who both look down on the line, identified adverse visual effects, which we refer to below. In addition, the tower, some 350 metres to the north-east of the Singh house, would have high visual impact from that house. The change to monopoles, which we describe below, and alignment change to a lower elevation by 45 metres, results in a reduction in adverse visual effects for the Singhs. This is notwithstanding that the lines would be some 60-70 metres closer to their house, though partially screened.

#### ***28.3.1 Effects on Mrs P and Mr D M Walter***

[926] The Walters would be able to see 6 of the proposed transmission towers from their home, which is built on an elevated ridge looking south over the valley route of the designation. Their view would be directly down to the transmission line, which is some 800 metres from the house to the nearest tower and some 170 metres below the house. The Walters built their house to take advantage of views to Mt Karioi, and they can even see as far as Mt Taranaki to the south west. They enjoy views of sunsets and the rolling scenery to the south. Although there is mature shelter planting around the ground floor of their house, the second story, which enjoys the panoramic views, would be affected by the line as well as the more distant views of the turbines.

[927] Screening would not be a practical option as the Walters have a strong emotional attachment to their views, which would be adversely affected by the transmission line. They also would have views of numerous turbines some 3 km to the west. The Walters

have been very concerned about the implications on their loved property. They sought an alternative alignment for the line and also sought that Contact Energy purchase their property.

[928] Mr S Brown, the landscape architect who appeared for the Walters, suggested the removal of several turbines to mitigate the effect on the Walters' view. We have considered this but do not accept that there would be any appreciable mitigation, because a number of other turbines would remain in the view. We accept that the Walters are adversely affected by views of the External Transmission line as well as more distant views of proposed turbines.

### ***28.3.2 Effects on Mr G K and Mrs J D Ball***

[929] There would be 570 metres to the boundary of the designation from the Ball's house, and the nearest tower would be 100 metres lower in elevation. However, the External Transmission line would traverse the Ball property for some 5 km over which 11 pylons up to 46 metres high are proposed. As Mrs Ball said in her evidence, Contact would not be able to mitigate the extensive aesthetic impact of the line which would cut through their views of bush cascading down limestone bluffs to the Mangapapa Stream.

[930] The Balls raised a number of farm management and access concerns as well. While the evaluation from the landscape architect acting for Contact Energy was that there would be less effect from the house, which is oriented to the north east away from the line, we accept the substantive impact the line would have on the Ball's property and their views, in addition to the views of turbines in the distance.

### ***28.3.3 Effects on Mr E A Allan and Ms E Wright***

[931] Mr E A Allan and Ms E Wright both participated fully in the hearing and enabled the Board to fully understand the effect of the line on their property and views. The Allan/Wrights value the extensive views from their elevated property towards Mt Pirongia and Karioi and noted that visitors passing through the area tended to admire this view from a bend in SH22. Although mitigation screening had been offered by Contact Energy, the evidence was that this would be unlikely to be a practical option as the ground fell away from the house. In addition, the owners sought the view rather than

otherwise, and sought undergrounding of the line near their property, or dismissal of the NOR, and, finally, if approval were to be granted, they sought realignment of the line.

[932] The option of undergrounding had been considered and the expert advised that it would be technically feasible, but would require a building at either end of the underground sections. The buildings would have additional structures that would have adverse impacts. For visual as well as cost and security reasons, the Board's opinion is that undergrounding would not be a sound resource management choice. Although modifications had been made to the alignment during the adjournment, the result was thought even less desirable by Mr Allan than previous tower locations. However, after further discussions at the hearing, Contact Energy put forward an amended alignment, which Mr Allan agreed appeared to be an improvement. This is now incorporated in the final provisions of the NOR.

[933] The plan showed towers to the south of the previous alignment and a monopole as requested by Mr Allan at tower LO66A. In addition, Mr Kós in his closing statement noted that, although a change in pole structure type could have adverse effects, a change could be undertaken in discrete locations. He offered monopoles in the place of pylons for structures LO64-LO70. The use of monopoles would enable an alignment further south, as the area is constrained by a gas pipeline. The final NOR conditions reflect the use of monopoles and the new November 2010 alignment in respect of the length between LO64 and LO70. There is a small modification to the NOR in this position which we consider inconsequential.

[934] The Allan/Wrights raised other concerns that we refer to elsewhere.

#### ***28.3.4 Effects on the Partridge property***

[935] Both Mr and Mrs Partridge separately made submissions relating to the impacts of the NOR on their property at Orton. Mr Partridge subsequently withdrew his submission but did not provide an affected party consent. Mrs Partridge did not withdraw her submission, but did not appear to support it. Regardless, we are satisfied that the impacts upon the Partridge property would be very significant. These would comprise a combination of the eastern end of the Limestone to Orton transmission line, and the deviation of the National Grid to Orton.

### ***28.3.5 Effects on other submitters***

[936] Other submitters referred to the adverse impact on their views. However, the impacts were similar in type to those we have already discussed but at significantly lower levels. We conclude that the impacts on any other submitters are likely to be minimal. There were visual impacts on a number of properties where the owners did not make a submission (for example the Singh property on SH22). We have had regard to those impacts also.

### ***28.3.6 Biophysical effects of the External Transmission line***

[937] While we have discussed general visual impacts, particularly on views from properties, we note that concerns were raised about the biophysical impact of the line. We accept that the tower bases would not be extensive and that earthworks would be minimised. Conditions are offered to prevent sedimentation and other effects of access roads and pylon construction and maintenance. Protected bush and other landscape elements have been avoided except for Te Umukaraka Bush (which is currently not protected although portions are fenced).

### ***28.3.7 Effect on landscape of Te Umukaraka Bush***

[938] We have noted that a swathe would not be cut through the bush, but some trees would be pruned. We also note that there already is 4-wheel drive access up to the proposed turbines of Block C on the ridge and through the bush, and there are open patches with pasture predominating in Goat Haven, which is within the general area of Te Umukaraka Bush.

[939] Considerable attention was given to the height of trees and conflict with the proposed transmission lines. Expert assessments were undertaken on tree growth and how many would be at risk from pruning to keep them from entering the safety zone of the line. The site visit helped the Board understand the local grazing pattern and vegetation growth. Conditions have been designed to maintain safety (with regular inspections from qualified arborists) and minimise pruning of vegetation. We accept that the proposed conditions would allow the bush to continue to regenerate with minimal landscape impact. That is because only a few trees would need to be managed.

## **29 EFFECTS ON ECOLOGY**

### **29.1 Te Umukaraka Bush**

[940] Te Umukaraka Bush received attention as an area of significant indigenous vegetation and habitat for bats, birds, herpetofauna and terrestrial invertebrates. Ecologists noted the importance of more mature trees for birds and bats and the adverse effect of pruning those taller trees to provide for the transmission line proposed to cross a section of the bush. Individual trees were located within the path of the designation and line, and their age and growth assessed.

[941] While Contact Energy witnesses gave assurances tree height could be managed without expected loss of the trees, the Board continued to be concerned and asked Contact to consider the possibility and effects of increasing the height of the tower LO13 to provide for greater clearance to the relatively mature identified trees. The response by Contact Energy to concerns of DOC, the Board and others to tree removal or pruning was to support the increase in height of towers LO12 to LO14, which would reduce the effects on significant vegetation. Contact Energy, on the advice of their consultant engineers, have agreed to raise the height of the three pylons to 55 metres. There would remain a continuing need for emergent trees to be monitored by a qualified arborist, to ensure compliance with the safe electrical operating distance (as required by the Code NZ ECP 34:2001).

[942] From the evidence provided, we understand that the transmission line construction and operation would pose minimal impacts on terrestrial invertebrates. We also accept, with conditions providing for identification and translocation of herpetofauna, that there would be minimal impact on lizards from the transmission line construction and operation.

[943] We accept the evidence of Mr W Shaw that with conditions, and mitigation and offset proposals in place, adverse effects on the bush habitat would be avoided, remedied or mitigated. This assumes the more limited impact of the transmission lines due to the raising of the height of the transmission towers.

## **29.2 Effects on bush birds**

[944] Extensive surveys were carried out to identify bird species and their flight patterns. Particular attention was given to surveying for tui and kereru. We understand from the evidence given by avifauna experts that their attention was on assessment of risk of turbine collision and there is very little evidence to suggest that the transmission line poses a particular risk for any birds except for wetland birds, particularly bittern which we address below. However, to avoid risk of accidental impact, we conclude that the proposed conditions should require bird diverters to be installed on the lines within 200 metres of the bush. This is now reflected in the final conditions.

## **29.3 Effect on bats**

[945] The evidence provided to the Board by the bat experts was that there would be minimal effects on the bats from the transmission line once constructed. However, there may be disturbance during construction, particularly if it is found that a bat roost tree needs to be removed. We require conditions to ensure that there are no maternity bats near transmission line construction, and no roosting trees are to be removed. This is provided for in the caucus agreement and management plan of the bat experts. This is now also reflected in the final consent conditions.

## **29.4 Punga Punga Wetland**

[946] The planning evidence did not assess the particular objectives and strategies contained within the Vision and Strategy in the Waikato River Act, and the Waikato Regional Policy Statement. The Punga Punga Wetland is within the catchment affected by the Waikato River Act, and its provisions are relevant.

[947] Section 11 of the Settlement Act provides that the Vision and Strategy is deemed to be part of the Waikato RPS, and prevails over the Regional Policy Statement to the extent that there is any inconsistency.

[948] The Vision and Strategy is clearly of great significance for the Waikato Region. It has similar status to a National Policy Statement and it would have been helpful if the particular provisions of the Vision and Strategy (and their effect) had been explicitly considered in the planning evidence.

[949] Punga Punga Wetland is an extensive area of some 100 hectares that is not currently fenced from stock intrusion (although there are some fences in the area). The wetland is infested with willow growth, which has spread through the wetland.

[950] The wetland is not currently protected but after careful survey, several Australasian bittern (which have a threat status of Nationally Critical) were detected in the wetland. This, therefore, would identify the Punga Punga Wetland as a significant habitat for indigenous fauna.

[951] Consideration has been given to protection of this wetland and a BRES wetland enhancement project is proposed to covenant and fence 50 hectares, as well as attempt to provide greater surety of maintaining the wetland by discontinuing drain maintenance. Experts advised that the willow provide breeding habitat for the bittern so their removal was not recommended.

[952] The evidence was that the proposal would have minor positive effects on the Punga Punga Wetland. It would therefore contribute in some way to achieving the Vision and Strategy. We agree and consider that this positive benefit ought to be taken into account.

### **29.5 Effects on wetland birds**

[953] The transmission lines would overfly Punga Punga Wetland. Avifauna experts advise that there is risk of bittern collision and mortality. Seven bittern were counted there between October and November 2008 and numbers were thought likely to be higher, because this species is cryptic and is understood to fly at night. Location of carcasses would be extremely difficult in the wetland.

[954] The avifauna experts agreed that bird diverters are needed and should be installed within 200 metres of this wetland. This is now reflected in the final conditions.

[955] With ongoing oversight of the BRES proposal by the Ecology Peer Review Panel, and the mitigation and off-set proposals in place, the Board is confident that, with appropriate conditions to reflect this evidence, the effects on this significant habitat would be minimal.

## **29.6 Mitigation of impacts of NORs on ecology**

[956] The mitigation in the proposed conditions and the BRES offset proposals would provide for the adverse landscape and ecological effects to be addressed, and programmes are proposed that would protect and enhance the significant habitats.

[957] Some adverse visual effects of the transmission lines can be mitigated, and Contact Energy has offered planting mitigation to those who would be affected. Very little evidence was given to us about the Internal Transmission line, but we conclude that the effects of this would be significantly less than those of the External Transmission line. We accept that planting would not achieve mitigation for some affected land owners in respect of both the Internal and External Transmission lines.

## **29.7 Conclusion on effects of External Transmission line on landscape and ecology**

[958] General aversion to the location of the External Transmission line was made clear to the Board by landowner submitters and opinions on adverse visual effects were clearly expressed. Opposition to the internal line was less widespread, but raised similar issues.

[959] We have confidence that, with continuing careful management, appropriate conditions and management plans, effects on significant habitats would be minimal. We are not satisfied that the visual effects on the Townshend, Walter, Ball and Partridge properties can be adequately mitigated. There are residual effects on the Allan/Wrights even with the proposed mitigation, but these are significantly reduced. Nevertheless, there is no condition proposed that could avoid these effects and, to date, Contact has shown a reluctance to purchase the properties. This is a significant issue to be addressed later in the decision.

## **30 EFFECTS ON FARMING OF NORs**

[960] Various parties indicated a concern with effects on farming operations as a result of the NORs and any eventual easement that may be created. In addition, there was concern about the broader corridor of the NORs prior to the final easement being settled, a reduction from 200 metres to around 42–60 metres. They were also concerned about the construction works required. We discuss each of these matters in turn.

### **30.1 Easement**

[961] It is clear that an easement would enable Contact Energy, or any successor, to both construct the line and also maintain it. There are restraints upon the type of activities that can occur within the easement corridor, which we understand to be between 42–60 metres wide depending upon the particular site. Any activities that a particular owner wishes to undertake within the easement would require the consent of the easement holder, and certain activities such as tree growing would be unlikely to be approved given the need to maintain access to, and safety of, the lines.

[962] Nevertheless, we acknowledge the impacts of this are matters to be addressed in terms of injurious affection during the negotiations for either the purchase of the land or the easement.

### **30.2 Corridor and construction**

[963] The need to continue to maintain a corridor for both construction and maintenance is a matter of some concern. On some of the sites this corridor is still at around 200 metres. Contact Energy suggests that, where a request is made, this would be refined within three years. We received comments on our Draft Report in respect of this issue, and Contact now proposes to refine the alignment within 12 months of a request to do so. However, although we prefer 6 months (as stated elsewhere in this decision) we adopt 12 months having regard to the need for access to the relevant property and seasonal constraints. In the meantime it appears that the NORs would restrict activities without the permission of Contact Energy. We acknowledge that this is a constraint on general farming operations. For example, we would not imagine that a simple fence is likely to cause offence, but nevertheless, in practical terms it appears that consent of the requiring authority would still be needed. Similarly, every day activities such as silage and baleage-making and erection of stockyards might have impacts in terms of the NORs. Certainly structures such as sheds and the planting of forestry would require particular permissions and would be unlikely to be granted.

[964] Subsequently, during the construction period, farming operations are acknowledged to be affected. To this end, Contact Energy has undertaken to consult with the owners and provide farm consultants where necessary to assist the farmers in forward planning. It is clear that such offers have not been embraced whole-heartedly by the

farming community, who see it as a somewhat patronising attitude with the assumption they are not able to manage their farms appropriately. We acknowledge that, during construction, there would likely be significant disruption to particular farms, especially those where the corridor alignment would impact upon central corridors or features of the farm.

[965] A clear example of this is the Ball property, where the key access route within the farm to the lower lands would be crossed by the transmission line. These lower lands are also particularly narrow in the central part of the farm and thus it is difficult to understand how construction would avoid impact upon farming operations. There would be the potential for the construction to be done on a seasonal basis to avoid lambing and calving periods, or where crops may be harvested. Nevertheless, these can occupy long periods at differing times of the year while the construction would be constrained by weather conditions. For most properties this would not be significant. However, there are several properties where the impacts are likely to be more significant, including the Ball property and, to a lesser extent, the Walter property.

### **30.3 General operations**

#### ***30.3.1 Farming constraints and loss of amenity (other than visual)***

[966] Of particular concern to many of the farmers were the ongoing constraints in moving large vehicles around the farm and striking lines or towers, and the general constraint on farm operation.

[967] Many farmers described their place of work as their entire farm and there were some (e.g. the Walter, Allan/Wright and Ball properties) where the tower structures would be dominant features of the environment. We recognise this loss of amenity. However, having regard to the amenity of the whole area and over the entire transmission line and substations, we consider such impacts would be minor.

[968] There are two exceptions. We recognise that there would be some impact upon general operations for the Balls and the Walters. For example, on the Ball property the need to access the NOR along the ridge track past their home would have a significant impact on family privacy. In addition, vehicle access would interfere with stock movements and general farm operations, and create dust. This is because the ridge track

joins with the pinch point on the farm through which all stock and vehicles need to pass. The topography makes alternative arrangements very difficult to the extent that we accept inevitable interference with farm operations. We conclude this effect is significant.

[969] We also recognise that in respect of both the Walter property and the Allan/Wright property, this loss of amenity when accumulated with the losses of visual amenity (that is, for the Walters, the turbines and the visual amenity from their home, and in respect of the Allan/Wrights, the views from their home) these impacts would be moderate.

