

# **BEFORE THE BOARD OF INQUIRY**

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

**AND**

**IN THE MATTER** of a Board of Inquiry appointed under s146 of the Resource Management Act 1991 to consider an application by Mighty River Power Limited for resource consents to construct, operate, and maintain a wind farm at Turitea

---

## **STATEMENT OF EVIDENCE OF GREGORY FRANCIS POLLOCK**

---

# TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	QUALIFICATIONS AND EXPERIENCE .....	4
1.2	INVOLVEMENT IN THE PROJECT .....	4
1.3	SCOPE AND STRUCTURE OF EVIDENCE.....	5
<b>2</b>	<b>KEY CONCLUSIONS / SUMMARY OF PLANNING ASSESSMENT .....</b>	<b>6</b>
<b>3</b>	<b>THE PROPOSAL .....</b>	<b>7</b>
3.1	BACKGROUND TO THE PROJECT.....	7
3.2	THE SITE AND SURROUNDING AREA.....	8
3.3	RESOURCE CONSENTS REQUIRED.....	10
3.3.1	<i>Consents Required</i> .....	10
3.3.2	<i>Tararua District rules</i> .....	11
3.4	SUMMARY PROJECT DESCRIPTION .....	12
3.4.1	<i>Project overview</i> .....	12
3.4.2	<i>Turbine Zones</i> .....	14
<b>4</b>	<b>STATUTORY CONTEXT AND ANALYSIS.....</b>	<b>14</b>
4.1	SECTION 104.....	15
4.1.1	<i>Effects on the environment</i> .....	15
(a)	Relevant framework for assessing effects.....	15
i.	Existing environment.....	15
ii.	Permitted activities .....	16
iii.	Written approvals.....	17
(b)	Positive effects.....	17
(c)	Other effects .....	19
i.	<i>Visual and landscape</i> .....	19
ii.	<i>Noise</i> .....	20
iii.	<i>Health effects</i> .....	21
iv.	<i>Terrestrial ecology</i> .....	22
v.	<i>Freshwater ecology</i> .....	24
vi.	<i>Archaeological/Heritage</i> .....	25
vii.	<i>Traffic and transportation</i> .....	25
viii.	<i>Radio communication</i> .....	27
ix.	<i>Cultural</i> .....	27
x.	<i>Aviation</i> .....	28
xi.	<i>Recreation and tourism</i> .....	28
xii.	<i>Sedimentation and Water Quality</i> .....	30
4.1.2	<i>Statutory / planning instruments</i> .....	31
(a)	NPS – Electricity transmission .....	32
(b)	Proposed NPS – Renewable Electricity Generation.....	33
(c)	Manawatu-Wanganui - RPS.....	34
(d)	The Proposed One Plan.....	37
(e)	Regional Plans .....	42
i.	<i>The Manawatu-Wanganui Regional Land and Water Plan</i> .....	42
ii.	<i>The Manawatu-Wanganui Regional Plan for the Beds of Rivers and Lakes</i> .....	42
iii.	<i>The Manawatu-Wanganui Regional Air Plan</i> .....	43
iv.	<i>The Manawatu Catchment Water Quality Regional Plan</i> .....	45
(f)	Operative PNCC District Plan .....	46
(g)	Plan Change 42 – Earthworks .....	50
(h)	Operative Tararua District Plan.....	50
(i)	Proposed Tararua District Plan.....	53
4.1.3	<i>Other relevant considerations</i> .....	53
(a)	NZ Energy Strategy .....	53
(b)	NZEECS.....	56
(c)	Turitea Reserve Management Plan.....	56
4.2	SECTION 105.....	59

4.3	SECTION 107 .....	62
4.4	SECTION 141B(2).....	62
4.5	PART 2 .....	63
4.5.1	Section 6.....	64
4.5.2	Section 7.....	65
4.5.3	Section 8.....	67
4.5.4	Section 5 and overall Part 2 assessment.....	68
	(a) Use, Development and Protection of Natural and Physical Resources .....	68
	(b) Providing for Social, Economic and Cultural Wellbeing.....	68
	(c) Health and Safety.....	69
	(d) Sustaining the Potential of Natural and Physical Resources for Future Generations .....	69
	(e) Safeguarding the Life Supporting Capacity of Air, Water, Soil and Ecosystems.....	69
	(f) Avoiding, Remedying or Mitigating Adverse Effects .....	69
	(g) Summary.....	70
<b>5</b>	<b>SUBMISSIONS ANALYSIS.....</b>	<b>73</b>
<b>6</b>	<b>PROPOSED CONSENT CONDITIONS .....</b>	<b>75</b>
<b>7</b>	<b>CONCLUSIONS .....</b>	<b>75</b>

## **ANNEX 1: APPENDICES**

- Appendix 1: Wind Farm Layout
- Appendix 2: Recreation Opportunities Map
- Appendix 3: Landowners Plan
- Appendix 4: Dwellings within 6km of the Site
- Appendix 5: General Location Plan
- Appendix 6: Map attached to the Ministerial Call-in Notice
- Appendix 7: Summary of Rules
- Appendix 8: Tararua District Plan Rules
- Appendix 9: Relevant Objectives and Policies – All Plans

## **ANNEX 2: PROPOSED CONSENT CONDITIONS**

- Appendix 10: Proposed Consent Conditions (NB: attached as a separate document)

# 1 INTRODUCTION

## 1.1 QUALIFICATIONS AND EXPERIENCE

1. My full name is Gregory Francis Pollock. I am the Business Development and Technical Director - Planning, in the firm of Beca Carter Hollings and Ferner Ltd (Beca), and in that role am responsible for the strategic leadership of Beca's planning and urban design consulting practice in New Zealand and Australia. I have the qualifications of Bachelor of Resource and Environmental Planning (Hons), Masters of Resource and Environmental Planning, and a Diploma in Business Studies (Dispute Resolution). I have 13 years professional experience in planning, and have practised in both New Zealand and Australia. I am a Full Member of the New Zealand Planning Institute.
2. I have been involved in consenting a variety of infrastructure and utility projects around New Zealand including wastewater and stormwater utilities for local government, telecommunications infrastructure, coastal works for utilities and roads, and national electricity transmission. In particular, I have been involved in the consenting of the Telstra Saturn nationwide submarine fibre optic cable, involving ten hearings in different jurisdictions throughout the length of New Zealand. I have also been involved in the Okura (North Shore City Council) appeals on behalf of the Auckland Regional Council. Recently, I was involved in preparing section 32 reports for the proposed National Policy Statements (NPS) on Renewable Electricity Generation and Freshwater Management.
3. I have read the Environment Court's Code of Conduct for Expert Witnesses 2006, and have complied with it in the preparation of this evidence. Except where I state that I am relying upon the specified evidence of another person or organisation, my evidence in this statement is within my area of planning expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express. I have also read the directions from the Board of Inquiry and note that I have complied with those directions where they are relevant to my role as an expert witness.