### **30.4 Adequacy of compensation**

[970] Federated Farmers, supported by individual landowners affected by the NOR, argued that landowners on whose land transmission towers would be located should be fully indemnified, receive full compensation, and receive a share of the financial benefits equivalent to the landowners on whose land the turbines would be situated.

[971] There are immediate problems with the assertion, including:

- [a] Would one transmission tower equate to one turbine? If not, what would be the ratio?
- [b] The production of an individual turbine is known. How would that production be linked to transmission lines?
- [c] What would occur if Transpower became the landowner?
- [d] What would occur if other producers utilised the transmission lines?

There was no evidence presented on these issues and in our view Federated Farmers' proposal is entirely hypothetical.

[972] More fundamentally, we could not see how Federated Farmers were able to equate a producer (the turbine) with the distribution system. The distribution line is unchanged in terms of its impact whether it is unused or fully utilised. Accordingly, we conclude that the contention of Federated Farmers is unfounded. Given this conclusion, we do not need to deal with jurisdictional questions as to whether this issue was within Federated Farmers' submission.

[973] For the sake of clarity, we also adopt the Decision of the Board of Inquiry for the North Island Grid Upgrade, particularly paragraphs [1896] – [1899]. This Board does not have authority to resolve issues of compensation, and works can only proceed by acquisition of easement or the property. Compensation would have to be negotiated at that point.

### **30.5 Aerial topdressing**

#### ***30.5.1 Restraint on operations***

[974] The ability to undertake aerial top-dressing was raised as a potential constraint upon farm operations, and was raised more particularly and explicitly in respect of the Allan/Wright property. Nevertheless it appears that there is the potential for many of the properties along the line to require aerial application of fertiliser. We acknowledge that it is unlikely that aircraft would come close to transmission towers or lines, and when topdressing they would be likely to run parallel to rather than across such linear structures. Particularly in respect of the Allan/Wright property we acknowledge that the construction of the transmission line would prevent the operation of their existing air strip and would necessitate relocation to another site.

[975] Contact Energy has gone to some lengths to provide access to an alternative strip and compensate the Allan/Wrights for any inconvenience. It appears that this arrangement is intended to apply to any farm along the transmission line, which is affected, although the actual arrangements made if there is such displacement are not as clear as those for the Allan/Wright property.

#### ***30.5.2 Alternative airstrip***

[976] It is intended that the Allan/Wrights and their neighbours be displaced to another airstrip, which Contact Energy has organised to make available. It is intended that the Allan/Wrights and others would be provided with a fertiliser bin and the ability to utilise that site. Any extra costs for transportation would be met by Contact Energy. A significant advantage of a new airstrip is that it would be an all-weather airstrip, enabling application of fertiliser throughout the year, whereas their existing grass strip is constrained as to the times of operation. There was a great deal of evidence given on behalf of the Allan/Wrights about whether this would be a sufficient substitution.

[977] Our view is that the alternative airstrip, with the compensation provided for would be a benefit (minimal adverse effects at the very least) because:

- [a] it would enable access to an all weather strip;
- [b] there is the potential for economies given that a plane would be able to service more properties from a single airstrip; and
- [c] the continuing change from Fletcher aircraft to larger aircraft requires larger airstrips than that on the Allan/Wright property. This airstrip would meet the new requirements and enable ongoing use of the airstrip for many years.

### ***30.5.3 Helicopters***

[978] Mr Deane raised with the Board the potential for helicopter application of fertiliser on his farm, which he said he intended to convert to dairying. We struggled to see such methodology as being economic on pastoral farms but nevertheless were unable to see particular problems arising as a result of the proposed transmission lines. Helicopters would, of course, need to keep clear of the lines, but there is no particular reason why ground-based spreaders could not cover any areas missed by the helicopter adjacent to the transmission corridor. Furthermore, it appears to us that there are fewer constraints upon the operation of the helicopter than there are on fixed-wing aircraft. Although a helicopter would need to avoid the corridor, it can easily fly over or manoeuvre short of a line quite safely. With the direct mitigation imposed, we consider that aircraft application of fertiliser would not constitute a problem for the construction of the Internal or External Transmission lines.

## **31 RAVENSDOWN QUARRY**

### **31.1 Present quarry operations**

#### ***31.1.1 Description***

[979] The quarry manufactures lime and, accordingly, quarries rock. The rock requires blasting to yield sufficient quantities for grinding. A working face has been established

by quarry operators. Ravensdown is concerned that its operation may be restricted by the Internal Transmission line.

### ***31.1.2 Fly rock risk***

[980] Given that limestone extraction involves blasting, Ravensdown produced expert evidence indicating the particular constraints on the operation of the quarry. The lime is blasted and, when removed, ground for application on farms as an agricultural lime. The rock is very high in calcium carbonate at 80 percent and is therefore a valuable agricultural resource.

[981] The rock face itself is highly fractured, and this can mean that, with blasting, rock can fly off the face. In evidence before the Board it was agreed that blasting mats could be used if necessary although this was undesirable. It was also acknowledged that most of the blasting force would be displaced to the west rather than the east. We acknowledge that there is a extremely small risk that fly rock could hit transmission lines or an insulator. We understood from Contact Energy that insulators could be installed which are resistant to such collisions, and it may be possible for other protective measures to be taken.

[982] Overall, we have concluded that this is an issue about reverse sensitivity and the potential for Contact Energy to complain or take action against Ravensdown for damage to the transmission line. We have concluded:

- [a] that Ravensdown has a primary responsibility to contain the fly rock within property boundaries and ensure the blasting occurs in a safe manner; and
- [b] if Ravensdown does so, we consider the prospect of damage to Contact Energy transmission lines to be minimal.

[983] We acknowledge that the quarry face is moving further to the east, and that there is another outcrop of limestone rock within the path of the transmission line. We therefore suggest that some reasonable accommodation should be made by Contact Energy within the corridor for the limestone outcrop, i.e. pushing the alignment further to the east to avoid the current face, and further to the west to avoid the outcrop at the

northern portion of the line. Ravensdown and Contact have proposed a condition that seeks to address the issue.

[984] We would require a further condition that Contact Energy install isolation or protection devices to protect the transmission line insulators from minor collision from flyrock. However, it is not the intention of this Board to enable Ravensdown to undertake uncontrolled blasting with effects beyond its boundary. The steps to be taken by Contact Energy should be reasonable and cost effective. In comments on the Draft Decision, Contact has proposed a condition to use ceramic insulators, and this has been adopted in the final conditions.

### **31.2 Future quarry operations**

[985] We have already discussed the potential for further outcrop quarrying in the northern part of the corridor in this area. In our Draft Decision we considered that some reasonable accommodation between the parties could be met to avoid overflying this precise location on the basis that operations would not interfere with the transmission line. It is important to recognise that this outcrop could only be exploited with new arrangements with the landowner. In comments to the Draft Decision, Contact advised that they have reached agreement with Ravensdown on a suitable condition. The Board agrees that the proposed condition is an appropriate approach to this issue, and this is reflected in the final conditions.

## **32 HEALTH EFFECTS OF NORS**

### **32.1 EMR (humans and animals)**

#### ***32.1.1 Description***

[986] Undisputed evidence on electromagnetic radiation (**EMR**) was given by Dr D Black for Contact. This dealt with a whole range of issues. Dr Black drew a distinction between electric and magnetic fields. In respect of those related to the transmission towers, this would be of a magnitude typically found in relation to such transmission lines. He quotes from the NZ Radiation Laboratory, which notes that:<sup>85</sup>

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<sup>85</sup> Dr D Black, EIC at [46] quoting National Radiation Laboratory, *Electric and Magnetic Fields and Your Health* 2001, Ministry of Health

... there are no regulations or standards in New Zealand setting out exposure limits for low frequency magnetic fields. The laboratory recommends the use of the guidelines of the International Commission of Non-Ionising Radiation Protection (ICNIRP) ... proposed in 1990, and [updated] in 1993 and 1998 ...

### 32.1.2 Accepted standards

[987] Public levels of exposure at 50 Hz (the New Zealand system) are recommended by ICNIRP as follows:

Public Levels at 50 Hz (ICNIRP)		
<i>E</i> field strength ( $\text{Vm}^{-1}$ )	<i>H</i> field strength ( $\text{Am}^{-1}$ )	<i>B</i> field strength ( $\mu\text{T}$ ) (Magnetic field strength)
250/0.05 = 5,000 $\text{Vm}^{-1}$	4/0.05 = 80 $\text{Am}^{-1}$	5/0.05 = 100 $\mu\text{T}$

[988] Occupational levels are somewhat higher:

Occupational Levels at 50 Hz (ICNIRP)		
<i>E</i> field strength ( $\text{Vm}^{-1}$ )	<i>H</i> field strength ( $\text{Am}^{-1}$ )	<i>B</i> field strength ( $\mu\text{T}$ ) (Magnetic field strength)
500/0.05 = 10,000 $\text{Vm}^{-1}$	20/0.05 = 400 $\text{Am}^{-1}$	25/0.05 = 500 $\mu\text{T}$

### 32.1.3 Predicted outputs

[989] The electric field calculation for the 220 kV double circuit is 3210  $\text{Vm}^{-1}$  under the line, 800 on the edge of the easement, and somewhat less for the single circuit 220 kV. For magnetic field,  $\mu\text{T}$  a maximum of 24 under a single circuit 220 kV duplex and 17.4 under a double circuit 220 kV duplex compared with 100, which is the ICNIRP limit.

[990] We acknowledge that these levels are well below those allowed by the guidelines and would not result in any biological or health effect on either humans or animals. Further, we consider that the corona discharge, being a low energy plasma, which may create an audible vibration in the air, has no adverse effects on human or animal health. Magnetic flux density is more likely in circumstances of exposure in industrial, domestic or commercial buildings which have high current conductors in the walls. For the sake of clarity we also accept Dr Black's advice that there would be no biological effects on humans or animals, including any adverse health effects, given the low level of exposure.

[991] There were questions about interference or effects on stock generally. Mr Walter rides a horse and is concerned about riding under the transmission lines where the horse may be spooked. We consider all such risks are minimal and therefore can be disregarded for decision-making purposes, and are indistinguishable from the general risks involved in animal husbandry and horse riding.

### **33 TRAFFIC EFFECTS OF NORS**

#### **33.1 Construction**

[992] There would be minimal traffic effects associated with the maintenance and operation of the transmission lines, and these can be disregarded for current purposes. However, during the construction period there would be potential impacts from vehicle movements. We are told that the transmission line components would be delivered by ground vehicle or, where necessary, by helicopters, and then assembled in position. In addition there would be need for space to lay down components and then erect the transmission lines.

[993] We earlier noted that there would be approximately 150 deliveries per kilometre for the External Transmission line and 10 deliveries per kilometre for the Internal Transmission line. This construction traffic would be distributed over adjacent roads and several construction seasons. We acknowledge that, overall, traffic impacts would be at modest levels.

[994] Although a number of teams may be working at the same time, they are likely to be working in different positions along the 25 km length of the transmission line. Again, with the manufacturing and delivery of concrete, the pads for the transmission lines themselves do not involve significant movements of concrete delivery trucks, and it may even be intended that some of the concrete manufacturing would be performed on site.

[995] We acknowledge that there would be a traffic effect on particular farms and on the roads leading to those farms at critical times in the course of the construction. A number of properties would have difficult access, and this would lead to potential conflicts with general farming operations.

[996] Although the applicant proposes in its conditions of consent to give significant warning and to assist the landowners with farm management, this may not avoid all impacts between farming vehicles and vehicles associated with the construction. The concentration of construction work into certain times of the year would also be likely to accentuate traffic movements. Nevertheless, while overall we are satisfied that the proposed conditions take steps to minimise these effects, these effects still need to be taken into account in assessing the appropriateness of the activity. We will undertake this analysis later in the decision.

#### **34 RADIO FREQUENCY EFFECTS OF NORS**

[997] It appears that these effects may be similar to those associated with the operation of the turbines themselves and there was particular concern that these effects may interfere either with air traffic or boating radio use. We do not consider any further impact as a result of these transmission structures beyond that discussed in respect of the resource consent, and regard any cumulative effect in this regard as minimal.

#### **35 MAAORI CULTURE AND TRADITIONS EFFECTS OF NORS**

[998] Little distinct evidence was given on impacts of the substations, Internal or External Transmission lines on Maaori. Most effects are addressed in our discussion relating to the wind farm, including birds, bats, waterways and fisheries and archaeological effects.

[999] Archaeological investigation work for the External Transmission did reveal one pa site that would be avoided, and many ecological sites have been avoided through consultation. The Punga Punga Wetland is an example of ecological mitigation (with Te Umukaraka and Bramwells Bush) that has a cultural aspect.

[1000] Overall, we are satisfied that the cultural impacts of the NOR would be addressed by the conditions, mitigation and BRES proposals.

## **36 CUMULATIVE ADVERSE EFFECTS RELATING TO RESOURCE CONSENTS AND NORS**

### **36.1 Visual**

[1001] Although the wind farm as a whole would not be generally visible, there are certain viewpoints where multiple blocks would be viewed. On the Townshend property, for example, the farmhouse has its main view shaft towards a number of turbines that would be in clear view. More limited views of the Te Akau substation and Internal Transmission line are also likely. On the upper terraces of the farm, views could be obtained of most of the turbines to the north and to both Blocks I and J to the south, and part of the internal transmission infrastructure. Moreover, we accept that those views to the south would be viewed against the more distant backdrop of the Te Uku wind farm.

[1002] There are a number of such examples, including the Walter farm, the Reeves farm and the Smith farm, among many others. The Walters, in particular, would have views including turbines and the External Transmission line. Mr Cairney, counsel for the Walters, argued that Rule 23.9.1.2 of the Franklin District Plan was decisive on these impacts. Under General 1 the Rule states:

In particular, that buildings and structures will not ...

- visually detract from the amenity of dwellings on neighbouring properties

Unfortunately, the transmission line is on the Walter's property, rather than a neighbouring property. Further, the Walter's only neighbouring property with turbines would be near Te Umukaraka Bush. The effect of the transmission towers and more distant turbines is not caught by the District Plan provision. We conclude that the wider provisions of Part 2 of the Act enable us to consider these cumulative effects fully.

[1003] Residents of Raglan suggested that in certain positions one would see HMR to the north and Te Uku to the south or east. We acknowledge that would be the case in some particular positions.

[1004] We accept that the two wind farms would be visible together from some locations but cannot conclude this equates to adverse effect. In this case we can conclude the additional cumulative impacts of Te Uku wind farm on visual amenity are

inconsequential. To some, however, this cumulative effect would be a minor but constant irritant.

[1005] The Franklin District Council also raised in their submission the possibility of cumulative visual and other effects on the coastal environment from wind farms to the north and south of the HMR proposed wind farm. We have considered the possibility of the Awhitu wind farm being constructed, in combination with Te Uku and Taharoa C (near Kawhia) wind farms. There is a significant distance between these projects, assuming all were to be constructed (which may not occur). There could be a change in perception of the area due to the visibility of wind farms, but that would not change its pastoral character. Visibility does not necessarily give rise to adverse visual effect.

[1006] Our conclusion is that, overall, the cumulative effects would be more than minimal but less than minor. Views of turbines diminishing in height and clarity in long distant views would be seen by those closest to the wind farm. There is more than 10 km of separation between Block J and Te Uku. In an intermediate position between the two they would be in separate directions. Views are unlikely to be constant in this position, and Raglan harbour/coast would very likely continue to dominate views from higher elevations

## **36.2 Traffic**

[1007] Traffic impacts from construction of the wind farm together with the transmission infrastructure do have the potential to create cumulative effects. However, we have already concluded there is little scope for transmission line traffic to conflict with that for the wind farm. This is due to:

- [a] different geographical placement;
- [b] different timing; and
- [c] different roading.

[1008] We recognise that the same roads may be used, for example, by staff travelling from Hamilton. However, the prospect of vehicle pooling, buses and low overall vehicle numbers convince us there would be minimal cumulative impact.

[1009] The construction traffic for Te Uku will not conflict with any for HMR. The Te Uku farm has already been completed, well before the commencement of the HMR wind farm.

### 36.3 Migratory birds

[1010] There was some general concern about a string of wind farms on the western coast of the North Island having a cumulative impact on migratory birds. This consent would require that there be no-net-loss of wrybill and SIPO as a result of the operation of this proposed wind farm. We recognise that earlier consents for other wind farms may not have taken a no-net-loss approach with respect to migratory birds. However, either the operation of the general conditions of a wind farm consent or the Act itself could lead to reviews of consents for other wind farms if they caused significant impacts on migratory bird populations. As the High Court discussed in the *Clifford Bay v Marlborough District Council*<sup>86</sup> the granting of consents in that case did not contemplate significant adverse effects on the dolphin population. The evidence of the applicant is that there would be no-net-loss of key migratory shore bird populations as a result of this wind farm being granted consents. The applicant's evidence was predicated upon the adoption of and compliance with an extensive set of conditions and BRES provisions.

[1011] We conclude that the same approach, adopted in *Clifford Bay*, would apply to migratory birds. In particular, the evidence is that the effects with the proposed conditions will not be significant and should lead to no-net-loss. Significant bird losses would bring into question the consent itself. Our adoption in the final conditions of a multi-level response to turbine collision fatalities of birds is a partial response to the issue.

[1012] The question then arises as to whether or not other consents that have been granted on the west coast, such as *Taharoa C* and *Awhitu*, may have bird losses associated with them that would be cumulative upon any losses from this consent. We accept that the coastal area of the west coast constitutes a flight path for migratory shorebirds, and that they may pass multiple wind farms. We consider that any wind farm consents granted are predicated upon the assumption that there would be no significant

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<sup>86</sup> *Director General of Conservation v Marlborough District Council*, CIV 2003 – 485 – 2228, McKenzie J (HC) para [34] – [50]

impact upon bird populations. If that does not eventuate, we consider the Act, and probably the conditions of consent, would give power to review.

[1013] Accordingly, we are satisfied that cumulative impacts on migratory bird populations are addressed in the conditions of consent for this application and could be addressed for other wind farms if necessary.

## **37 POSITIVE EFFECTS RELATING TO RESOURCE CONSENTS & NORs**

[1014] In evaluating this proposal it is clear that we are obliged to take into account positive effects. Some arise in relation to either the resource consent or the NOR, but the majority apply to both.

### **37.1 The interrelationship of the proposals to positive effects**

[1015] The positive effects to a large degree turn on the ability of the project to be constructed and despatch power. To that extent, both the resource consents and NORs must be granted before the project is likely to proceed. Some benefits arise by virtue of the mitigation package proposed, which is not explicitly intended to apply to both the consequences of the NORs and resource consents although is attached to the resource consents.

### **37.2 Coastal escarpment and access**

[1016] The consequences of construction of the turbine blocks on the coastal escarpment would be likely to have positive effects. We are told that the adjacent escarpment would be fenced and it is likely that stocking in the area might be reduced. More particularly, the applicant proposes, as part of their mitigation, that there would be a coastal fencing fund established. The objective would be to retire the more erodible coastal faces and allow natural processes for the reestablishment of vegetation. It is acknowledged that, in the initial period at least, weed species could become more dominant. Nevertheless we are relatively confident that, with or without intervention, native coastal species would re-establish over time.

[1017] In respect of access there is the potential for direct access to be supplied through the Black property and conditions are proposed to that end. In more general terms,

however, the improvement of the roads is likely to encourage access both by locals and tourists along the coastal area. We acknowledge, however, that there would still be limited access points to the coastal area.

### **37.3 Cultural**

[1018] The arrangements entered into with Ngaati Tahinga demonstrate positive benefits for the local hapuu. The benefits for Tainui Aawhiro would be more limited given their opposition to the proposal in general terms. Nevertheless, the landowners of Maaori land participating in the project would receive considerable benefits from the construction of the turbine clusters. As we were told by members of Ngaati Tahinga, this would mean that a better standard of roads can be constructed through the farm and there is also potential for assistance to wider members of the hapuu. Financial benefits both to landowners and hapuu directly, are also likely to have cultural benefits in the medium to long term.

[1019] Other benefits would arise out of the BRES protection and enhancement of habitat for native fauna, monitoring of streams by hapuu kaitiaki and stream fencing.

### **37.4 Indigenous vegetation and bush birds**

[1020] The proposed mitigation and BRES package is intended to provide a positive benefit both in terms of quality and quantity of indigenous vegetation. The exclusion of grazing from parts of Te Umukaraka Bush would make a significant difference. We, in the end, are confident that the number of bush birds would increase, albeit at a relatively modest level.

### **37.5 Community benefits**

[1021] As well as direct payments to schools, a community fund, and some scholarships to hapuu, broader benefits can also be demonstrated. In particular, significant improvement would accrue to local roads. There would be ongoing income for farmers, which would then be multiplied through the local community, and even the potential for additional infrastructure such as cell phones, broadband and the like. We share Mr G Black's confidence that such consequences are likely if the project proceeds.

## **37.6 Information**

[1022] In addition to the detailed geological and visual information supplied through this process, broader information of relevance to the archaeological and cultural features of the area have been supplied already to the parties. This would be likely to have enduring benefits for Ngaati Tahinga.

### ***37.6.1 Fauna and flora***

[1023] It is likely that significantly greater interest would be paid to the local fauna and flora for pest control and mitigation benefits. This monitoring information has already occurred and is likely to lead to consequential identification of significant natural areas and species and habitats. In addition, new information on local herpetofauna, terrestrial invertebrates and bats has already been provided.

### ***37.6.2 Archaeological***

[1024] In addition to the archaeological and cultural information supplied already, further information may be derived from archaeological investigation or finds. Ngaati Tahinga have endorsed this possibility as a cultural benefit that they value.

### ***37.6.3 Water quality***

[1025] In addition, monitoring of water quality in streams would be likely to have a benefit to the community by providing information for future management.

## **37.7 Road upgrading**

[1026] As mentioned earlier, it is expected that significant improvement would occur for local roads.

## **37.8 Farm income**

[1027] As we have already noted, the increase in farm income would be likely to significantly change the economics of farming in this area. There are those farmers who identified that they were not part of the project and therefore would not receive direct

benefit. However, there is potential for alternative uses for the land if the wind farm proceeds, such as accommodation for workers during the construction period and increased tourism.

### **37.8.1 Dual use**

[1028] We conclude that the dual use of this farmland has the potential to significantly assist the local community and provide an alternative income stream to the many landowners.

### **37.9 Economic benefits**

[1029] Messrs D Hunt and G Butcher gave economic evidence for Contact. Mr B Leyland gave evidence largely on economic matters for the Walters.

[1030] Mr Hunt gave macroeconomic evidence, largely focussing on the benefits of renewable energy and wind farms. He emphasised:

- [a] proximity of generation to consumption points;
- [b] meeting growth in demand;
- [c] meeting the government's goal that 90 percent of New Zealand's generation be from renewable sources by 2025;
- [d] diversity and cost advantages; and
- [e] reducing greenhouse gas emissions from electricity generation.

[1031] Mr Butcher looked at project benefits potentially during the construction period. He emphasised the \$180 million of value added to the regional economy over the five year construction period, and an estimated \$10.4 million per year ongoing regional value added.

[1032] Mr Leyland gave economic evidence that the wind farm was inefficient because of:

- [a] capital costs;
- [b] maintenance costs;
- [c] frequency maintenance costs because of intermittent production from wind farms to the electricity network; and
- [d] system operating costs.

This evidence argued that Contact should not be progressing wind farm projects for connection to the National Grid. These arguments go to the decision of the applicant as to whether to proceed with the works if it obtains consent rather than the merits of the proposal.

[1033] The only way in which this argument is given traction is by reliance on the provisions of Section 7(b) and (ba) as requiring economic analysis to justify Contact's decision to seek consent. This relies on the use of the words *efficient* and *efficiency* in Section 7 as meaning only economic efficiency. We reject Mr Leyland's argument for the following reasons:

- [a] Part 2 and Sections 7(b) and (ba) are not only expressible in economic terms. The Board uses efficiency in the broader context of Part 2, which is enabling.
- [b] An economic approach to Part 2 requires re-expressing many value judgements in monetary terms, which is not only complex but fanciful in some areas, i.e. the value of a view. To do so would involve adapting concepts expressed clearly in Part 2 into the context and language of economic theory, and then reconverting them to reach a final value judgement. While economic evidence might assist in understanding some areas of Part 2, it cannot substitute for the single purpose of the Act being sustainable management.
- [c] Mr Leyland's evidence is itself an opinion based upon his views of the relative merits of wind technology compared with other forms of generation. It is not for this Board to try and predict successful outcomes, but to allow people and communities to make those decisions within the parameters of the Act. The Board needs to consider the application on its

merits rather than on a predetermined preference for one form of generation over another.

- [d] The Act itself expressly refers to renewable energy and requires us to have particular regard to its benefits (Section 7(j)). Thus, to the extent that Mr Leyland is seeking that we adopt a different position we are constrained to the position expressed in the statute.

[1034] We do not read Part 2 of the Act as requiring a reduction of its principles to economic terms or analysis. We accept the evidence of Messrs Hunt and Butcher that there will be economic benefits at local, district, regional and national levels. We conclude that the project would have positive economic benefits.

### **37.10 CO<sub>2</sub> reduction**

[1035] There was significant argument as to whether there would be a reduction of CO<sub>2</sub> from granting this consent. We acknowledge that any benefits could only occur if the wind farm was built and operated and only if it displaced a CO<sub>2</sub> producing plant.

[1036] Given the number of wind farm consents already granted, we acknowledge that such a farm may simply displace another from being built. However, overall we accept that greater provision of renewable generation sources would have some benefits in terms of CO<sub>2</sub> production. We suspect these may not be as significant as for baseload plant such as geothermal. We consider the benefits were overstated by Contact, but accept that there is potential for displacement of CO<sub>2</sub> producing (thermal) plants, particularly avoiding construction of new plants.

### **37.11 Local benefits**

[1037] Beyond the benefits to participating farmers we have concluded there will be a number of local benefits including:

- [a] improvement in infrastructure, particularly roads,
- [b] income derived and applied in district;
- [c] increased tourism and recreation opportunities; and

[d] work opportunities.

We suspect that work opportunities may also lead to an increase in the local population making schools and other local facilities more viable.

### **38 MITIGATION WORKS AND THE BRES**

[1038] We have already discussed the various ways in which adverse effects may be avoided, remedied or mitigated directly. Nevertheless, the applicant acknowledges that there are adverse effects that cannot be completely avoided or remedied, and that the direct mitigation may not be sufficient. The applicant has proposed to address these by way of a more general proposal of mitigation and restoration works. This is somewhat grandly referred to as a Bio-diversity Remediation and Enhancement Scheme (**BRES**) and is intended to provide offset mitigation for ecological effects.

[1039] The requirement to comply with the BRES arises in the wind farm consents in both Districts and in the Region, and also relates to the NORs and earthworks for the transmission line. If the NORs are confirmed, then we have concluded that the BRES ought to be included in the relevant conditions. In response to the Draft Decision, Contact proposed BRES conditions to both the NOR and relevant consents.

[1040] In a broad sense, the approach involves addressing effects within each consent in a cohesive and integrated way. This may involve elements that may be within a particular district, such as the enhancement of the Te Umukaraka Bush or Punga Punga Wetland at Orton, both within Franklin District. Others may relate generally to the wind farm such as the Rangitata predator control programmes for SIPO and wrybill.

#### **38.1 Bramwells Bush (or Bramwells Scrub)**

[1041] This is an existing area of scrub situated close to Te Umukaraka Bush and connected to an individually owned podocarp forest on the Grey property, and another area of QEII covenanted bush. We were told it was subject to herbicide spray some years ago and there is certainly clear evidence of large areas of dead scrub and, no doubt, pest plants as well. There is already some regeneration. The applicant's witnesses are confident that, with the steps of pest control, including pigs, goats and possums, and weed control, fence maintenance and supplementary planting, native bush can be re-

established on approximately fifty hectares. From our investigation we agree that this would be a likely outcome.

### **38.2 Te Umukaraka Bush**

[1042] In respect of Te Umukaraka Bush, it is intended that some 32 hectares be added. Although we acknowledge this, the Board was particularly interested in seeing as much as possible of Te Umukaraka Bush fenced, with stock excluded. We acknowledge that the area of Goat Haven is habitat for indigenous long-tail bats and, accordingly, that grazing may be continued in this area to maintain the current mix of pasture and bush. However, we consider that more complete fencing could be achieved, including some of the outlying bush areas. Further, we consider that some steps should be included to remove existing stock as well as deer and goats from fenced portions of Te Umukaraka Bush. With those improvements, the mitigation steps for Te Umukaraka Bush could result, not only in the regeneration of an additional 32 hectares of bush, but also in the increasing density and diversity of vegetation (including the development of podocarp forest within Te Umukaraka Bush generally).

[1043] In addition, 12 tree weta refuge boxes are proposed to be installed and monitored in each of Bramwell's, Kotekaraka and Te Umukaraka Bush, as an indicator of terrestrial invertebrate recovery. Counts to monitor recovery of birds in each of the BRES bush blocks are also intended by conditions.

### **38.3 Upper Rangitata project**

[1044] This is a project aimed at protection of wrybill and South Island pied oystercatcher (**SIPO**) breeding habitat. Complex methods for monitoring and measurement of the effectiveness of this programme are included in the proposed conditions. However the overall objective is to undertake predator control to ensure higher survival rate of chicks through to adulthood. It has been acknowledged in later discussions that this project may need to be expanded to other areas, including lowland farming areas, and possibly other catchments. We conclude that the BRES should be expanded to allow for those possibilities. The final conditions reflect this approach and provide these options.

### **38.4 Miranda Naturalists Trust funding**

[1045] This project would involve research and conservation work for shore birds, particularly international migrant shore birds such as the godwit. The mechanism provides for an ongoing annual payment of \$10,000 to the Miranda Naturalists Trust for the life of the consent. Although more indirect, we agree that this would be likely to assist the long term objective of achieving population protection outcomes for international migrant species.

### **38.5 NZ Dotterel Management Programme**

[1046] This project would be located at Aotea North Head at Aotea Harbour. It would provide a management plan, predator control contract, and monitoring for the life of the consent measures in terms of fledging survival. Again, we acknowledge that this would be likely to assist that programme in achieving its objectives.

### **38.6 Kotekaraka bush enhancement**

[1047] This area is just to the north of Te Umukaraka Bush and is separated by a small amount of pasture from that area. In fact, in some ways the area might be said to be interconnected through various gully fingers of vegetation. Nevertheless, the bush has a very high value and the project intends to install a predator-proof fence around approximately 100 hectares in total. It is intended that the programme eradicate possums, rats, cats, mustelids, goats, deer and pigs inside the fence, and undertake an ongoing mechanism to avoid re-invasion. This would be a very costly programme that would involve approximately \$2 million in fencing, and ongoing costs for pest eradication, monitoring and control, together with fence maintenance. We have concluded that this would be a significant mitigatory step, which would secure some of the best bush in the sub-region and secure this area for a wide range of fauna that rely on bush habitat, including birds, bats, a range of invertebrates, lizards and the like. Given that this bush is already established, these values are extremely high and would likely increase markedly with the steps intended.

### **38.7 Wingspan Birds of Prey**

[1048] This project would fund ongoing New Zealand falcon research and conservation to a minimum of \$30,000 in total. Our Draft Decision recorded that the timing of this needed to be clarified. The timing of funding has been clarified. Although there is no clear indication that New Zealand falcon is present on the site, we recognise that this is a very highly-valued bird and that this project would have benefit in terms of New Zealand biodiversity generally. No comment was made on this issue after the Draft Decision. We have amended the BRES to require payment in a lump sum on the commencement of construction of the wind turbines.

### **38.8 Punga Punga Wetland**

[1049] This is a wetland area near Orton that is currently in poor condition. It has been subject to draining and invasion by exotic species. The intention is to covenant approximately 50 hectares of wetland, fence it and exclude stock from the southern area. The proposal is to also cease maintenance of a drainage channel, and this would enable the area to eventually re-establish as a wetland. However no formal intervention would be provided beyond the fencing and exclusion of stock. There appeared to be a high level of unanimity that this would have benefits, in particular for Australasian bittern, if agreement can be reached to cease the current drainage scheme, but may also assist with diversity for other wetland species.

### **38.9 Kaawa Stream Riparian Fencing**

[1050] This project would provide for riparian fencing involving permanent electric fencing where not already fenced for 2 km along the banks of the lower Kaawa Stream. This is to prevent damage to whitebait spawning areas. No further formal intervention is intended, given that riparian planting would interfere with such spawning areas. Nevertheless, there are also agreements in place with Nga Uri O Tahinga, which may influence further works in this area in due course.

### **38.10 Whitford Spring Riparian Fencing and Planting**

[1051] The Board agrees that the outlet channel of the Whitford Spring should have riparian fencing, together with approximately 100 metres of stream channel. Some planting is envisaged of riparian areas with an indicative budget of some \$10,000.

### **38.11 Waikaretu Stream Riparian Fencing**

[1052] This riparian fencing requires landowner approval, which has been achieved. It would extend along a 1 km stretch of the banks of the lower Waikaretu Stream and have permanent electric fencing to prevent damage to whitebait spawning areas. This would have a general benefit for the area and may encourage further riparian planting of the largely unprotected streams in the area.