## 1.2 INVOLVEMENT IN THE PROJECT

4. My involvement with the Turitea Wind Farm began in early 2007, following Beca's engagement by Mighty River Power Limited (Mighty River Power) in 2005. From that point forward I led the preparation and was principal author of the final Resource Consent Applications under the Resource Management Act 1991 (RMA or the Act) and the accompanying Assessment of Environmental Effects (AEE). As part of that role I undertook the following tasks:

- Reviewing all relevant planning and statutory documents to identify all relevant issues, objectives, policies and rules;
  - Visiting the Turitea Wind Farm site on a number of occasions, along with other wind farm sites (Te Apiti and Tararua) to the north of the Turitea Wind Farm site, to ensure I am familiar with the surrounding area. I also resided in Palmerston North from 1991 to 1995, and so have local knowledge;
  - Providing responses to requests for further information from Horizons Regional, Palmerston North City and Tararua District Councils, and drawing together these responses in a final 'Section 92' Report; and
  - Advising Mighty River Power on the modifications to the proposal that were made prior to notification in January 2009.
5. In forming my conclusions in relation to the Turitea Wind Farm, I have drawn on the technical reports prepared as part of the original AEE, supplementary reports prepared in response to requests for further information (under section 92 RMA) received from each of the three Councils, and on the evidence of the various witnesses appearing for Mighty River Power.

### **1.3 SCOPE AND STRUCTURE OF EVIDENCE**

6. My evidence is structured in order to assist the Board in working through key aspects of the proposal as follows:
- Key conclusions and summary of the planning assessment;
  - The proposal – including project background, the existing environment, and the resource consents required to provide for the construction, operation and maintenance of the Turitea Wind Farm;
  - Statutory context and analysis based on the requirements of section 104 of the Act, section 105 and 107 relating to discharge consents, section 141B relating to the Minister's decision to call the Turitea project in, and a Part 2 assessment;
  - Response to submissions;
  - Proposed Consent Conditions; and
  - Conclusions.

## 2 KEY CONCLUSIONS / SUMMARY OF PLANNING ASSESSMENT

7. After undertaking a full assessment of all the planning and resource management matters related to the proposal, my conclusion is that, with appropriate consent conditions and mitigation measures, granting all the resource consents for the Turitea Wind Farm will enable the sustainable management purpose of the RMA to be met.
8. While acknowledging that it is a project of significant scale, with a number of complex technical issues, it is my opinion that the local adverse affects associated with it are acceptable (having been adequately avoided, remedied or mitigated), and are on balance outweighed by the significant benefits arising from the proposal.
9. Specifically, the proposal provides a number of significant positive effects or benefits. These benefits include increasing installed capacity for electricity generation and security of electricity supply, both from utilising renewable energy sources. This in turn has significant benefits in terms of displacing greenhouse gas emissions from thermal electricity generation plant. National benefits to both electricity consumers and taxpayers also accrue, including suppression of electricity prices and avoidance of greenhouse gas emission costs. Locally and regionally, the proposal will result in direct and indirect economic benefits including the direct flow of revenue from the project to Palmerston North City Council (PNCC) and other landowners, as well as investment in the region and job creation. An additional positive benefit (although not forming part of the project itself or the proposed mitigation) is the Eco-Park which is to be developed by PNCC with revenue from the wind farm.
10. Overall, I consider that:
  - The national benefits to be derived from the electricity generated from this renewable resource are significant;
  - In particular, the significant benefits arising from improved security of electricity supply, increased renewable energy generation, and reduced contributions to climate change/greenhouse gas emissions from offset thermal generation are important positive effects;
  - The visual amenity and landscape effects are initially significant, but based on the expert evidence of Mr Wyatt, these can be appropriately mitigated;
  - The potential for adverse noise effects can be managed both during the construction and operational phases to comply with the accepted noise standards, based on the evidence of Mr Hegley and Mr Day;

- The potential adverse effects on terrestrial ecology can be adequately mitigated as described in the evidence of Mr Shaw and Professor Craig, and these mitigation measures, combined with the design approaches taken to minimise vegetation clearance, environmental management plans, and consent conditions will result in effects that are minor, in the context of the scale of the project and the environment in which it is proposed.
  - Based on the evidence of the relevant experts, the potential adverse environmental effects arising in relation to freshwater ecology, water quality, traffic, aviation, EMF, radio communications, public health, archaeology and heritage, and recreation and tourism are less than significant and appropriately low when considered with relevant mitigation and appropriate consent conditions; and
  - The construction process can be managed so that any potential adverse effects on the local environment are assessed as being appropriate.
11. In relation to Part 2 of the RMA, I conclude that overall, when each of these effects is appropriately considered, and balanced as required by Part 2 (and in particular section 5), the sustainable management purpose of the Act will in this circumstance be provided for by granting consent to the proposal, subject to appropriate conditions. I discuss the appropriate scope of necessary conditions in section 6 of my evidence.

### **3 THE PROPOSAL**

#### **3.1 BACKGROUND TO THE PROJECT**

12. In 2005, Mighty River Power was selected through a tender process by PNCC to develop and build a wind farm on Council-owned land within the Turitea Reserve. In order to facilitate establishment of a wind farm within the Turitea Reserve, PNCC approved a change of purpose to allow the Reserve to be used for “renewable electricity generation”. This change was gazetted in January 2007.
13. The amended and current Turitea Reserve Management Plan (TRMP), includes reference to ‘electricity generation’ (Section 8) as follows:

*“To allow electrical generation activities in the Reserve that do not compromise the Reserve’s function as a water supply catchment and ensure adverse effects and other values are appropriately mitigated”.*

## 3.2 THE SITE AND SURROUNDING AREA

14. The Turitea Wind Farm site comprises rural zoned land, at the northern end of the Tararua Ranges. The site is made up of land that is both publicly and private owned. The public reserve land is owned and controlled by PNCC and is known as the Turitea Reserve.
15. The site is located approximately 10 kilometres south-east of the Palmerston North city centre, primarily along a 14 kilometre ridge at the northern end of the Tararua Ranges, as shown in **Appendix 1**. Other townships close to the site include Woodville and Pahiatua.
16. Within the Turitea Reserve, the existing environment is characterised by predominately indigenous vegetation, with some exotic vegetation. There are a number of access tracks, three wind monitoring masts, and dam infrastructure related to the Palmerston North City water supply storage. Within the Reserve there have previously been exotic pine plantations. These have now largely been felled (in the north eastern corner of the site, and under permitted activity rules), leaving a large area of exposed earth.
17. Access to the Turitea Reserve is presently restricted due to its primary function as a water supply catchment, so there is very little opportunity for general public use. Approved hunters access the Reserve for limited deer hunting. Otherwise, pest animals are controlled by a baiting program.
18. There are also a number of adjoining recreation reserves and walkways that are identified on the map attached as **Appendix 2**. This map shows surrounding recreation opportunities – including walking and mountain biking trails, bridal trails, and hunting as well as access restrictions.
19. Mighty River Power has agreements with more than 30 private landowners, with respect to the location of turbines, access roads and the external transmission route corridor from the Browns Flat substation to Transpower’s Linton Substation, providing a connection to the national grid. The properties subject to such agreements are shown on the plan attached as **Appendix 3**.
20. The privately owned land is steep, and predominately in pasture used for sheep and cattle grazing. Other more substantial vegetation is at best intermittent, and is mostly exotic shelter belts which are common on farmland in the district.
21. A GIS based map has been prepared under my direction to identify existing farm dwellings within the site and dwellings within 6km of the site. The existence of dwellings within 2km of the site has also been verified by fieldwork. Due to the nature of topography, it is possible

that a very limited number of dwellings may not be identified on this map, but I am confident it provides a sound basis to understand the existing environment. This map is attached as **Appendix 4**.

22. The key public roads are Pahiatua-Aokautere Road located to the north of the site, SH58 to the west, and SH2 to the east. South Range Road provides access to the site, and runs along the ridgeline through the site. This is a relatively narrow gravel road between approximately 3-5 metres width. Greens Road and Kahuterawa Road also run nearby on the western side of the site, along with Ngahere Park Road and Turitea Road.
23. The hills either side of the Manawatu Gorge provide a wind resource that is significant at both national and international levels for generating electricity. For this reason, a number of wind farms have established in the region.
24. These wind farms are spread out across a significant distance from Te Apiti located north of the Manawatu Gorge, to Motorimu (not yet built, but consented) immediately to the south of Turitea. The existing wind farms in the surrounding environment are (note these are also shown in **Appendix 5**):
  - Te Apiti (55 turbines with a total capacity of 90.75MW);
  - Te Rere Hau (97 turbines with a total capacity of 48.5MW); and
  - Tararua 1, 2 and 3 Wind Farms (134 turbines with a total capacity of 161MW).
25. In my opinion, an important characteristic of the wind farms in the existing environment is that they are compatible with the primary purpose of the rural zone. That is, the establishment and operation of the wind farms does not appear to compromise the ability of primary production, namely stock grazing, to continue without disruption.
26. The rural zone in both the Palmerston North and Tararua District plans also provides for limited rural lifestyle experiences through various subdivision rules. While a number of lifestyle blocks exist around the proposed Turitea Wind Farm site, the Palmerston North or western side of the site has a much higher density of rural lifestyle blocks than the Tararua or eastern side of the site. Other wind farms in the region have rural lifestyle blocks and associated dwellings within reasonably close proximity (e.g. within 1-2km).

### 3.3 RESOURCE CONSENTS REQUIRED

#### 3.3.1 CONSENTS REQUIRED

27. A number of resource consents are required to enable the construction, operation and maintenance of the Turitea Wind Farm. The list of resource consents necessary from each of the relevant authorities has been discussed with each authority. I also note out of completeness that Mighty River Power has also applied for “*Any other resource consents necessary to enable Mighty River Power to construct, operate, and maintain the Turitea Wind Farm*”.

28. The following table identifies the resource consents required from each authority, with the consent number assigned by each council as a reference point.

Consent Number	Consent type	Description
<b>Horizons Regional Council</b>		
104553	Land Use	For vegetation clearance and land disturbance in rare or threatened habitats, near streams and on highly erodible land throughout the general wind farm site.
104554	Land Use	For the construction of a double culvert in an unnamed tributary of the Kahuterawa Stream as shown on the attached map <sup>1</sup> .
104555	Discharge	For the discharge of dust to air from the concrete batching plants to be located as generally shown on the attached map.
104556	Discharge	For the discharge of dust to air from the mobile crushing plant throughout the general wind farm site.
104557	Discharge	For the discharge of wastewater from two operations and maintenance facilities to land to be located as generally shown on the attached map.
104558	Discharge	For the discharge of stormwater from substations to land to be located as generally shown on the attached map.
104559	Discharge	For the discharge of cleanfill to land in the form of spoil disposal sites throughout the wind farm site.
104560	Discharge	For the discharge of stormwater from roads and turbine platforms and other areas to land.
<b>Palmerston North City Council</b>		
RC0068	Land Use	<ul style="list-style-type: none"> <li>▪ To establish and operate a wind farm in the areas within the Palmerston North City jurisdiction as generally shown on the attached</li> </ul>

<sup>1</sup> This refers to the map included in public notification of the Turitea Wind Farm proposal, which is attached at **Appendix 6**.