### **38.12 Tauterei Stream Riparian Fencing**

[1053] This project would provide permanent electric fencing to prevent stock access to a 1.4 km length of the lower Tauterei Stream, to prevent damage to whitebait spawning areas on the southern side. Fencing on the northern side would be subject to landowner approval. It would be our intention that, in the event that this fencing project is not approved by the landowner, this funding should be added to the general fencing enhancement fund and utilised elsewhere within the area.

### **38.13 Translocation of Native Bats**

[1054] There has been an expert caucus agreement that there may be translocation of long-tailed bats to a safe, predator-free area. Although Tiritiri Matangi Island was mentioned, the option of another, perhaps more proximate site has been requested. We agree that such a translocation has value in protecting the diversity of the bat population. The experts are agreed on the methodology and we acknowledge that. We note, however, the concern of Tainui Aawhiro that this population is part of the taonga of this area and should, if at all possible, remain within the subregion. To that extent, there would always be the possibility of translocation to some other site in the area that may be suitable. We have allowed for such a possibility in the final conditions. Nevertheless, with that preference, we see this project as having particular value.

### **38.14 Fencing Subsidy Programme**

[1055] It is intended also that there be another fund established to enable the construction of appropriate fencing within the escarpment area. The amount that would be made available is \$250,000 for the coastal escarpment fencing fund, particularly directed to the owners of Blocks A, C and J. While landscape mitigation is also proposed in respect of particular landowners, this mitigation is more to address the direct effects.

[1056] Coastal escarpment funding is intended to enhance the natural character of the coastal environment, provide connectivity to the natural areas with the wind farm and recognise and provide for the relationship of Maaori and their culture and traditions with the coastal cultural landscape. This connects with the landscape management plan to give a broader overview of how issues such as fencing and revegetation might fit into the wider environment.

[1057] With this overview, we agree that general offset mitigation could be achieved in the longer term, and this may be able to integrate other sources of funding and voluntary actions by farmers towards a wider environmental benefit. In this regard, we consider that this fencing fund of \$250,000 is one that might be administered by the proposed community trust. Contact opposed this approach in their comments. We have amended the relevant conditions to require consultation with the Community and Kaitiaki Liaison Groups prior to payment.

### **38.15 Beach access**

[1058] Contact Wind has also agreed to establish a fund of \$50,000 to facilitate the formation of a walking track to the beach north of Matira Stream, with carparking adjacent to Turbine E36, subject to agreement with the landowner, and approval from the regulatory authority within six months of the commissioning of the Block E. In the event of failure of that initiative, the monies would then be applied to the coastal escarpment fund. Again, we agree that this would have general offset mitigation benefits for the sub-region and could appropriately be advanced through the proposed community trust.

## **38.16 Cultural**

[1059] Many of the mitigation steps proposed in the conditions of consent and in the various agreements reached with parties are intended to mitigate the adverse effects on the cultural relationship of Maaori with their traditions and taonga. The proposed training for Ngaati Tahinga representatives in water quality monitoring is one example.

### ***38.16.1 Discovery protocol***

[1060] Although the proposed discovery protocol largely seeks to mitigate direct effects from the exposure of items of archaeological or cultural importance, we acknowledge that there is an aspect of offset mitigation involved in such a protocol. The intended outcome is to provide valuable knowledge on the traditions and culture of Maaori in the area through archaeological investigation and inquiries that may occur as a result. This would add significantly to the body of knowledge about the pre-European phase of occupation of this area, and strengthen the understanding of local hapuu with their ancestral occupants. We acknowledge that offset, although we think it has been largely subsumed within the direct mitigation of effects.

### ***38.16.2 Scholarships***

[1061] Scholarship funding has been offered to Nga Uri o Tahinga and also to Tainui Aawhiro if they wish to avail themselves of this. In the event that Tainui Aawhiro do not, it appears to us that such scholarships might be offered to residents of the area, and overseen by the Kaitiaki Liaison Group. This has been reflected in the final conditions.

### ***38.16.3 Relationship agreement/s***

[1062] The value of relationship agreements such as offset mitigation is a matter that is difficult to judge, at least at this stage. Much of the experience with these has been anecdotal to date and, in our view, the advantage of such relationship agreements is that it, in an explicit way, recognises the partnership between European and Maaori in the area and, to that extent, mirrors (imprecisely) the relationship envisaged under the Treaty of Waitangi. The intent is that the hapuu would become more central to the decision-making process and this may, in fact, have significant benefits for Maaori and for Contact Wind/Contact Energy in future years.

[1063] At this stage, only a relationship agreement with Ngaati Tahinga has been signed. We would encourage a similar agreement with Tainui Aawhiro, but recognise that this has not yet occurred.

### **38.17 Landscape management plan**

[1064] Contact Wind has now proposed a Landscape Management Plan and this has been incorporated in various parts of the district consents. The contents of this Plan are addressed.<sup>87</sup> This includes elements of both direct and offset mitigation and performs a wider purpose in giving some long-term form and objectives in respect of landscape management in the area. Although not in any district planning documents at this stage, if progress is made in respect of elements of it, then wider aspects of the proposal might be incorporated within both regional and district plans. To that extent we acknowledge that the Landscape Management Plan and Landscape Concept Plan have the potential to provide broader offset mitigation by providing connectivity between areas of habitat and vegetation, and by providing integrated benefits throughout the various ecological districts of the sub-region. The extent of that benefit is difficult to measure at this stage, but we consider that such a plan is a good first step, and will at least enable focussed discussion to occur if the district plan comes to consider such elements in this area in the future.

## **39 THRESHOLD TESTS**

[1065] Since the resource consent applications to both the Waikato and Franklin District Councils are non-complying, they are subject to establishing that the application meets the threshold test of Section 104D(1), namely that:

- (a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(b) applies) will be minor; or (b) the application is for an activity that will not be contrary to the objectives and policies of–
  - (i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or
  - (ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or
  - (iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

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<sup>87</sup> 47.8 of Daysh8

A non-complying activity may be inconsistent with the provisions of a plan. The test for whether the activity is contrary to the objectives and policies is a high one and must establish repugnancy.

[1066] The Regional Council consents are bundled as discretionary, and the NOR criteria have no equivalent to the Section 104D(1) threshold. Accordingly, the Regional Council consents and NOR do not need to consider the threshold tests.

### **39.1 True exception**

[1067] This addresses whether the proposal is a true exception to the provisions of the Plan, or simply exceeds the standards or requirements of the Plan. This can assist in assessing whether the effect is more than minor (Section 104D(1)(a) of the Act, for example).

[1068] In this case, there are a number of proposed structures within 1,000 metres of the coastal escarpment. This could not be said to be a true exception in terms of the Waikato District Plan, but rather that it exceeds or does not meet the standard for discretionary activity status.

### **39.2 Degree of non-compliance**

[1069] The degree of non-compliance turns both upon any standards set out in the Plan, and also the purpose of those standards. Referring again to the Waikato District Plan's 1,000 metres from the coastal escarpment standard, it can be seen that a number of the turbines would be close to being compliant, that is within several hundred metres of the 1,000 metre setback. However, other turbines may be 700 or 800 metres within that setback and, thus, only 200 metres from the coast.

[1070] Nevertheless, this raises the issue of the purpose of the 1,000 metre line, and whether that purpose could be served by an alternative method. Keeping those matters in mind, we now turn to the threshold tests in Section 104D(1) of the Act.

### **39.3 No more than minor effect**

[1071] The first arm of the threshold test is that the Board must be satisfied that the effects of granting these resource consents is minor. If it does so, then it can move to consider its discretion under Section 104(1). In reaching that conclusion we can put aside any effects that are minimal, but we must take into account all other effects, their degree, and their contribution to the overall effects of the application and under Part 2 of the Act.

#### ***39.3.1 The Franklin District***

[1072] The provisions of the Franklin District Plan are somewhat more liberal than those in the Waikato District, and the wind farm itself is considered a discretionary activity. When we look at the adverse effects of the activity, and combine those with the effects of the proposal overall, including those relating to the Whitford Quarry, the concrete batching plants and the mitigation proposed, we conclude that those effects overall would be minor.

[1073] We conclude that many of the effects would be minimal, and others, such as visual effects and coastal effects, would be minor with mitigation. Similarly, when we look at some of the more significant effects, such as the impact upon migratory shore birds and potential cultural effects, we are satisfied that, with the comprehensive mitigatory steps proposed, those effects would be minor.

[1074] To ensure this is the case, we concluded in our Draft Decision that this could be reinforced by ensuring that the review conditions specifically give the power to reduce the number of turbines in operation and/or the periods within which they may operate. These conditions are now included in the final consent and thus we are satisfied that the effects of the activity would be minor.

[1075] We acknowledge the amenity and visual impacts, which to some individual property owners would be significant, would be minor overall. These effects on individual landowners must be assessed holistically over the whole consent rather than a portion. Such a broad assessment does have the potential for unfairness to an individual, but the Act is clear that this may occur.

[1076] We conclude that the effects overall in the final conditions, when mitigation and the BRES are taken into account, are no more than minor.

### ***39.3.2 The Waikato District***

[1077] The issue of the 1,000 metre setback and its effects has been discussed earlier. In summary, the applicant has adopted a case-by-case evaluation for each turbine to assess whether each turbine appropriately relates to, and interacts with, the coastal area. Although there are some remaining effects, we are satisfied that, with the mitigatory steps proposed, those effects would be minor.

[1078] We have already discussed briefly the question of shore birds, which is the most significant effect identified with respect to the turbines. With the mitigatory steps proposed, we are satisfied that the application would pass the first arm of the threshold test in the Act.

[1079] When we stand back and look at the consents over both districts together, we consider that the question of significant indigenous vegetation is addressed suitably by the conditions of consent.

[1080] When we look at construction impacts, such as on traffic and roading, we recognise that the effects would be limited in time. The agreement to curtail the hours of operation, to leave one day per week and public holidays free of construction traffic, provides an appropriate balance between the desirability of having the works completed as soon as possible and the ongoing requirements of the local community. In the longer term, the improved roading should constitute a long term benefit to that community.

[1081] Many other effects, such as stormwater, erosion and sedimentation, are matters that would largely be avoided by the imposition of appropriate conditions. Many potential effects on waterways would be overcome by the extensive remediation programmes envisaged, and erosion would likely be minimal in the long term.

[1082] We have discussed visual and amenity concerns in the Franklin Plan. The same applies in Waikato where impacts on individuals are significant. Nevertheless, we are satisfied that with the proposed review conditions the overall effects are no more than minor. Although we appreciate that the residents of Raglan would perceive the proposed

turbines as an intrusion upon the landscape, we regard such effects as appropriate and, at most, minor.

[1083] Accordingly, the applications pass the first arm of the threshold test. Section 104D(1) can still be passed even where effects are more than minor if the application is not contrary to the objectives and policies of the relevant Plans.

#### **39.4 Not contrary to objectives and policies of relevant Plans**

[1084] In the alternative, the Board could find that the application will not be contrary to the relevant objectives and policies under Section 104D(1)(b). The application need only pass one of these threshold tests.

[1085] Mr B Brown submitted that the resource consent applications were clearly contrary to the objectives and policies of the PWDP (particularly Policies 4.2.2 and 4.2.4). He relied, in turn, upon the provisions such as the high quality soils and the adverse impacts upon visual quality to support this position. A Land Use Capability Assessment under provision 19.2(g)(v) in the PWDP is only required on relevant applications. A Site Specific Assessment is required only when there is an impact on high quality soils that is more than minimal.

[1086] We cannot agree with Mr Brown. Although some wind farm turbines are proposed on high quality soils, conditions require protection and careful use of soil resources. The footprints of individual turbines are inconsequential in relation to the land areas covered, and would not be measurable in terms of loss of productivity. Visual quality and landscape management are addressed through mitigation and the conditions discussed.

[1087] We note that, although the NZCPS 2010 deems the surf breaks at Raglan to be of national significance, we are satisfied that there would be no significant visual impact as a result of the turbines. Views 10–20 km away are not, in our view, of any particular moment in relation to the surf break. In fact, the existing homes in the area are far more significant in detracting from the naturalness of the area. We conclude that visibility does not equate to adverse effect. We also conclude that there would be no physical effects on the surf breaks as a result of the proposed turbines.

[1088] The Board also reaches similar conclusions in respect of landscape and visual amenity values generally. Dealing with the PWDP Objective 3.4.1 and Policy 3.4.2, we consider an advantage of this application is that it does not affect natural features and landscapes, and integrates with surrounding landscape to avoid domination, at least at a distance of 10 km. We accept that, at closer distance, the perception may be changed, although the very small footprint of each turbine, in relation to the total area involved, would minimise impacts.

[1089] We note that there is a clear non-compliance with the 1,000-metre setback provision in the PWDP. However, the connection to a relevant objective or policy is not so clear that we can say the application is contrary to the objectives and policies of the PWDP.

[1090] In respect of rural character we have concluded that one of the distinct advantages of wind farm applications is that the rural land use is able to be preserved. We consider that the rural character of this area is the ongoing use of pastoral farming. We reach the same conclusion in respect of the Franklin Plan.

[1091] In this case, Contact argued that the application could meet the PWDP rules and objectives by another method of careful placement of the turbine having regard to local topography, features, and using existing pastureland. We conclude that, largely, the wind farm would have no negative, and distinct beneficial, effects on the operation of pastoral farming. In particular, the introduction of better roading would enable all-weather access, which would otherwise be too expensive to install. Overall, we have concluded that the applications are not contrary to the relevant district plan objectives and policies.

#### ***39.4.1 Waikato Regional Council***

[1092] In respect to the Waikato Regional Council consents, all these consents are discretionary. The majority of the applications relate to water takes. Those relating to earthworks include consents necessary for the construction, culverts and stream bed works as well as the construction of the turbines, platforms, and internal and local roading improvements.

[1093] As we understand it, the only consent that is non-complying was that relating to Whitford Spring, which has now been abandoned. All other consents are either

discretionary or controlled. Given that all other consents are either discretionary or controlled, even if bundled, no issues under Section 104D(1) of the Act arise.

## **40 PART 2 OF THE ACT**

[1094] The applications, whether for a NOR or for a resource consent, are subject to the matters set out in Part 2 of the Act. We now discuss the relevant matters under Part 2 that affect this application.

### **40.1 Section 5**

[1095] The Act has a single purpose, which is sustainable management, as that term is defined in Section 5 of the Act. Section 5(2) indicates that the Act enables people and communities to provide for their social, economic, and cultural well-being 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 affects of activities on the environment.

[1096] Although each of these matters can involve value judgements or normative decisions, these do not predominate in this case. Given our conclusions as to the impact upon natural and physical resources of the wind farm itself, together with the substations and transmission lines, people and communities are generally enabled, and we see minimal impingement upon the potential of natural and physical resources. In reaching this conclusion we regard the conditions of consent and BRES proposals as part of the whole project. We see the application in its entirety, as safeguarding and supporting the capacity of air, water and soil.

[1097] With respect to eco-systems, our concerns as it relates to migratory shore birds would be addressed by a comprehensive mitigation package. As we have already indicated, we concluded in our Draft Decision that it was necessary that the proposed conditions be amended to make it explicit that any consent review could lead to the closing down of identified turbines, or constraints over times and hours of operation.

With such controls, we were satisfied that not only would ecosystems be safeguarded, but that the adverse effects on migratory shore birds would be remedied or mitigated. The final conditions make these responses available. Again, with some reservations we will discuss shortly, we see the application as generally avoiding, remedying or mitigating adverse effects. Our conclusion with respect to other ecosystems, such as significant indigenous vegetation, other birds, waterways and fisheries, is that these would be maintained or enhanced.

## **40.2 Section 6**

[1098] Issues relating to Section 6 of the Act have already been discussed in the context of effects. In terms of Section 6(a), the Act, in achieving its purpose, seeks to preserve the natural character of the coastal environment, wetlands, lakes and rivers and their margins from inappropriate subdivision, use and development.

### ***40.2.1 Coastal environment***

[1099] There is no doubt that the construction of these turbines would constitute a development within the coastal environment and that it would have some impact upon the natural character of that area. The question of its appropriateness is, in part, a question of scale and degree.

[1100] Although we have concluded that the Waikato District Plan setback provisions were intended to achieve the objective of preserving the natural coastal character, we accept the evidence given by Mr Lister, and more particularly Ms Buckland, that case by case analysis has more properly identified the important elements of the natural character of the coastal environment and achieved, if not full preservation, then a minimised disturbance. We accept that evidence and reject the contrary views expressed particularly by Mr B Brown.

[1101] There would be some effect on streams, during construction and as a result of fencing but, respectively, those effects are temporary in nature or would have a positive effect on fisheries and water quality.