		<ul style="list-style-type: none"> <li>map;</li> <li>▪ To undertake earthworks associated with tracking and roading, turbine construction and associated buildings in the areas within the Palmerston North City jurisdiction as generally shown on the attached map;</li> <li>▪ For the western side of Pahiatua-Aokautere Road not meeting access requirements at the location shown on the attached map;</li> <li>▪ For the storage of diesel (10,000 L) in bunded areas outside the Turitea water supply catchment, generally located at the two substation laydown areas shown on the attached map, that exceeds the 0.2 effects ratio maximum in the rural zone; and</li> <li>▪ For the construction of a 220 kV electricity transmission line and substations as shown on the attached map.</li> </ul>
--	--	---

**Tararua District Council**

1448	Land Use	<ul style="list-style-type: none"> <li>▪ For a wind farm (which is not listed as a permitted or controlled activity) in the areas within the Tararua District as generally shown on the attached map;</li> <li>▪ For land disturbance of more than 200m<sup>3</sup> of soil and cleanfill material associated with tracking and roading, turbine construction, spoil disposal and other associated works in the areas within the Tararua District as generally shown on the attached map;</li> <li>▪ For upgrades to South Range Road and the construction of new site access at the location shown on the attached map;</li> <li>▪ For turbine and wind monitoring mast structures not meeting height requirements within the Tararua District;</li> <li>▪ For the modification of a Significant Natural Feature in Schedule 3.3 (i.e. Tararua Ranges Ridgeline);</li> <li>▪ For not meeting noise requirements; and</li> <li>▪ For clearance of indigenous vegetation in the areas within the Tararua District as generally shown on the attached map.</li> </ul>
------	----------	---

29. I consider that in relation to all consents, an extended ten year lapse period as sought by Mighty River Power is appropriate in order to provide flexibility in procurement of turbines, allowing the best possible ‘start’ period to be determined.

30. A summary table of all resource consents required and the relevant rules, plan status and activity status is provided in **Appendix 7**.

**3.3.2 TARARUA DISTRICT RULES**

31. In the “Directions” issued by the Board dated March 2009, the Board has requested the District and Regional Councils to include in their evidence *“an analysis of the status of the*

*activities and the relevant planning provisions of the district and regional plans* (paragraph 20). Given that Tararua District Council (TDC) has not lodged a submission in respect of the applications, I have provided an assessment of the proposed and operative Tararua District Plan rules in my evidence to assist the Board (attached in **Appendix 8**). I note that this assessment has been discussed with Mr Mike Brown, Principal Planner at TDC, and we are in agreement on both the activity status and my assessment.

32. Overall, the Turitea Wind farm requires resource consent as a discretionary activity under the Tararua District Council District Plans (both operative and proposed) in accordance with the following rules:

- Rule 4.1.5.1 - Consent, for a Wind Farm (which is Not Listed as a Permitted or Controlled Activity) - Discretionary Activity;
- Rule 5.1.5.3 - Consent for Land Disturbance of more than 200m<sup>3</sup> of Soil and Clean-Fill Material - Discretionary Activity;
- Rule 5.3.1.4 - Consent for Upgrades to South Range Road and the Construction of New Site Access - Discretionary Activity;
- Rule 5.4.4.3 - Consent for Not Meeting Height Requirements - Discretionary Activity;
- Rule 5.5.3.3 - Consent for the Modification, Damage or Destruction of Significant Natural Feature in Schedule 3.3 (i.e. Tararua Ranges Ridgeline), and for road widening and minor realignment in the Tararua State Forest Park - Discretionary Activity;
- Rule 5.4.1.2 and 5.4.1.3 – Consent for Not Meeting Noise Standards – Discretionary Activity; and
- Rule 5.5.4 - Consent for Clearance of Indigenous Vegetation - Discretionary Activity.

## **3.4 SUMMARY PROJECT DESCRIPTION**

### **3.4.1 PROJECT OVERVIEW**

33. The project components are described in the evidence of other experts, including Messrs James and Henry. For simplicity, I have identified those features that are long term (i.e. permanent) and short term (i.e. construction phase).

34. Features of the proposal that will be **permanent** on the site and surrounds are:

- Up to 122 wind turbines, with an overall maximum height of 125m, an 80m hub height and a 45m blade length. All turbines will have three blades.

- A total length of 57 km of access tracks will be required for the site with up to 33 km of new access tracks created. All new access tracks will be reduced in width from 10m to 5m after construction.
- Upgraded public roads at site access points, including upgrades to the Pahiatua-Aokautere Road, Greens Road and the South Range Road intersection and establishment of a secondary access to the site off Pahiatua-Aokautere Road.
- Alterations to existing access tracks and private roads at the site.
- Electricity transmission lines, both internal and external to the site, including:
  - An internal reticulation network of 33kV underground cables and overhead lines (where undergrounding is not possible) generally along internal access tracks connecting turbines and internal substations.
  - Two 33/220 kV substations within the site; one at Browns Flat and one within the area of pine plantation adjacent to South Range Road. The substations include electrical equipment and operations and maintenance facilities.
  - A 220 kV transmission line connecting the two substations within the site.
  - A 220 kV transmission line connecting the Wind Farm to the national grid via the existing Transpower Linton Substation.
- Up to three permanent wind monitoring masts of up to 80m in height.
- Ongoing maintenance activities including the monitoring, repair and replacement of turbine components; substation equipment; reticulation network; transmission lines and structures; monitoring masts and roading.

35. Features of the proposal during the **construction** process are:

- The creation of internal equipment lay down areas and a construction site office.
- Vegetation clearance for the creation of access tracks, road widening, creation of turbine platforms and lay down areas, substations, and other ancillary activities. This includes a maximum of 25 hectares of indigenous vegetation clearance within the Turitea Reserve.
- Land disturbance including cut volumes of approximately 1.4 million m<sup>3</sup> comprising civil works for:
  - Upgrading and formation of roads and access tracks,
  - Turbine platform and foundation formations,
  - Substation and maintenance facility construction,
  - Cable trenching, and
  - Platforms for internal and external transmission lines.

- The disposal of up to 740,000m<sup>3</sup> of excess excavation material at identified disposal areas within the site, collectively covering approximately 33ha.
  - Establishment and operation of two temporary concrete batching facilities for use during construction.
  - Use of a mobile aggregate crushing plant during construction.
  - Site reinstatement, revegetation and new areas of planting within the site.
36. The proposal straddles the Palmerston North City and Tararua District territorial boundary, and is wholly located within the Manawatu-Wanganui Region. In relation to on-site construction activities, the majority of the project is located within the Palmerston North City area. The exception are eleven turbine zones (being turbine zone numbers 13, 14, 15, 16, 17, 98 (in part), 100, 101, 102, 108, 109) and works associated with these, including earthworks, vegetation clearance, turbine pads, and electrical cabling. In addition, there is an improved access to South Range Road proposed within the Tararua District.

### **3.4.2 TURBINE ZONES**

37. Wind Farms are large and relatively complex construction projects. There are two major components of the capital cost: turbine/electrical components and related construction activity (i.e. largely civil works). In my experience, it is common with large infrastructure projects for the consents to provide the applicant with the ability to determine the final detailed design, including identifying the component supplier at a later stage, provided the full range of likely adverse effects is assessed during consenting.
38. Accordingly, Mighty River Power has proposed a total of 127 turbine zones, within which, a maximum of 122 turbines will be constructed. Mighty River Power proposes to install either 112 3MW turbines, or 122 2.3MW turbines within the 127 turbine zones. However, in order to provide an appropriately conservative analysis, the potential adverse effects of locating 3MW turbines in all 127 turbine zones have been assessed.

## **4 STATUTORY CONTEXT AND ANALYSIS**

39. As a discretionary activity, the relevant criteria for the Board's consideration of the applications are set out in sections 104, 104B, 105, 107, and 141B of the RMA. In accordance with section 104 of the RMA, in considering the applications, the Board must also exercise its overall judgement in terms of Part 2 of the Act.

## 4.1 SECTION 104

40. This section of my evidence considers those matters identified in section 104(1) of the RMA, and accordingly covers the following topics:

- The effects on the environment;
- The relevant policy framework;
- Other relevant and reasonably necessary considerations; and
- Part 2 of the RMA.

### 4.1.1 EFFECTS ON THE ENVIRONMENT

#### (a) Relevant framework for assessing effects

##### *i. Existing environment*

41. The existing environment has a clear statutory meaning which must be defined in the context of section 104 of the Act. Defining the existing environment provides a basis for the assessment of relevant effects and for consideration of permitted baseline factors with respect to the site itself.

42. I have described the site and surrounding area in section 3.2 of my evidence. Overlaid on the environment I have described, a key consideration in relation to the existing environment is the resource consent that has been granted for the Motorimu Wind Farm. The Motorimu site is located south of the Turitea site and would, if constructed, comprise 80 turbines.

43. I understand relevant case law<sup>2</sup> requires that any resource consents which have been granted, but not yet implemented, should be taken into account as part of the existing environment if it is likely they will be implemented. Issues regarding the likelihood of those consents being implemented are addressed in legal submissions. However, in order to ensure an appropriately conservative consideration of potential effects, including cumulative effects, all assessments undertaken by myself and other experts appearing on behalf of Mighty River Power have been made on the basis that the existing environment includes the Motorimu Wind Farm, as currently consented.

---

<sup>2</sup> *Queenstown Lakes District Council v Hawthorn Estate Limited* [2006] NZRMA 424.

44. I consider that there are no other relevant factors in describing or defining the existing environment that it is necessary for me to consider in order to provide a basis for my assessment under section 104.

***ii. Permitted activities***

45. In my assessment, the application of section 104(2) does not assist the Board directly, because it is not possible to identify a single large scale activity which could occur on the site, which is not a fanciful activity.
46. What is possible is to identify selected permitted activities, which when considered collectively, indicate that a level of development is contemplated within the rural environment and the Turitea Reserve. The adverse effects associated with that development are permitted by the various plans in a number of instances, leading to the conclusion that this environment is subject to change.
47. In my opinion, consideration of the existing environment in conjunction with relevant permitted activities (“the permitted baseline”) confirms that the site is not part of a ‘pristine’ environment which should be preserved and protected in its current state. Rather, it is within a dynamic environment where certain effects that are similar to those associated with a wind farm can occur, as the site is considered able to accommodate such change.
48. Both district plans provide for a number of activities that can be undertaken on the wind farm site that would have adverse effects. These include plantation forestry and roading. In my experience, these activities would typically involve earthworks to some degree, including tracking, vegetation removal, traffic/transport effects and sediment run-off. These two permitted activities are not defined in scale, and in my experience, they can result in significant changes to the environment and a range of potential adverse effects. Forestry and in particular harvesting, can result in a marked change to the rural character of an area as it generally supplants pastoral farming.
49. During both establishment and harvesting, there is often significant vegetation removal, while the creation of access tracks requires earthworks which can be significant in volume. Furthermore, the movement of logging trucks and the harvesting of trees can create an intensive and short duration traffic impact on local roads, and noise amenity issues for neighbours. To provide context for this activity, I also note that there are a number of forestry blocks in existence on the Turitea foothills already, and within the Reserve there are pine plantations, although the most notable was approximately 70 hectares in the northern sector of the reserve which has recently been harvested (as a permitted activity).