#### ***40.2.2 Outstanding features and landscapes***

[1102] Mr S Brown, landscape architect for the Walters, spent some time discussing whether or not certain parts of this area might be an outstanding landscape under Section 6(b) of the Act. He did not express a final view.

[1103] We prefer the evidence of Ms Buckland and Mr Lister that this area is not an outstanding natural landscape under Section 6(b). The extensive pastoralisation and utilisation of this land have modified and, in some respects, marginalised it so that otherwise memorable features are derogated from.

[1104] Although two outstanding natural features, which are not currently protected, were recognised, both these features would be unaffected by the proposal. In addition, there is a geological feature that is identified as significant. Beyond the coastal cliffs, rock stacks, and the Tainui bailer and waka, we concluded there were no other outstanding natural features, and certainly none that would be affected by this proposal.

[1105] Certainly the landscape as a whole, or in significant part, i.e. the northern area north of Limestone Downs, could not constitute in our view an outstanding landscape in a district, regional or national context. As we will discuss in a moment, the values of these landscapes are addressed in terms of Section 7(c). These values would be enhanced by the steps proposed to be taken to increase natural elements in both the coastal area and bush areas.

#### ***40.2.3 Protection of areas of significant indigenous vegetation and habitats of fauna***

[1106] There is no doubt that an outcome of the proposed works would be an improvement to the significant indigenous vegetation of this area. This, in turn, would improve habitat for species that live within that vegetation. Effects on Punga Punga Wetland would be positive.

[1107] In respect of fisheries and waterways, we are also satisfied that, while there may be minor effects during construction, these can be carefully managed and in fact there would be long-term benefits as a result of the mitigation steps proposed.

[1108] The most significant impact upon fauna and habitat would be the potential for collisions of the turbine blades with migratory shore birds. For current purposes we are prepared to accept that the flight path of those birds is a significant habitat and, accordingly, that protection of that habitat is provided for in Section 6(c) of the Act. It is clear that the parties have recognised this issue, and have made explicit provision for it through the mitigation steps proposed. Does this adequately protect the habitat [flight path] of the migratory shore birds? We are satisfied that, in the end, it does for the following reasons:

- [a] Only part of the flight path would be affected by the turbines as there is a broad dispersion of bird flight paths, both to sea along the coast and inland in this area.
- [b] The agreement to enhance other habitat areas, particularly the upper Rangitata River nesting area, and the extensive conditions in relation to bird strike satisfy us (just) that the habitat for migratory shore birds would, in a broad sense, be protected.

#### ***40.2.4 Public access to and along the coastal marine area ... and streams***

[1109] The application is at least neutral in respect of access for the public under Section 6(d) of the Act. The construction of the turbines would not, in itself, prevent such access, but nor does it encourage it. The agreement to support Mr G Black's application for an access to the beach would be a positive and welcome step in this regard. We agree this is one of the rare cases where such access should properly be limited to pedestrian access only, rather than broader vehicular access. Plan provisions support limitations on access to fragile coastal areas.

#### ***40.2.5 Maaori culture and traditions***

[1110] This matter has been addressed at some considerable length through the course of the First and Second Hearings. It is clear that Contact have, at least belatedly, recognised and subsequently provided for the particular relationship of Maaori with their culture and traditions, and this has led to a number of agreements and particular conditions of consent.

[1111] Overall, we are satisfied that this aspect is clearly provided for with Ngaati Tahinga. There is a more cautious approach by Tainui Aawhiro, and they generally oppose the application. Nevertheless, we are satisfied that the final conditions would generally avoid any effects upon Tainui Aawhiro, their culture and traditions and, where there are effects, all reasonable steps have been taken to mitigate and remedy such effects. This includes questions of customary activity under Section 6(g) of the Act.

#### ***40.2.6 Historic heritage***

[1112] Related to Section 6(e) of the Act are the requirements to recognise and provide for historic heritage under Section 6(f) of the Act. Again, significant effort has been put into identification of historic heritage, and the overwhelming evidence is that such development would be appropriate from a context of historic heritage. Although there would be a potential for some archaeological sites to be disturbed, valuable information could be received from that and the provision of extensive protocols for documenting and excavating sites, if necessary, provides a proper balance between full preservation and appropriate development.

### **40.3 Section 7**

[1113] Many of the Section 7(a), (aa) and (d) matters, kaitiakitanga and stewardship, and intrinsic values of ecosystems, are matters that have already been discussed either in the context of Maaori culture and traditions, or ecological matters. Sometimes there is an overlap between the two. Questions of maintenance and enhancement of amenity values and the quality of the environment, together with the finite characteristics of natural and physical resources, are matters that have been addressed in the various discussions on effects in relation to ecological, visual and amenity issues.

[1114] Overall, we are satisfied that the application has had particular regard to these matters, and that this is recognised in the detail of the application and the proposed conditions of consent. We now consider matters that are still to be addressed under Section 7 of the Act, including:

- (b) the efficient use and development of natural and physical resources:
- (ba) the efficiency of the end use of energy:
- (i) the effects of climate change:

- (j) the benefits to be derived from the end use and development of renewable energy.

#### **40.3.1 Efficiency under Section 7(b) and (ba)**

[1115] There are various views as to the reference to efficiency in Section 7(b) and (ba) of the Act. In *Marlborough Ridge Limited v Marlborough District Council*,<sup>88</sup> the Environment Court identified an economic interpretation relating to allocative efficiency, productive efficiency, and dynamic efficiency. For our part, we see the word used more broadly in the context of Section 7(b) to mean firstly, productive with minimum waste or effort and, secondly, acting effectively.

[1116] Messrs Hunt and Leyland had differing views on the efficiency of the wind farm. Still, we conclude there are several matters that compel us to the view that this proposal represents an efficient use of the land resource, and the wind energy:

- [a] As noted by the Court in *Unison*<sup>89</sup>, to be able to use farm land for both primary production and the production of energy is clearly an efficient use of that land resource.
- [b] There is a Class II wind resource in this area that is currently not being utilised. Its use would provide a return to both the local community and, more generally, on a national basis. As Mr G Black put it:<sup>90</sup>
- I have stood on our land for thirty-odd years watching the wind blow by. It has not given any return to anyone.
- [c] It would provide a source of power close to Auckland City minimising energy losses to that point.
- [d] It would achieve a reduction in the use of CO<sub>2</sub> producing energy sources. The degree of that displacement is unclear, but we accept that there would be some displacement. and

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<sup>88</sup> (1998) NZRMA 73

<sup>89</sup> *Unison Networks Limited v Hastings District Council*, W5806 74(b)

<sup>90</sup> G Black, EIC page 6 para 297

- [e] Finally, it would provide a greater security of electricity supply and, accordingly, potentially a more efficient electricity market, at least in the northern part of the North Island.

#### ***40.3.2 Amenity - Section 7(c)***

[1117] We have already identified that certain landowners will be significantly affected by the wind farm and/or transmission lines. With the further requirements imposed in this decision and the final conditions of consent, we accept that reasonable steps to mitigate have been taken. Although many amenity values would be maintained, and some improved, these losses would still be significant to individuals.

#### ***40.3.3 Climate change – Section 7(i)***

[1118] In relation to the effects of climate change, we must keep in mind when considering this application that there may be greater coastal retreat than has been experienced in recent decades. Mr R Reinen-Hamill gave evidence that this has been taken into account.

[1119] Should there be less rainfall as a result of climate change this would impact on the New Zealand hydro-dam system. What is not clear is whether or not climate change may bring about any significant change in the wind patterns. We do not understand Section 7(i) to require us to take into account, or seek to understand, what impact this application may have on climate change itself. In our view, such a task would be a formidable one. Whilst we accept that materials used to manufacture the turbines and bring them to New Zealand would produce CO<sub>2</sub>, we are not required to conclude that any material so produced from that process would have any detectable impact upon climate change. Section 7(i) is focussed on the impacts of climate change on particular projects, not the reverse.

[1120] With respect to Section 7(i) of the Act, we have concluded that particular regard has been given to the effects of climate change.

#### **40.3.4 Benefits from the use and development of renewable energy – Section 7(j)**

[1121] In respect of the benefits from the use and development of renewable energy, we again conclude that the statute assumes there are benefits and requires the Board to consider the extent of them in any case. As the Court put the matter in *Genesis Power Limited v Franklin District Council*:<sup>91</sup>

In summary, climate change and renewable electricity generation are key issues for New Zealand. This project, if approved, would provide clean and renewable energy to provide essential electricity and to prevent CO<sub>2</sub> emissions that would have been created by generating electricity through the burning of coal or gas.

[1122] Witnesses gave evidence disputing the extent of that benefit. Mr Leyland considers there would be minimal or no benefit. However, we conclude that there would be tangible benefits from construction of this wind farm, particularly because of its proximity to Auckland, and that it would allow dual use of the properties. Accordingly, it would enable the generation of electricity without the production of pollutants, which might otherwise affect both the local environment and the wider region.

#### **40.4 Section 8**

[1123] The principle of active protection recognised under Section 8 of the Act incorporates the concepts of tino rangatiratanga, and kaitiakitanga, and the management of resources in accordance with Maaori preference. It is clear from the conditions proposed that this has been taken into account in establishing the management of waterways and fisheries. Further discussion has also taken place relating to discovery protocols, and extensive steps taken to avoid impact upon archaeological or other sites of cultural significance. Accordingly, we are satisfied that the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) have been taken into account in the course of this application and particularly in the final conditions.

### **41 THE WIND FARM CONSENTS**

[1124] The conditions of consent finally presented to the Board were very different to those that were presented initially. The consent conditions can be grouped as follows:

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<sup>91</sup> (2005) NZRMA 541

- [a] District Council Consents – 8, constituting;
  - [i] Franklin District Council consents (5), and
  - [ii] Waikato District consents (3)
- [b] Regional Council Consents – 7;
- [c] Notice of Requirement Consents – 8;

[1125] The following are Franklin District consents for the wind farm:

- [a] LO8052 - wind farm consent;
- [b] LO8053 – Whitford Quarry;
- [c] LO8054 – concrete batching plants;
- [d] LO8055 – public viewing areas; and
- [e] LO8056 – improvements to local roads.

[1126] The following are Waikato District consents relating to the wind farm:

- [a] LUC 00004/08 - wind farm consents;
- [b] LUC 00005/08.01 concrete batching plants; and
- [c] LUC 00005/08.02 improvements to local roads.

[1127] A general set of conditions is attached as Schedule 1 to each of these groups of consents.

#### ***41.1.1 Franklin District Council consents***

[1128] The Whitford Quarry consent produced for the Second Hearing had some additional proposed conditions. Condition 3 of LQ8053 made it clear that the aggregate material from the quarry could be used on other public roads, and those additional vehicle movements and maximum volumes were not calculated in Schedule 7. Unfortunately, we

had no evidence of the effects of the quarry being used for broader purposes, in terms of volume, number of truck movements or the like. It appeared that this could be appropriately addressed by adding in a maximum number of vehicle movements and/or volumes that could be carted on a weekly or monthly basis. We concluded that the quarry should only be available during the period that Contact are constructing the wind farm, and not for any later construction by Contact or others. Any use by the Councils during the construction period would need to be subject to conditions as to the purposes, volumes and traffic movements. Given our finding in the Draft Decision, Contact has now abandoned this aspect of the application. We have now clarified Franklin District Condition 3 LQ8053 to make it clear that the aggregate is not available for other public road projects.

[1129] In relation to the other Franklin District consents, these are all single page. Several of these consents, for example the public viewing areas and operation of the wind farm itself, are intended to be of unlimited duration. This is a matter we will discuss shortly in relation to all consents.

#### ***41.1.2 Waikato District Council consents.***

[1130] Consent has been sought for the operation and maintenance of the wind farm, LUC 5/08, and a further consent for the batching plants. Although it is indicated that the wind farm and concrete batching plant consents would only operate for fifteen years, it appears to relate to two mobile batching plants, which are intended to only operate to provide services to the construction works.

#### ***41.1.3 Waikato Regional Council consents***

[1131] In respect to the consents sought from the Regional Council, there are WRC 117912 earthworks and WRC118074 Whitford Quarry. There are water take permits 117915 and 117916, which would have similar conditions attached. Contact Wind also holds a consent for the process water and stormwater for the Whitford Quarry, WRC 117924, and for the concrete batching plants, WRC 117925. Contact Energy holds one regional consent for land disturbance, WRC 117927.

[1132] Consents WRC 117912, 117923, 17927 and 118074 all have a common set of proposed conditions. Given the difference in applicants, it is unclear whether the same

conditions should be referred to or whether a separate set of conditions should be attached to that consent. This has been resolved in the final consent and conditions.

[1133] Contact Energy seek only one resource consent for earthworks from the Regional Council.

## **42 ELECTRICITY RETICULATION REQUIREMENTS**

[1134] Contact Energy also seek confirmation of NORs covering:

- [a] Internal Transmission line (in both Waikato and Franklin Districts);
- [b] External Transmission line (in Franklin District);
- [c] Substations at Matira, Te Akau (in Waikato District);
- [d] Limestone Downs substation and Orton switchyard (Franklin District);  
and
- [e] Design and construction of connection to the National Grid at Orton switchyard (Franklin District)

[1135] Te Akau and Matira substations seem to have separate consent applications (Waikato District Council DES0012/08 and DES0013/08). The final consents and conditions combine these into a single document.

[1136] Similarly, the internal transmission line seems to have a separate NOR and conditions (FDC LO8059 and WDC DES0014/08). This might be appropriate, but we suspect it has more to do with the way in which multiple notices were filed than any logic in the setting out of the conditions. The final conditions now integrate these NORs.

[1137] As we see it, unnecessary duplication of the same provisions simply creates confusion. The most significant condition is the connection to the main transmission line (FDC LO8060), and the more extensive site development required. Finally, the Orton switchyard also has separate conditions (LO8057). Given the nature of the site and its different purpose, we appreciate that a separate NOR and separate conditions would

probably be required at Orton switchyard. We consider this criticism has been addressed in the integrated consents and conditions finalised.

[1138] In our Draft Decision, we considered that the better approach would be to simply have a common set of conditions for the former Franklin and Waikato districts, which were the same in all consents, attached as a separate schedule (similar to the approach in the resource consent). Extra conditions that are not common to all consents could then be contained in the relevant NORs. This has been adopted in the final conditions.

[1139] We now discuss particular issues raised.

## **43 OTHER MATTERS RAISED**

### **43.1 Avoid, remedy or mitigate**

[1140] If the proposal proceeds, clearly there would be certain effects that would not be avoided, mitigated, or fully remedied. In this regard, the particular conditions and the BRES are intended to mitigate, so far as possible, effects that cannot be avoided or remedied. Many features of the proposed site are now intended to be avoided; for example, archaeological sites, significant vegetation and water seeps. Unfortunately, this does not address visual amenity and farming operation effects on individual landowners, but seeks to provide compensation in a broader way to the local communities and by improving the environment generally.

### **43.2 Lapse period and term commencement**

#### ***43.2.1 For the resource consents***

[1141] In respect of resource consent matters, an unlimited term was sought for certain aspects such as the wind farm itself. This issue was addressed at some length by Mr Kós and his closing identified that:

- [a] Section 123(b) of the Act provides for an unlimited period unless otherwise specified;
- [b] no term has been imposed in the past on any wind farm; and

- [c] few terms have been imposed on activities, in any event, in the general resource consent area.

[1142] Mr Kós highlighted the decision of the Court of Appeal in *Ngati Rangī Trust v Genesis Power Limited*<sup>92</sup> that:

- [24] Where a consent authority may be concerned about the appropriateness of a consent or consent conditions because of future changes in the environment which are difficult to predict or assess ... the normal response ... would be a condition providing for review.

[1143] Nevertheless, the applicants' own evidence, given by Mr Lister and supported by other witnesses, was that this application was acceptable because of the limited period that the turbines would be operating and that their effects would be entirely reversible. Mr Lister furthermore indicated that the use of the same type of turbines was an important element that he relied on in concluding that the application was acceptable. We were told that the life expectancy of a turbine, after a mid-term refurbishment, was in the order of 18 - 20 years. Allowing that the actual period might be in excess of this, it seemed to us that the wind farm was likely to reach the end of its useful life within 30 years of construction. In addition, there are a number of mitigation and monitoring measures proposed only for 30 years, rather than an unlimited period. Given that it may take approximately 10 years before the wind farm is constructed, this would mean that one would have an expectation that the wind farm would end its useful life after no more than 40 years. We acknowledge that at the time of our Draft Decision previous courts and boards had not imposed a time limit on wind farms. It may be that the issue of visual impact was not so critical in those cases, or it may be that the matter was not addressed by witnesses.