50. In relation to the relevant Regional Plans, I also note that there are various permitted 'discharges' which would be associated with a range of normal rural activities<sup>3</sup>. It is my assessment that the Regional Plans have the effect of providing for a certain level of activity on the wind farm site, in particular, construction related works, including some works in watercourses, discharges to land and air. However, I note that the scale of activity contemplated with respect to the Turitea Wind Farm, particularly in relation to earthworks and discharges, is clearly beyond the scope of the permitted baseline.
51. Overall, it is my assessment that the Board can and should have regard to the above considerations. In my assessment, it is relevant to the Board's determination that this environment is not identified in plans as one to be protected or preserved, and a degree of change in the rural environment is contemplated by a number of permitted activities that would generate similar effects to those from the proposal (particularly during its construction phase) albeit of a different scale. Beyond this, it is my opinion that the full range of effects from the Turitea Wind Farm should be considered on their merits without any further allowance for the permitted baseline.

### ***iii. Written approvals***

52. In total, over 30 landowners have provided written approvals. Any effects on these landowners have accordingly not been considered consistent with section 104(3) of the Act.

#### **(b) Positive effects**

53. In evaluating any large infrastructure project, it is important to identify project benefits, so that those can be considered within the framework of Part 2 of the RMA. The evidence presented by Mighty River Power and its expert witnesses is that there are a number of significant positive effects or benefits associated with the Turitea Wind Farm, which include:
- Reduced reliance on fossil fuels for power generation: the Turitea Wind Farm will increase the use of renewable energy resources thereby assisting the Government's objectives in this regard.
  - Increasing national generation capacity by up to 3.7% (based on current installed capacity).
  - Contributing to a reduction in CO<sub>2</sub> emissions or CO<sub>2</sub> displacement: the Turitea Wind Farm with an installed capacity of 336MW and operating at 45% utilisation could displace

---

<sup>3</sup> For example, Rule 13 of the operative Regional Air Plan for Manawatu-Wanganui regarding discharges from specified mobile sources, and Rules 11, 14, 19, and 22 of the operative Manawatu-Wanganui Regional Plan for the Beds of Rivers and Lakes.

between approximately 484,950 tonnes (gas) and 1,148,775 (coal) tonnes of CO<sub>2</sub> per annum. This will contribute to meeting New Zealand's obligations under the Kyoto Protocol.

- Benefits for power consumers, through the suppression of price rises, due to displacement of higher cost generation sources and the deferment of grid investments, which get passed through to all power consumers.
- An important benefit from the displacement of long distance power transmission with associated losses, by providing generation in close proximity to load and gaining efficiency in power distribution.
- Increased security of electricity supply, particularly during dry years.
- Local economic benefits arising from: direct construction expenditure on the wind farm; permanent FTEs to maintain the wind farm; local operational supplier spending and indirect impacts from economic multipliers. In total the direct and indirect impact would be around \$504m during the construction phase, while the long term benefit would be \$3m per year. In employment terms, the project will generate up to 250 FTEs in the short term and 26 FTEs in the long term. The short term benefits are considered by Dr Layton to be significant, while the long term benefits are considered of minor significance.
- National benefits arising from the contribution to the economic well-being of the community at large, including creating a valuable commodity, displacement of the need for thermal generation and supply of electricity to consumers.
- Reduction in New Zealand's Kyoto liability relative to non-renewable generation (in the range of \$10-25m avoided). When combined with the difference in generation costs from thermal sources, this amounts to between \$84 and \$93m of costs avoided (the range reflects whether gas or coal fuel is being replaced) per year<sup>4</sup>.

54. Dr Layton comments on the efficient use of resources (section 7(b) of the RMA) and concludes that harnessing a free natural resource to create something of value will promote efficient use of natural and physical resources. Dr Layton also concludes that the proposal clearly aligns with section 7(j) of the RMA, as it provides significant benefits associated with the use and development of renewable energy sources. I have taken his views into consideration in reaching my own conclusions on these provisions, which I discuss later in my evidence.

---

<sup>4</sup> See Dr Layton's evidence, at paragraph 6.4.

**(c) Other effects**

***i. Visual and landscape***

55. Potential adverse effects on the visual amenity of the surrounding landscape are commonly one of the most important issues to consider for any wind farm, and Turitea is no exception.

56. Mr Wyatt concludes that:

- The proposal will be a new and visually prominent addition to the landscape of the Tararua Ranges;
- High levels of visibility do not necessarily equate to significant adverse effects;
- The Turitea Wind Farm is not located in any landscape that could be categorised as being an outstanding natural landscape for the purpose of section 6(b) of the RMA;
- The areas of the Tararua Ranges north of Mount Dundas have a high amenity value in accordance with section 7(c) of the RMA. Key contributing factors to this assessment are the importance of the skyline of the Tararua Ranges, the ruggedness of the topography and the presence of patches of vegetation;
- Due to topography and the impact of vegetation screening, there will only be very limited viewing opportunities from within the Tararua State Forest Park, and therefore no adverse effects can be experienced from that location;
- After extensive assessment of residential view points around the site, there are a number where the potential adverse effects are more than minor, which would be considered significant or unacceptable if they could not be mitigated. Landscape mitigation planting is proposed as the means to mitigate these adverse effects around these residential properties;
- Cumulative visual impacts are acceptable, particularly due to the limited number of public viewpoints where either simultaneously or sequentially the Turitea Wind Farm can be seen with one or more of the existing or consented wind farms. There are places that enable panoramic views of the Tararua Ranges, particularly in urban areas, while turbines are common as part of the surrounding “energy landscape”. Cumulative views are also experienced at a distance, which means turbines will not dominate the landscape;
- Community perception studies have consistently shown a high level of support for the presence of wind farms in all but the most sensitive of locations;
- The pads and roading earthworks are to be constructed in cut and therefore have only minor visual effects; and

- The initially significant effects associated with the transmission lines at some locations can be mitigated through a range of screening options, and the potential adverse effects are therefore considered appropriate.

57. There are a number of submitters in the Ngahere Park area who have raised concerns relating to the adverse visual impacts of the wind farm when viewed from their property. I note Mr Wyatt's conclusion that the greatest potential impact is on these residential properties. I also note his conclusion that with appropriate mitigation planting, the potential adverse effects on these properties will be of an acceptable nature.
58. There is also potential for additional dwellings to be constructed on vacant titles as a permitted activity. Mr Wyatt has made an assessment of potential adverse effects on specific and representative residential viewpoints. He concludes that the potential adverse visual and landscape effects from such viewpoints are able to be mitigated in most, if not all, circumstances. The mitigation is subject to landowner approval.
59. Messrs Wyatt and Brown both conclude that the landscape in which the proposal will be situated is not outstanding in terms of section 6(b). It is, however, an amenity landscape for the purposes of section 7(c). These conclusions were reached in the context of the objectives and policies of the operative Manawatu-Wanganui Regional Policy Statement (RPS) and the Tararua District Plan, which recognise (in different ways) the skyline of the Tararua Ranges as an outstanding and regionally significant feature. The provisions of the RPS are difficult to interpret, but on face value, it could be considered that there is an apparent discrepancy between the conclusions of the experts and the RPS provisions (Objective 8) in particular.
60. However, both experts examine the actual landscape and amenity of the relevant area of the Ranges and their skyline, and determine that the features and qualities of this area of the Ranges are not such as to qualify them as outstanding. Mr Brown in particular considers that the plan's treatment of the Ranges in broad, all encompassing terms does not withstand proper analysis. Further, Mr Wyatt considers the Turitea Wind Farm to be an appropriate activity within the landscape for a number of reasons. Therefore, in assessing the proposal's landscape effects, the evidence is that the proposal is an "appropriate use and development", will not have unacceptable amenity effects, and is not inconsistent with, or contrary to the relevant planning provisions.

**ii. Noise**

61. With respect to noise, the evidence from Messrs Hegley and Day is that the Turitea Wind Farm will meet the requirements of the Palmerston North District Plan rule on wind farm

noise (Rule 6.2.6.2). The Tararua District does not have a similar rule, and therefore resource consent has been sought. Similarly however, within the Tararua District, the evidence is that the Turitea Wind Farm will comply with the requirements of NZS: 6808.

62. Mr Hegley makes one specific comment about an accessory building which has recently been constructed on the adjoining Adams property. Mr Hegley notes in his evidence that:

*“Site 16 is a small accessory building located at the back of a farm without any road access and close to part of the proposed wind farm. As outlined in both legal submissions and Mighty River Power’s planning assessment, I understand that this is not considered a relevant assessment position for the purposes of NZ6808, as the building on site is not of a residential nature. However, it has been included in my assessment for completeness and I consider there is a practical design option to control the noise to this accessory building should this be required”.*

63. In order to consider the need to assess noise effects on this building, I have reviewed the background information related to it and the relevant provisions of the Palmerston North District Plan. Having regard to the relevant District Plan definitions, in my opinion, the building is not a dwelling under the District Plan. In planning terms, it is an “accessory building”, which would have the same status as a garage, farm implement shed, hay shed, or other accessory building associated with a rural (e.g. farming) operation. As a result, it is my understanding that no notional boundary applies for the purposes of considering noise effects. On this basis, it is my opinion that there is no requirement to assess the noise effects on that building.

64. Returning to the overall noise assessment, on the basis of the evidence of Mr Hegley and Mr Day, I conclude that, with appropriate conditions and operational management plans in place, as suggested by Mr Hegley, the proposed wind farm will not result in any inappropriate adverse noise effect on the existing environment. In practical terms, I understand this may require machines to be de-rated under certain wind conditions, meaning they are not able to generate noise which may otherwise be responsible for noise levels being exceeded at the notional boundary related to that turbine. I understand from consent conditions in place on other wind farms that this is not an uncommon practice.

**iii. Health effects**

65. With respect to health related issues, Dr Black’s evidence is that:

- there will be no adverse effect on public health arising from air discharges or any change to air quality;
- the potential for any hazardous run-off from the construction process will be contained, so that it is not allowed to contaminate waterways used for public water supply. The water quality monitoring process, combined with measures to avoid, remedy or mitigate water contamination, means that there will be adequate protection against potential public health effects;
- there is no risk of epilepsy arising from the proposal as a result of “flicker”;
- the proposed noise levels are entirely acceptable for a residential area, and that any noise levels that arise are an amenity concern, not a public health concern;
- there is no cause and effect relationship established in the context of wind turbines for vibro-acoustic disease, and that once separation distances for the Turitea Wind Farm are applied, this disease is not a cause for concern;
- the risk of any adverse effect arising from electromagnetic effects is very low or non-existent, and that the electric and magnetic fields will not exceed Ministry of Health or international standards;
- some mental health effects can be associated with wind farms as a result of anxiety caused by misinformation or misunderstanding of their actual adverse health effects.

66. Overall, Dr Black concludes that the Turitea Wind Farm (including transmission lines) can be constructed and operated with no actual or potential adverse effects on public health.

67. Dr Black concludes that he “*cannot identify any actual or potential adverse effect on public health or wellbeing unless misunderstanding or misinformation causes unjustified fear or concern and sensitises individuals to the ongoing presence of the wind farm. I consider there are no health related effects that should prevent the granting of consent subject to the conditions proposed by Mighty River Power*”. Having considered Dr Black’s evidence, I conclude that there are no health effects at any level of probability that cause concern.

**iv. Terrestrial ecology**

68. The primary ecological impact from the project is the clearance of up to 25 hectares of indigenous vegetation within the Turitea Reserve. Mr Shaw has identified the nature and significance of this vegetation in his evidence. His evidence, indicates that the project will not affect any area that constitutes any area that constitutes ‘significant indigenous vegetation or significant habitats of indigenous fauna’.