[1144] Nevertheless, in this case, the potential for a mix of turbines, some not in operation, some in operation, some new and some old, is a particular concern. We agree with Mr Lister that it would significantly change the impact on the environment. If such a mix of turbines was proposed at the current time we would be likely to conclude that it would be unacceptable. Of course, any decision on term would not prevent an application for a renewal or replacement wind farm, which could be made prior to the conclusion of the previous consent. If advances in technology and refurbishment meant that the same turbines could continue their useful life, then it seems to us that any

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<sup>92</sup> NZRMA 312 (2009) at [24]

application for an extension is likely to be treated favourably. Nor could we consider in the circumstances of this case that such a requirement would be an unreasonable one, provided we had made proper allowance for the likely usable life of the current turbines.

[1145] Mr Kós for Contact Wind had turned his mind to this issue and submitted that, if the Board was minded to impose a term, that this should be a minimum of 50 years, being in his view the maximum period that the turbines might be in service. Mr Kós makes the point that this would allow for the maximum use of the project's infrastructure, and that appropriate review conditions could ensure control in the meantime.

[1146] We have considered this and conclude that, if consent is granted, a term for the wind farm of 50 years from the grant of consent is appropriate, balancing the interests of certainty and ensuring that the wind farm obtains maximum usable life without providing for incremental adverse impacts on the environment. All mitigation and monitoring conditions should then apply for the term of consent. We note that the final conditions require many annual payments until decommissioning to recognise the potential extended life of the wind farm.

[1147] In that regard we consider the proposed conditions of consent should now include a requirement that the turbines be of the same type and specification, and that any disused turbines are to be removed. In this regard, the requirement to remove turbines on discontinuance would apply to each particular turbine and the conditions would need to be amended to reflect this. With that protection, we consider that there is no reasonable prospect of the farm being essentially abandoned or of certain turbines being disused, without good reason, while others are still operating. The final conditions recognise this issue and provide for a turbine renewal if not operated for two years.

[1148] The applicant sought a 10-year lapse period on all resource consents. We accept this was not a reference to life of the wind farm but could have been construed by submitters as the date by which all construction would be completed.

[1149] The Board concludes that the reference to lapse is to a date by which works would be commenced. The assessment of effects identifies that the lapse period relates to Section 125 of the Act. In the end, the conditions see some preliminary steps (bird monitoring) as commenced under Section 125

[1150] The construction of the turbines should commence within 10 years to comply with the application. A major concern of submitters was the potential for construction to be ongoing over a decade or more. This needs to be balanced against the financial and other constraints for Contact. The inclusion of a 15-year period to complete the wind farm turbines addresses this balance.

[1151] We have concluded that the applicant intended that the construction commence and finish within a reasonable time. We see the turbine construction as the critical stage. However, there is potential for turbines to be constructed over decades. The applicant's case before us was that this was not their intention. Accordingly, we have concluded that a condition is necessary to the effect that turbine construction would be required to commence within 10 years and conclude within 15 years. If either condition is not met the consent would lapse as to authorising further works. We recognise that there are many preliminary steps to the construction of the turbines, which we have used as the key criteria for this condition.

#### **43.2.2 For the NORs**

[1152] In relation to the NORs, Contact Energy suggested a lapse period of 10 years, double that provided under Section 184 of the Act. It is clear from the wording of Section 184 that, if substantial progress has been made, application for continuation of the lapsing period consent can be made up to three months prior to its expiry. The Environment Court discussed this issue in some detail in *Jubilee Trust v Vector Gas*<sup>93</sup> and concluded that there needed to be positive reasons to displace the provisions of the Act. Evidence in this regard before the Board was general in nature, relating to the period of consideration that would need to be given prior to the works commencing.

[1153] On the other hand, we were told by the applicants:

- [a] that the transmission line would be constructed before the turbines;
- [b] that to enable construction of the wind farm to occur within ten to fifteen years, the transmission line would need to be completed within the ten year period;

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<sup>93</sup> [2010] NZEnvC 203

- [c] this would mean that finalising the designations would need to occur sometime prior to that, given that it may take two to three seasons to install a transmission line; and
- [d] that a witness for Contact suggested this would mean decisions would need to be made within six years, and the works commenced.

[1154] We have considered very seriously whether to impose a five-year lapse period. However, we recognise there is clear distinction between the acquisition of the land or interests therein necessary to enable designation to occur, and the construction of the transmission line. We agree with the applicant that the requirement to construct the transmission line within five years would impose an unreasonable constraint. On the other hand, we do not accept that it would be unreasonable for Contact Energy to have either reached agreement to acquire the land or easement, or made application to the Minister of Lands for compulsory acquisition, within a period of five years. When viewed in this way, we have concluded that the inclusion of a two step process:

- [a] requiring the acquisition of the land or sufficient interest therein, or the approval of the Minister to compulsorily acquire within five years; and
- [b] requiring construction of the transmission line to be completed within ten years;

provides a reasonable balance can be achieved between the residents and the landowners and Contact Energy.

[1155] Finally, we consider that concerns expressed by landowners as to the width of the alignment can be addressed by requiring the finalisation of the alignment through individual properties prior to that time. To that end, we have concluded that, in the event the designation is confirmed, final alignment should be provided within 6 months of a request by an individual landowner, where they make such request and provide access to their land, the timing being calculated from the day upon which access is permitted.

[1156] This provision is different to that proposed by Contact Energy, which suggested they should have three years from request. We can see no proper basis for such a period. Again, in reaching this conclusion we are balancing the reasonable interests of the

landowner with their desire for certainty and minimum constraint on their property use, with the reasonable interests of Contact Energy as the requiring authority.

[1157] We see no necessity for providing a limited term for the infrastructure covered by the NORs. If the infrastructure is not used then conditions provide for its removal. However, even if the wind farm ceased operation, the transmission infrastructure may still be in use or incorporated into the National Grid.

### **43.3 Commitment and construction**

[1158] There was considerable discussion during the hearing as to whether or not Contact was committed to this project. Mr Baldwin, as the CEO for Contact Energy, recognised that a commitment to the project depended on a number of factors. We accept that those factors would include constraints that may be imposed on the development as a result of the conditions of consent. Some of those, such as the migrating shore birds, expose the development to a risk that certain turbines or blocks of turbines may be required to stop for certain periods. This is merely one example of the type of factors that may influence a decision on whether to proceed. Others include the cost of the equipment, the expected price for electricity, and the extent to which constraints on the grid continue to exist upon delivery of power to Auckland and further north. We also recognise that Contact Wind and Contact Energy have both committed considerable funds to finalising this application for consent.

[1159] We have concluded that no major project of this scale could be said to be a certainty. As we have already noted, decisions on commitment to the process must take into account any conditions of consent. We have concluded that there is no reason to seek further commitment from the applicant beyond the terms and those conditions of consent that are appropriate. In the same way, the question arose as to whether and when construction should occur. Given the consent of the landowners to the wind farm, we can see no reason to impose such constraints. In relation to the transmission lines, we have concluded that the lapse period for the NORs (being a requirement to acquire the land easement or apply to the Minister for compulsory acquisition within five years) is an appropriate response. Further constraints are not required.

[1160] A recurring issue was whether or not the applicant should be required to undertake preliminary steps in relation to mitigation for migratory birds before

commencing construction of the works, meaning construction of the transmission lines, wind turbines or associated earthworks. The wording of the draft conditions required baseline monitoring to be undertaken for three years prior to commencement, but commitment to predator control would not be required until construction.

[1161] Throughout the hearing, the DOC continued to indicate its preference that pre-construction monitoring occur. This was to obtain baseline figures from which calculations of the effectiveness of mitigation can be made.

[1162] The DOC clearly recognises that species are at risk in the Upper Rangitata River already, and that they are subject to predation. Measurement of the level of predation will not assist the threatened species and will, in fact, further reduce the adult population capable of breeding to compensate for any losses from the turbine operation. On the other hand the effectiveness of the programme cannot be verified without base line monitoring.

[1163] Although Contact and the DOC have agreed on the programme we would prefer to see some positive predator control to reduce the continued decline of the population of SIPO and wrybill prior to commencing construction (earthworks and/or turbines). Our view is that predator control should be linked to the commencement of the construction of the transmission line, giving in theory at least two seasons of predator control prior to the operation of the first turbines. In practical terms, this may reduce the amount of baseline monitoring that may be done.

[1164] Nevertheless, we prefer to see the species protected, rather than monitoring the decline. A compromise position has been adopted in the final decision to require baseline monitoring from the date of the consent, until the commencement of construction of the transmission line, or three years (whichever comes first), then require predator control from that time on.

[1165] We conclude that this would provide a balance whereby some monitoring at least had been conducted and ensuring that there are several years of predator control to try and build up the adult population of migratory birds prior to the first turbines going on line. These issues have been addressed in the final District Conditions/BRES.

### ***43.3.1 Bond and decommissioning***

[1166] A number of parties suggested that there should be a bond to ensure that both the transmission line (Contact Energy) and the turbines (Contact Wind) are removed when no longer required for energy production. A number of parties suggested all concrete footings for the turbines and transmission lines should also be removed.

[1167] There was a suggestion that the costs of removing the disused turbines or transmission infrastructure would be a significant constraint. We agree that, if an individual turbine or the transmission line is not used for a reasonable period, then it should be removed. In the event that that is not undertaken by the consent holder, the question is whether or not a bond should be held to meet the full cost of doing so.

[1168] We note that the transmission lines, lattice structures and turbines, in themselves, remain valuable assets, even if decommissioned. We have concluded that it is most unlikely that either of these applicants or any replacement owners would allow the assets to remain after they were no longer useful. The materials used in the turbines, lattice towers and wiring are valuable, and in many cases can be re-used.

[1169] We agree that any turbine or transmission structure should be removed if continuously unused for more than two years, and consider that the addition of a condition over individual turbines to that effect would be sufficient to provide protection. We do not consider it necessary to impose a bond. This has been reflected in Condition 15.1 of the final Waikato District Conditions and is reinforced by a requirement for Contact to confirm the operating status of each turbine on an annual basis to the District Council.

### **43.4 Adaptive management**

[1170] This arises, in the main, in respect of the migratory shore birds, and provides for the management of the wind farm to adapt if more than predicted losses were to occur. This issue has now largely been addressed by the inclusion of triggers for immediate review of the consent. We consider that, with the type of conditions now proposed, and the alteration to commencement of predator control, the Board and the parties can be confident that the conditions of consent would ensure an adaptive management technique in respect of the migratory shore birds.

### **43.5 Community Liaison Group**

[1171] Another suggestion raised through submissions has been the use of a Community Liaison Group to attempt to address issues before they arise in a formal context. This would include issues such as traffic, water usage, noise both during the construction and from turbines, and the like. Our Draft Decision suggested a potentially more extended role in allocating community funding, for example the fencing fund. Such conditions, in our view, would have better enabled the community to provide for its social and cultural well-being, and health and safety.

[1172] We still consider the extension of the role of the Community Liaison Group beyond that included in the proposed conditions would have positive effects in terms of Section 5 of the Act.

[1173] In these respects, it appears to us that there is potential to take various elements of the community package and place these together under the control of a Community Liaison Group. The Group could be established as a Trust, if necessary, and might administer, for example, the local school support payments over 50 years, \$700,000 to a community charitable trust, the fencing fund and the like, from commencement of construction to surrender or expiry of the consent. Nevertheless, Contact, in their comments on our Draft Decision, remains wedded to controlling most funding. The conditions have therefore been amended to permit members of the Trusts to be the same as the Community Liaison Group. We have also required consultation with Community and Kaitiaki Groups before Contact can make payments under the funding it controls.

### **43.6 In relation to resource consents**

[1174] There are certain issues relating to the proposed resource consent conditions that need to be addressed. We describe these below.

#### ***43.6.1 Causal connection to proposed conditions***

[1175] There was a suggestion that some of the proposed conditions, which the Board were considering, were beyond scope. The Board's view is that it may impose any condition that is causally related to the application, or the effects thereof, in respect of resource consent conditions. For example, the requirement for early predator control

relates directly to the effect of the loss of birds in the first year of operation. If the population can be increased prior to the commencement of the turbines, this creates a considerable buffer of adult birds, which can then continue breeding and avoid the potential for a drop in population prior to recovery. Accordingly, it makes the undertaking to achieve no net loss more realistic in practical terms, and tends to avoid the potential requirement to turn turbines off.

[1176] Similarly, a requirement to remove any turbine not being used for two continuous years would avoid the potential effect on the environment of unused turbines, identified by Mr Lister as a significant adverse affect. Given the current history of the disused Vortec Turbine in this area that has never been removed, this is a particular issue of concern to local residents. In particular, the limit on years of operation is directly connected to the life of the wind farm and the potential for a disused wind farm, or one that is uneconomic to continue in use, running the turbines once every eighteen months to avoid the cost of removing the infrastructure. The final conditions provide for this and also require annual reporting of the operational status of each turbine.

#### ***43.6.2 Monetary compensation for adverse effects***

[1177] It is clear that there would be adverse visual effects on a number of landowners, in particular the Walters, the Partridges and Mr Townshend. For Mr Townshend that would include a cluster dominant in the main view from the farm house. Although those effects may be combined with those for the NORs, there are a number of turbines within 5 km that would have an impact upon the Walters' amenity. The visual impact of the turbine operation cannot, in these circumstances, be avoided or remedied and nor can it be mitigated by conditions of consent.

[1178] To date, the Environment Court has not seen Section 5(c) of the Act as empowering the Court to require monetary compensation for such loss. Although this does occasionally occur in mediation and settlement agreements, this is regarded effectively as a side agreement to the RMA. If the Board is minded to grant consent it is clear that there would be significant unmitigated adverse effects on individual landowners, particularly on the Walters and Townshend's visual amenities, from the operation of the wind farm.

[1179] For the Walters, the NOR may give some avenue for compensation as injurious affectation under the Public Works Act. That is unclear. It does appear, however, that the Board, in considering this application, must consider whether or not, given the acknowledged significant adverse effect from turbines on the individual landowner's amenities, consent should be granted notwithstanding that clear adverse impact.

## **43.7 Notices of Requirement**

### ***43.7.1 Public liability***

[1180] One of the issues discussed by a number of the owners was whether or not they would be liable for incidents that occurred during either the construction, or the lifetime, of the transmission lines over their land. It seems to us that this is a matter for contract between the parties. If it is not addressed in contract, then any obligation can only be one that would arise by operation of the general law in any event.

[1181] We recognise that these are nevertheless real concerns for farmers, who are faced with trespassers using infrastructure on their farms that were not designed for their use. We consider, however, that those matters are beyond our capacity as a Board of Inquiry on a resource consent or NOR. It, nevertheless, raises issues about the liability of farmers for persons who may be on their property either without permission or subject to other statutory rights, which needs to be addressed at a policy level.

### ***43.7.2 Compulsory acquisition***

[1182] It is clear that confirmation of the designation would not give Contact Energy the right to compulsorily acquire the land or an easement over it. At best it can make application to the Minister of Lands to undertake such a process. If that occurs, the Minister may acquire the land under the Public Works Act 1981, and then issue a proclamation under Section 186(2) of the Act. All expenses incurred by the Minister are recoverable from the network operator (Section 186(6) of the Act). In any event, no party was able to draw to our attention any cases where the Minister of Lands had intervened under Section 186 on behalf of a network utility operator.

[1183] The position of Contact Energy is that it would only make such application as an absolutely last resort. For our part, we have concluded that the power of compulsory

acquisition by the Minister does exist under the Public Works Act and is provided for in Section 186, but is likely to be utilised only in extreme situations. In our view, the matter is more appropriately addressed by the imposition of a requirement that the land, or an interest in it, be acquired by agreement, or the Minister's approval to acquisition be obtained, within 5 years of the Board granting the consent.

### ***43.7.3 Ongoing payment for the NORs***

[1184] Federated Farmers and many of the farming submitters on the External Transmission line argued that they should be compensated on an annual basis for the use of their land. Contact had modified their easement payment offer to an annualised payment over 35 years. Federated Farmers and others, however, sought to enable farm owners to participate in a share of the income generated from the wind farm. They could see no proper distinction between their position and that of the wind farm landowners. We have already discussed this contention and concluded it is without merit.

[1185] A similar issue was argued extensively before the Board of Inquiry on the North Island Grid Upgrade, and this Board adopts the same position. This is a matter beyond the scope of the RMA, and is currently compensated through Public Works Act or private agreement. Each individual landowner and Contact will need to agree the terms of the easement. The only other basis on which the works can proceed is if the Minister of Lands intervenes and compulsorily acquires the land. We are satisfied that compensation issues can be appropriately addressed through that process.

### ***43.7.4 Power to modify a NOR***

[1186] We have already discussed, in general terms, a Council's power, as a territorial authority, to recommend to a requiring authority the modification of a NOR (without constraint). On the other hand, a requiring authority may only modify a consent in terms of the recommendation of the territorial authority, or not inconsistent with the requirement as notified. Given that the Board has both the powers of the territorial authority and the requiring authority, by virtue of the Act, we do not consider that we are constrained on the power to modify in the same way that the Environment Court on appeal is.

[1187] We note too that the requiring authority has powers under Section 181 of the Act to alter the designation, and may do so under Section 181(3) if the alteration:

- [a] involves no more than a minor change to the effects on the environment associated with the use or proposed use of land or any water concerned; or
- [b] involves only minor changes or adjustments to the boundary of the designation or requirement and the written notice of the proposed alteration has been given to every owner or occupier of the land directly affected and those owners or occupiers agree with the alteration; and
- [c] both the territorial authority and requiring authority agree with the alteration.

[1188] Given that the overall objective of the Act is intended to be public and participatory there must also be limits on the modification of a designation where there are affected parties to whom notice has been given, or who have not participated to this point. There are three particular situations that have been argued extensively before us, and we wish to deal with each of these:

- [a] *The Walter property*

Evidence from Mr S Brown, landscape architect for the Walters, and the Walters themselves, and cross-examination of a number of witnesses, sought to suggest that an alternative route should have been chosen that did not involve the valley on the Walter property, or the Walter property in any way. We have considered all this evidence and discussed it earlier. The movement of the alignment further to the south would involve either placing it on the rising valley side facing the Walters' and other houses on the northern side of the valley, or moving it so far to the south that it would be hidden behind the ridge of that valley. In doing so, a whole range of new issues arise involving a new viewing audience, proximity to Baker Road, and issues involving the alignment to the east of Wairamarama-Onewhero Road. We have concluded overall that the impacts of the transmission towers (independent of the impact of the turbines) would only be minor. Although visible from certain parts of the Walter's house, and even dominant when undertaking work in the valley,

we consider that the overall impact of the transmission lines and towers in the context of the farm and its environment would be no more than minor. No party argued that the line could be situated further to the north, and we note that this does not appear to be a realistic suggestion in the circumstances. Accordingly, we conclude that there is no modification to the alignment that would significantly improve the impact on the Walters without having significantly greater impacts on other parties. That being the case, such modification would be beyond a modification that this Board would contemplate, given that a new viewing audience may be affected and the matter would be better to proceed by way of a new NOR. Effectively, therefore, we must assess the route on the basis of its current proposed alignment.

[b] *The Ball property*

There is no doubt that the impact of the proposed alignment of the transmission line on the Balls would be at least moderate and would alter the way in which the farm can be managed, at least during the installation stage. The Balls were also concerned that the only practical access was close to their home and would invade their privacy and affect their household amenity. We remain concerned as to whether the transmission line may have ongoing impacts in terms of farm management in the future. The particular concern is that the ridge spine, which constitutes the road down to the valley floor, would also be required to enable access for transmission installation. Even if helicopters were used, we consider it unrealistic for all staff to be able to access the property by helicopter. The use of helicopters, in itself, would create considerable disruption to the farm. Given the alignment before and after the Ball's property, we consider that it is likely that an actual alignment within the corridor noted would be the most appropriate. Certainly, the Balls did not suggest an alternative within the corridor. Very careful design and placement of the transmission towers may enable the existing farm configuration to continue. However, we suspect that some change to operations may be required in the longer term, given the centrality of the ridge and the transmission towers at the base of the valley at what is essentially a narrow pinch-point on the farm. There is no modification that we are aware of that would assist in these circumstances, and effectively the issue goes to

whether or not the NOR should be granted, and if so, on what basis. No work can take place on the Ball's property unless the land, or an easement, is acquired. That would need to occur, either as a result of an agreement with the Balls or, alternatively, by acquisition of either the property or an easement by the Minister of Lands on application from the requiring authority.

[c] *The Allan/Wright property*

In his closing, Mr Kós suggested an alternative alignment, slightly outside the existing NOR, which more properly fell within the Fleming Road saddle, slightly further to the south of the Allan/Wright property. This alignment would place a key transmission tower behind a knoll rather than on top, and rising land would also partially protect the views of at least one transmission pylon on the property itself. It would not avoid, but would mitigate the otherwise significant visual effect on the Allan/Wrights. Although the alignment would be placed slightly closer to another property (which, although notified, did not participate in this Inquiry), it would place it at a much lower level. Currently, the transmission tower would be clearly visible above the neighbouring house (the Singh property), whereas the new placement, although 40–50 metres closer to the home, would be situated below it and partially obscured by both the valley and trees. In respect of both properties, we are satisfied that the visual impact would be reduced. Although not avoiding impact on either property, it would nevertheless reduce those impacts. We also conclude that it is in our power to modify the NOR by moving it to the south to include the new current alignment. To that end, our Draft Decision moved the NOR to a new alignment with alternative structure positions. The final conditions now include this realignment and the use of monopoles for LO64 to LO70. We confirm that the alternative alignment is an appropriate modification with the objective of reducing impacts on Mr Allan and Ms Wright, and the neighbouring house owned by the Singhs.

[1189] The Partridges do not have any land underlying the External Transmission Line, nor would they have any visual impact from the turbines. However, the line required to connect with the National Grid passes directly over their land and close to their dwelling.

There is no particular mitigation that could address the impact upon their property. Accordingly we must consider that the confirmation of the NOR would create a significant adverse effects on them. Nevertheless, Contact would need to acquire the land, or an interest therein, sufficient for the works at which time compensation issues would be addressed.

#### ***43.7.5 Constraint on land management***

[1190] The question of planning blight created by the NORs was raised by a number of witnesses. We have addressed this in our consideration of conditions by requiring the designations, in the event the NORs are confirmed, to be realised by either purchase of the land or an easement, or alternatively, by the Minister is appropriate to acquire the land, or sufficient interest therein, for the requiring authority within 5 years.

[1191] Other constraints on land ownership can be addressed as part of such an arrangement. Those in respect of the Allan/Wright property and aerial topdressing have been recognised already by provision of an alternative site.

[1192] Impacts on the ability to fertilise properties close to the lines is a matter that could be addressed at the time of acquisition or easement. There are more fundamental issues associated with the difficulties of operating the Ball property due to the pinch point at the centre of the site.

[1193] Again, those constraints are matters that would need to be addressed before the works could start, either by acquisition or alternatively, by the Minister acquiring the land under the Public Works Act.

#### **43.8 Miscellaneous**

[1194] A number of other issues have been raised during the course of the hearing. This included various strategies and government policies, international agreements and the like. Submissions also included broader matters of the inter-relationship between the wind farm and the transmission system, with respect to Contact Energy.

[1195] In broader terms again, submissions included holistic issues relating to a large area with its existing human and population, fauna and vegetation. Submissions also

included physical resources relating to farming, infrastructure resources such as roading, telecommunications, and the more ephemeral issues that identify this area as home.

[1196] At this point we have stood back in a broad sense to look at this matter in its overall context. We now turn to address the exercise of discretion, Part 2, and other matters that would bear upon the report before reaching our conclusions.

#### **44 EXERCISE OF DISCRETION**

[1197] Under both Section 104(1) and Section 171 of the Act, the Board has a broad discretion. Even the matters which the Board particularly addressed under Sections 141 and onwards are matters that bear upon, but do not limit, that discretion.

##### **44.1 The single purpose of the Act**

[1198] As the Privy Council noted in *Maguire v Hastings District Council*,<sup>94</sup> the Act has a single purpose being sustainable management as that term is defined. All the various criteria, and matters we have discussed, bear upon that single issue before the Board, but are not determinative of the outcome. Clearly, we must be satisfied that the application recognises and provides for matters under Section 6 of the Act, has particular regard to a series of matters outlined in Sections 7, and 141–149 of the Act, and takes account of the matters in Section 8.

[1199] In the end, it is necessary that we integrate all those matters to reach a conclusion. In some regards, significant effects on individuals may be subsumed within the wider scope of the effects and issues of the application, particularly when the Board takes into account various matters of national importance. We recognise in this regard that the Minister's stated reasons for the referral are ones to which the Board must have regard.

[1200] Even then this is not conclusive of the outcome that the Board must reach. These inform, rather than determine the outcome under Part 2 of the Act in Section 5. We are also informed by comments on the Draft Decision and the modified conditions proposed or found by the Board to be appropriate.

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<sup>94</sup> [2001] NZRMA 557

[1201] In practical terms, we have recognised that the resource consent issues relating to the wind farm need to be concluded in the first instance. We then need to reach a conclusion in respect of the transmission line NORs, and the resource consents associated with that, and then look at the matter overall in terms of cumulative impacts to determine whether or not consent should be granted for either or both elements.

#### ***44.1.1 The Wind Farm***

[1202] We have concluded that there are significant benefits to this project, not only in terms of the supply of renewable energy, but its proximity to Auckland city. We take into account that there can be no certainty that this project will be constructed.

[1203] With the conditions proposed, and the mitigation and BRES, and taking into account the further amendments we have discussed during the course of this decision, we conclude that, on balance, the grant of consent in this case would enable the local community (including hapuu) to provide for their social, cultural and economic welfare. Equally, the wider population of New Zealand and, in particular, Auckland, would also be enabled through the provision of renewable energy from a source close to a major population centre.

[1204] Although we acknowledge that there are impacts, particularly visual, we consider that the effects of the application, as a whole, would be less than minor. We are significantly troubled by the potential impact on migratory birds, but have concluded that, with the rigorous set of conditions now attached, and with the regular reviews that we have discussed that the grant of consent would continue to protect this important migratory route (habitat) for indigenous shore birds.

[1205] This discretion is assisted by reference to the various assessment criteria and other provisions of the relevant Policy Statements and Plans. All of these recognise the need to balance coastal character, rural resources and natural environmental issues, including amenity, with the desirability of new renewable energy resources. In achieving this balance we are seeking to enable people and communities as described in Section 5 of the Act.

[1206] The conditions also address other concerns including bats, bush birds, resident shore birds, indigenous vegetation, streams and fisheries. When we look at the question

of protecting archaeological and historic areas, including those important to Maaori culture and traditions, we are satisfied that the applicant has (albeit belatedly) addressed these matters in a comprehensive and significant way. We are particularly heartened by the approach adopted by Ngaati Tahinga in establishing an ongoing relationship agreement with Contact Wind. We again commend to the parties the potential to set up a Community Liaison Group that administers some of the funds proposed for the local community. This, in our view, would empower the local community and establish the relationship with Contact Wind and the general community on a firmer footing.

[1207] Nevertheless, we acknowledge that Tainui Aawhiro do not support this application. We conclude that they should, if they wish, properly be a participant, both in the Community Liaison Group, and also more directly with Contact Wind in the southern area if the hapuu wishes.

[1208] We also acknowledge that, for the purposes of this hearing, Tainui Aawhiro, in maintaining relationships with Ngaati Tahinga, have accepted the Tauterei Stream as the separation point for the application of the cultural protocols. In doing so, it is clear to us and Contact Wind that that is in no way an acknowledgement that this is the limit of their rohe, but rather, is a practical approach in respect of the discovery protocols suggested by each hapuu. The considerable additional work done by the applicant to clarify the construction methods, ecology, archaeology, and cultural issues, has satisfied us that this grant of consent would achieve the sustainable management purpose of the Act and we therefore grant consent. We have reviewed all conditions of consent in light of this decision and all comments made of the Draft Decision in reaching this conclusion.

#### ***44.1.2 Transmission infrastructure***

[1209] Given our confirmation of the consent for the wind farm, it is clear that the power will need to be transferred from the wind farm to the National Grid. We accept, based on all the evidence, that the method of supply by overhead transmission lines is reasonably necessary to achieve the objective of the NOR.

[1210] We have concluded that there was not adequate consideration of alternative routes, although there was adequate consideration of alternative methods and sites.

[1211] Given the impact upon private property, we then need to very carefully consider the issues under Part 2, reaching a conclusion as to whether or not the Notice of Requirement can be confirmed. We have already discussed potential modifications and have concluded that a change of alignment slightly to the south at Fleming Road would be within scope, and would constitute part of any NOR confirmed, as outlined by Mr Kós in closing.

[1212] When considering whether to confirm the NORs, notwithstanding the inadequate consideration of alternative routes, we keep in mind that any route, being a linear route, is going to involve crossing roads and impact on some properties.

[1213] We have concluded that the impacts upon the Walter property (from the transmission route alone, excluding the views of the wind farm), are acceptable. On the other hand, we acknowledge that the impacts on the Ball property (in the sense of farm management and visual effect) and the Allan/Wright and Partridge properties are still significant.

[1214] However, we are satisfied that the transmission line cannot be constructed without the acquisition of either the land or an interest in it in respect of the Walters, Balls, Allan/Wright and the Partridge properties. That being the case, the issues relating to that impact are ones that could properly be addressed at that stage. We also note that the conditions proposed by the applicant include an alternative air-strip for affected landowners as well as extensive consultation with the parties to minimise any impact on farming.

[1215] In the end, we have concluded that the NORs should be confirmed in the form attached and subject to the extensive conditions we have discussed, and because:

- [a] the impact of these NORs are limited in time by the condition that the land or easement must be acquired, or an application accepted by the Minister of Lands to acquire, within 5 years;
- [b] the parties can request finalisation of the alignment, which is to be completed within 6 months of the request and of access to the property to do that work being granted to Contact Energy; and

[c] we are satisfied that, in a practical sense, Contact Energy will wish to continue negotiations with parties to acquire the land or easement without Ministerial intervention, and will probably do so in the short term, rather than long-term, to give certainty about being able to proceed should it so wish.

#### **44.2 Outcome**

[1216] Given that conclusion, it follows that the NORs, with the modification on the Allan/Wright property and the conditions imposed, should also be confirmed.

#### **45 FURTHER COMMENTS**

[1217] We cannot leave this matter without making some brief comment on the utilisation of the Board of Inquiry process in such a case. This case has gone through numerous iterations since the First Hearing commenced in early 2009. We initially identified, on the basis of the papers filed at the time, that Contact could face problems in establishing its case before the Board. Notwithstanding that, Contact chose to proceed and were then faced with having to seek an adjournment in order to ensure that they had sufficient evidence to assess the effects of the proposal.

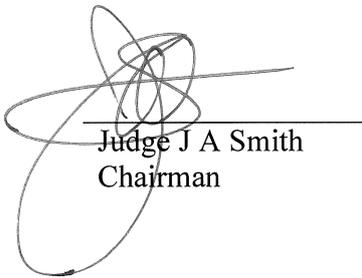
[1218] Considerable delay occurred and much effort by Contact was required to achieve that position. Although no specific mechanisms were provided for the Board of Inquiry process, the concept of using facilitators to assist parties to understand the application and prepare submissions, and the utilisation of mediation services in the early stages, may well have avoided this hearing. We suspect that, were this matter not ‘called in’, and it had gone to council hearing in the first instance, it might not have proceeded to an appeal before the Environment Court, or alternatively, the issues may have reduced significantly.

[1219] We also consider that, for the most part, Contact calling and utilisation of peer review evidence was unhelpful and increased the hearing time. This is particularly because some of Contact’s primary witnesses failed to ensure their evidence adequately responded to the expressed concerns of the peer reviewers.

[1220] These actions have created considerable extra cost and delay to other parties and, ordinarily, the Environment Court would have considered an award of costs in favour of

the submitters to reflect this. Unfortunately, Boards of Inquiry do not have that power. We acknowledge that many extra costs have been borne by submitters, due particularly to the need for a Second Hearing. However, there is no remedy available to the Board.

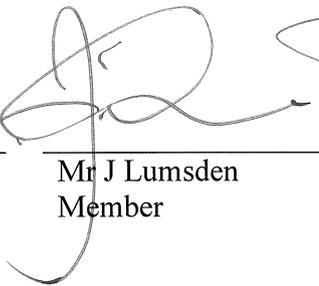
DATED at AUCKLAND this 13<sup>th</sup> day of May 2011



Judge J A Smith  
Chairman



Ms G Rangi  
Member



Mr J Lumsden  
Member



Dr D H Menzies  
Member

## APPENDIX A

Pre-hearing site visit 3-6 August 2010

Hearing: Tuakau on 27 September – 1 October 2010, 4 – 8 October 2010, 11 – 15 October 2010, 26 – 29 October 2010, 1 – 2, 15, 17 November 2010.

Ooraeroa Marae, Port Waikato, 3 November 2010

Poihaakena Marae, Raglan, 4 November 2010

Subsequent site visits 18 November 2010

Note: We have not listed hearings associated with the adjourned hearing.

## APPENDIX B

### SECOND HEARING

#### Appearances:

Mr J S Kós QC, Mr J R Welsh, Mr M N Sly, Mr D G Randal, Ms L C Daniell for Contact Wind Limited and Contact Energy Limited (**Contact**)

Ms D K Hartley for the Franklin District Council (**Franklin District**)

Mr L Muldowney and Ms M Macintosh for the Waikato Regional & District Council (**Waikato District** or **Regional Council**)

Ms S M Bradley and Ms M N Eugster for the Department of Conservation (**DOC**)

Mr P R Gardner and Ms W Clark for the Federated Farmers of New Zealand Incorporated (**Federated Farmers**)

Mr D A Kirkpatrick for G & J Ball (**the Balls**)

Mr J D Cairney for D & P Walter (**the Walters**)

Ms R Feary for the Energy Efficiency & Conservation Authority

Mr F Clark for New Zealand Wind Energy Association

Mr E Chapman for Ravensdown Fertiliser Co-operative Limited

Ms K Wilson, Mr D Robson and Ms G Baumann for the New Zealand Historic Places Trust

Ms A Greensill with Mr M Hamilton for Tainui Aawhiro Hapuu

Mr S Karaka for himself, for Nga Uri O Tahinga Association (Incorporated)

Mr E B Allan and Ms E A Wright in person

Mr R J Walker in person (subsequently withdrawn) and for Waikaretu School Board

Mr R F Smith in person

Mrs K Hall in person

Mr R E Townshend in person

Mr R Gemmell in person

Mr A J Carr in person

Ms M J Caird in person

Mr B D Brown in person

Mr R Brown in person and for Raglan Point Boardriders Club

Mr C G Deane in person

Mr P McCabe in person

Ms K E Opie in person

Mr P Petersen in person

Mr A J L Reeves in person

Ms L R Rutherford in person

Mr R McNabb in person

Mr D Glogau – evidence only, no appearance

APPENDIX C

HMR SUBMITTER SUMMARY

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
42	Allan, Eric Bernard		Y				Y	Y	
68	Austin, Julian & Beverley		Y					Y	Y
34	Ball, Gavin & Janice		Y				Y	Y	
73	Barry, Peter Lawrence		Y				Y	Y	
35	Bernard Brown Family Trust		Y				Y		
62	Black, Graeme John & Phillapa Mary	Y					Y	Y	
7	Bobekova, Elvira	Y					Y	Y	
22	Boyden, Gregory Michael	Y					Y		
53	Bradley, Clayton & Shelley		Y				Y	Y	Y
33	Raglan Point Boardriders Club		Y				Y		
56	Caird, Miranda Jane		Y				Y	Y	
94	Carr, John				Y		Y		
67	Church, Colin Noel		Y				Y		Y
24	Clarke, Andrea	Y					Y		
10	Collard, Clement Alban	Y					Y	Y	
32	Conquest, Dennis		Y				Y		
52	Deane, Christopher Gary, Kerry Anthony & Mark Peter		Y				Y	Y	
51	Deane, Mark Peter & Agnes		Y				Y	Y	

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
	Agatha								
78	Department of Conservation				Y		Y	Y	
88	Divett, Gregor James		Y				Y		
3	Fang, Du-Yeong					Y	Y	Y	
86	Federated Farmers of New Zealand (Auckland Province) Incorporated				Y		Y	Y	
79	Franklin District Council			Y			Y	Y	
61	Gemmell, Richard Maurice				Y		Y	Y	
38	Glogau, David	Y					Y	Y	
49	Granshaw, Christine Anne		Y				Y	Y	
48	Granshaw, Robert Duncan			Y			Y		
82	Grant, Duncan Thomas & Ross Catherine Anne		Y				Y		
87	Grey, Joanna L.C.		Y				Y	Y	
25	Hall, Noel, Karen & Melissa		Y				Y	Y	
14	Hamilton, Andrew	Y					Y	Y	
13	Hamilton, Angus James	Y					Y	Y	
76	Hansen, Kenneth Allan		Y				Y		
89	Hansen, Martin Fronde & McConnell, Nancy Anne		Y					Y	Y
6	Harford, Andrew Sinclair	Y					Y	Y	
9	Hohenberger, Peter		Y				Y	Y	Y

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
36	Holterbrinck, Judith	Y					Y		
16	Horsley, Mr Campbell & Ms Rosemary	Y					Y	Y	
4	Horsley, Mr Robert & Tennille	Y					Y	Y	
23	Horton, Richard	Y					Y	Y	
19	Jackson, John Hughlings	Y					Y	Y	
18	Jackson, Rosemary Anne				Y		Y	Y	
1	Johnstone, Mr Brook David	Y					Y	Y	
11	Johnstone, Rachel Sarah	Y					Y	Y	
77	Jones, Brian Douglas & Marian Winifred				Y		Y	Y	
2	Karaka, Mr Samuel Patuone Wiremu & Thompson, Mr Richard			Y				Y	
74	Keir, Jaynie Myril		Y				Y		
28	Kiernan, Seamus		Y					Y	Y
75	King, Dr Richard		Y				Y		
39	Kokonga Farms Limited				Y		Y	Y	Y
41	Land, Thomas William	Y					Y	Y	
50	Macnab, Robert Fraser				Y		Y	Y	
59	Mandeno, Peter Woodward		Y				Y	Y	Y
84	Matenga, Richard & Juliana				Y		Y	Y	
81	McCabe, Phillip Harold		Y				Y	Y	
64	McInness, Susanne Mavis	Y					Y	Y	

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
85	Ministry of Economic Development			Y			Y	Y	
57	New Zealand Historic Places Trust/Pouhere Taonga				Y		Y	Y	
27	New Zealand Manufacturers & Exporters Association	Y					Y	Y	
80	New Zealand Wind Energy Association	Y					Y	Y	
47	Opie, Karen		Y				Y	Y	
63	Partridge, Joe		Y				Y	Y	Y
46	Partridge, Linda Myrtle		Y				Y	Y	
71	Paulsen, Stephen & Donna					Y	Y		
45	Peterson, Paul Victor		Y				Y	Y	
26	R E & P D Townshend Foundation Trust		Y				Y	Y	
44	Rally of New Zealand Limited			Y			Y	Y	
95	Rasmussen, Garry Alexander		Y				Y	Y	
91	Ravensdown Fertiliser Co-operative Limited (late)		Y				Y	Y	
96	Reeves, Alastair & Ann		Y				Y		
12	Rupapere, Jean & Tommy	Y					Y	Y	
69	Rutherford, Lucille		Y				Y	Y	
15	Shorten, Herbert Benjamin Hewitt & Nola May	Y					Y	Y	

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
37	Smith, Richard Frederick		Y				Y	Y	
21	Sumner, Matthew	Y					Y	Y	
54	Sunset Views Ltd & Rimanui Farms Ltd		Y				Y		Y
40	Tainui Awhiro Ngunguru Te Po Ngunguru Te Ao Management Committee		Y				Y	Y	
31	Telecom New Zealand Limited			Y			Y	Y	Y
70	The Energy Efficiency and Conservation Authority (EECA)	Y					Y	Y	
17	The New Zealand Heavy Engineering Research Association Inc	Y					Y	Y	
58	Thomas, Benjamin Barry & Wendy Louise				Y		Y	Y	Y
92	Ullrich Aluminium Co Ltd	Y					Y		Y
83	Waikato District Council			Y			Y	Y	
72	Waikato Regional Council			Y			Y	Y	
66	Waikaretu School Board of Trustees		Y				Y	Y	
65	Walker, Raymond John			Y			Y	Y	
60	Walter, David & Pam		Y				Y	Y	
90	Ward, Darren Phillip & Lorrae Carolyn		Y				Y	Y	

Sub No.	Submitter	Position					Referred to in submission		Withdrawn submission
		Support	Oppose	Neutral	Mixed	Not stated	Wind Farm	Notice of Requirement	
29	Whitford, David John	Y					Y	Y	
30	Whitford, Lynne Margaret	Y					Y	Y	
55	Williamson, Terry				Y		Y	Y	
20	Woollett, Peter Harold	Y					Y	Y	
43	Wright, Elizabeth Ann		Y				Y	Y	
5	Yates, Alistair Ronald	Y					Y	Y	
8	Yates, Mark Kingston	Y					Y	Y	
93	Yates, Scott and Robin	Y					Y	Y	

**APPENDIX D**

<b>Wind farm and Internal Transmission NOR</b>			
<b>Name</b>	<b>Organisation/Company</b>	<b>Position of signatory</b>	<b>Address</b>
Allan Wadams and Arthur Young	Sunset Views (Rimunui Farms)	Directors	Port Waikato-Waikaretu Road Tuakau
Michael Fraser	Highgate Hills Farm Ltd	Owner/occupier	96 Nolan Road RD 2 Tuakau
Paul Brown	Whareana Farm	Chairman/Trustee	1626 Port Waikato Rd RD 5 Tuakau
Alex and Sue Snodgrass	AJ 7 SC Snodgrass Family Trust (Ngapuriri)	Owner/occupier	757 Port Waikato-Waikaretu Road RD 5 Tuakau
Ted Ramsden	Edward Ramsden Limited (Puriri Heights)	Owner/occupier	4/88 Richmond St Thames 3500
Jackie Thompson	Pukewhau Farm	Neighbour/owner/occupier	1077 Port Waikato-Waikaretu Road RD 5 Tuakau
Chris Horton	Limestone Downs (C. Alma Baker Trust)	Owner/chairman	Port Waikato-Waikaretu Road RD 5 Tuakau
Phillip, Clare, Harold and Hayley Ward	Clare Ward Family Trust	Owner/occupier	Port Jackson Road RD 4 Coromandel

Richard and David Whitford	Whitford Farms Limited	Owner/occupier	Rapid No. 2490 Main Rd Waikaretu/Port Waikato RD 5 Tuakau
Philip and Ann Woodward	Nikau Caves	Owner/occupier	Waikaretu Valley Rd RD 5 Tuakau
Ngapaki Whare	Pukerewa Marea	Trustee/occupier	470 Pukerewa Road Waikaretu RD 5 Tuakau
Matthew Preston	Pukerewa A Block	Owner/chairman	Unit 61, 312 Victoria Street Hamilton
Steve and Sandra Parrott		Owner/occupier	550 & 413 Matira Road RD 2 Ngaruawahia
Richard and Joanne Kueglar	Matira Ltd	Owner/occupier	579 Matira Road RD 2
Juliana and Richard Matenga	Te Maro Trust (B12L)	Owner/occupier	69 Pukerewa Road RD 2 Ngaruawahia
Rob and Tenille Horsley		Owner/occupier	462 Waikaretu Valley Road RD 2 Ngaruawahia
Graeme and Phillipa Black	Blacksands Trust	Owner/occupier	870 Te Akau Coast Road RD 2 Ngaruawahia 3794

Herbert and Nola Shorten		Owner/occupier	767 Te Akau Coast Road Te Akau
Andrew and John Glenn		Owner/occupier	1057 Waimai Valley Road RD 2 Ngaruawahia
Sam Thompson		Owner/occupier	567 Te Akau Coast Road RD 2 Ngaruawahia
Tommy and Jean Ruapaere (Te Akau B12A2D1)		Owner/occupier	375 Te Akau Coast Road Te Akau
Tommy and Jean Ruapaere (Te Akau B12B)		Owner/occupier	375 Te Akau Coast Road Te Akau
Peter Hogan	South 37 Limited	Owner/occupier	231 Coast Road Tuakau
Peter and Pru Jackson	P.A. Jackson No.1 and No.2 Trust	Owner/occupier	1215 Te Akau Road Te Akau
John and Jenny Jackson	Tauterei Trust	Owner/occupier	83 Neilson Road Te Akau 3793
Jo and Anne Jackson	J H Jackson Junior Family Trust No. 2	Owner/occupier	404 Te Akau South Road RD 1 Ngaruawahia
Graham and Janet Kettle		Owner/occupier	Te Akau Coast Road Te Akau
Mina Whare		Trustee/occupier	Te Akau B Number 11 Fishing Reserve
Hariata Marshall		Owner	RD 5 Tuakau

Owners	Rimunui Farms (Sunset Views)	Neighbour/owner	Port Waikato Waikaretu Road Tuakau
Kevin Webb	Highgate Hill Farms Limited	Dwelling occupier	216 Nolan Road RD 2 Tuakau
Jim Lourie	Alexander Snodgrass, Susanne Snodgrass and Margaret Wright	Dwelling occupier	Ngapuriri Port Waikato-Waikaretu Road RD 2 Tuakau
Grant and Rachael Vercoe	Ramsden	Dwelling occupier	758 Port Waikato-Waikaretu Road Tuakau
Andrew Crawford	The C Alma Baker Trust (Limestone Downs)	Dwelling occupier	Port Waikato-Waikaretu Road RD 5 Tuakau
Alex Purden and Christine Cook	The C Alma Baker Trust (Limestone Downs)	Dwelling occupier	Port Waikato-Waikaretu Road RD 5 Tuakau
Chris Barber	The C Alma Baker Trust (Limestone Downs)	Dwelling occupier	Port Waikato-Waikaretu Road RD 2 Tuakau
Alf Harwood	The C Alma Baker Trust (Limestone Downs)	Dwelling occupier	Port Waikato-Waikaretu Road RD 5 Tuakau
Kate Broadbent	Whitford Farms Limited	Dwelling occupier	Port Waikato-Waikaretu Road RD 5 Tuakau

Ken Kerr	Whitford Farms Limited	Dwelling occupier	Port Waikato-Waikaretu Road RD 5 Tuakau
Lisa Lverage	Matira Limited	Dwelling occupier	1599 Waikaretu Valley Road RD 5 Tuakau
Kym Buttery	Pukerewa A (Maori Freehold Land) 201 landowners	Dwelling occupier	Pukerewa Road RD 2 Tuakau
Trevor Good	Matira Limited	Dwelling occupier	Matira Extension Road Waikaretu RD 5 Tuakau
Kenneth and Audrey Pitts		Neighbour	369 Matira Road RD 2 Ngaruawahia 3794
Howard Whare	Matira Limited	Dwelling occupier	287 Matira Road RD 2 Ngaruawahia
Tony Cocker	Graeme and Phillipa Black	Dwelling occupier	Corner Matira Extension Road and Pukerewa Road RD 2 Ngaruawahia
Paul and Carol MacPherson	Shortens	Dwelling occupier	767 Te Akau Coast Road RD 2 Ngaruawahia
Barry Williamson	John Glenn, Andrew Glenn, Virginia Glen and Michael Crawford	Dwelling occupier	1055 Waimai Valley Road RD 2 Ngaruawahia

Peter Thompson		Neighbour	1319 Waimai Valley Road RD 2 Ngaruawahia
Richard and Jean Markham	Richard Markham/Lee Markham Family Trust	Neighbour	231 Te Akau Coast Road Te Akau
Ray Walker and Denise Potbury		Owner/occupier	Waikaretu Valley Road RD 5 Tuakau
Jayne Robinson	John Jackson, Jenny Jackson & Fraser Storey	Dwelling Occupier	83 Nielson Road RD 2 Ngaruawahia
Sam Patuone Wiremu Karaka		Owner/occupier	1599 Waikaretu Valley Road RD 5 Tuakau
<b>External Transmission Line</b>			
Greg and Jenny Simpson		Occupier	874 Ponganui Rd RD 2 Tuakau
Gretchen Simpson and Daryl Putohe		Occupier	1931 Wairamarama Onewhero Rd RD 2 Tuakau
Hamish and Tessa Ritchie		Occupier	1769 Waimaramarama Road RD 2 Tuakau
Mark Yearbury		Occupier	316 Allen and Eyre Road Onewhero
Bruce Middleton		Owner/occupier	1603 Highway 22 RD 1 Tuakau

Don Cameron		Occupier	Sharpe Rd Pukekawa
Nancy McConnell, Martin Hansenm Sharon Norman		Owner/Occupier	161 Otuiti Road RD 1 Tuakau
Martin and Paul Hansen		Occupier	401 Otuiti Road RD 1 Tuakau
Bernadette Lim		Occupier	491 Otuiti Road Pukekawa
Robert McLanachan		Owner/occupier	1162 Churchill Rd Pukekawa
Michelle Jordan and Chris Taylor		Owner/occupier	525 Otuiti Road Pukekawa
Neville Glasgow and Judith Fitness		Owner/occupier	509 Otuiti Road Pukekawa RD 1 Tuakau
Bryce and Michell Wootton		Owner/occupier	Corner Churchill and Opuiti Road Pukekawa
Julian and Beverley Austin		Owner/occupier	1113 Churchill Road Pukekawa
Seamus Kiernan and Connie Erb		Owner/occupier	1107 Churchill Road Pukekawa

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Note: Turbines reduced after initial corridor selection, hence Waikawau area incorporated with Limestone.