69. As assessed by Mr Shaw, the majority of the wind farm (that is, the turbines and associated access tracks and pads) can be sited, constructed and operated with resulting adverse effects on terrestrial ecology that are considered by him to be acceptable. However, a number of turbines are assessed as having effects on terrestrial ecology that are significant and which must be remedied or mitigated in order to be considered acceptable.
70. Therefore, Mr Shaw has recommended a comprehensive package of measures to address the adverse effects associated with vegetation clearance. This includes the rehabilitation and revegetation of approximately 8 ha of the 25 ha to be cleared during construction, indigenous revegetation of 75 ha of former pine forest (involving 65 ha of managed natural regeneration and 10 ha of planting), and ongoing weed monitoring and control.
71. Mr Shaw also concludes that adverse effects on fauna, including birds and other species, are expected to be minor and mitigation is not required. On this point, I also note that Professor Craig has provided evidence in relation to avifauna. His conclusions on this matter are that:
- International experience and research shows that in some locations, wind farms are known to kill birds. In some instances, improvements to wind farm design (including increased size and height of turbines) have decreased the incidence of bird strike. Migratory birds appear particularly at risk;
  - Turitea is not on the known migration route of any species and is largely frequented by common New Zealand bird species. Bird strike deaths can be expected, but these will be dominated by common and especially introduced species;
  - That when bird deaths are put in perspective, in particular with the other threats facing birds such as predators (which have a 10-100 times greater adverse effect), bird strike is an acceptable effect; and
  - That the loss of habitat arising from the proposal (that is, up to 25 hectares of indigenous vegetation within the Reserve) is unlikely to cause an adverse effect on bird populations.
72. Mr Shaw concludes that the measures he proposes to remedy the adverse terrestrial ecology effects will address these effects so that they are considered by him to be appropriately low. I adopt the conclusions of Mr Shaw and Professor Craig on these ecological matters.
73. Both Mr Shaw and Professor Craig also identify the positive benefits associated with the Eco-Park. This does not form part of Mighty River Power's proposed mitigation as it is a contractual obligation on PNCC. However, when developed it is expected to include pest/predator and weed control, indigenous revegetation of Browns Flat, long term monitoring of effects of pest animal control, and development of a 'mainland island' model.

74. Having regard to the relevant planning framework, I note that the Palmerston North District Plan does not provide protection to indigenous vegetation in the rural zone (or in any zone, other than through listed trees). Mr Shaw's evidence provides a factual basis on which to apply relevant provisions of the proposed One Plan. The One Plan seeks to provide additional protection to rare, threatened or at risk habitat. Two threatened plant species have been recorded within the Reserve, and therefore Mr Shaw recommends an ecologist be present during initial construction phases to ensure these are adequately protected. In summary, it is my assessment that the Turitea Wind Farm proposal, which includes the comprehensive ecological remedial measures outlined by Mr Shaw, is entirely consistent with the statutory provisions related to ecological matters.

**v. Freshwater ecology**

75. Five in-stream structures (predominantly culverts) are required for the proposed Turitea Wind Farm. The required works are culvert crossings in ephemeral (normally dry) watercourses in the upper headwaters of catchments and would involve relatively small sub-catchments. The design of these structures has been assessed by Dr Coffey as appropriate to maintain fish passage and stream connectivity. No other in-stream structures are proposed as part of the Wind Farm.

76. In terms of monitoring and mitigation, a water quality monitoring programme has been developed, which will:

- Quantify existing water quality in respect of parameters that might be affected by the project;
- Measure the effects of the project both during construction and operation;
- Facilitate the protection of the Turitea water supply from project effects; and
- Provide warning of any effects or non-compliance with performance requirements that require remedial action.

77. Dr Coffey has also identified the headwater catchments of the Kahuterawa, Otangane and Tainui Streams, the southern headwater catchment of Matarua Creek and the Palmerston North City water supply reservoirs as significant habitation of indigenous fauna in accordance with section 6(c). In giving particular regard to this section of the Act, Dr Coffey's assessment is that the operation of the Turitea Wind Farm will cause no on-going issues for the protection and conservation of freshwater resources. However, he does recognise the "*potential for adverse effects on high quality and sensitive freshwater communities in receiving water catchments during the construction phase of the proposed Wind Farm*". His evidence is that with the adoption of a number of best practice and

construction measures (as required by the proposed consent conditions), the potential construction risks can be avoided.

78. On the basis of Dr Coffey's evidence, I am satisfied that the potential adverse effects on freshwater ecology will be acceptably low, while the potential adverse effects on significant indigenous habitats will be avoided. The regional plan framework<sup>5</sup> clearly aims to protect in-stream habitat, and the life supporting capacity of streams. In my experience, and also referring to the evidence of Dr Coffey and Messrs James and Levy, the range of management techniques proposed for the construction period will enable the protection of these in-stream values. Mighty River Power has also sought to minimise the impact of the proposal by removing turbines from the sensitive part of Browns Flat. Therefore, I conclude that the potential adverse effects that could arise on freshwater ecology can (and will) be practicably avoided, remedied or mitigated.

**vi. Archaeological/Heritage**

79. An assessment of the historic and archaeological features has been undertaken by Dr Clough.
80. The archaeological assessment identifies that no pre-European archaeological sites have been recorded in the general vicinity of the Turitea Wind Farm. Three heritage sites are contained in the Wind Farm site, including a stone wall and two quarry sites. The Wind Farm will avoid any disturbance of identified heritage sites, and I am satisfied therefore that the effects on historic and archaeological sites and features will be less than minor.
81. Dr Clough discusses the importance of an accidental discovery protocol, and I note that this has been requested by submitters also. In my experience, such protocols are required on any large site where bulk earthworks<sup>6</sup> are proposed. The regional policy framework<sup>6</sup> supports such an approach. With the consent conditions recommended by Dr Clough, I consider that the potential risk for adverse effects to arise on archaeological sites is acceptable.

**vii. Traffic and transportation**

82. The overall levels of truck traffic generated during construction will be highest at the start of construction. In response to submissions, a review of the construction process and related traffic has been undertaken by Messrs James and Galloway. Construction traffic to Greens Road will now comprise only 10% of the overall truck traffic, with a daily average of 7 trucks.

---

<sup>5</sup> Objective 3 of the operative Manawatu-Wanganui Regional Plan for the Beds of Rivers and Lakes.

<sup>6</sup> For example, Objective 1, Policy 1.1, Objective 2, and Policy 2.1 of the operative RPS.

Furthermore, no large turbine components will be transported to site via Greens Road. The balance and majority of truck traffic will therefore use the Pahiatua-Aokautere Rd site accesses.

83. The turbine components will be landed at either the Port of Napier or Port Taranaki. Each of these routes has been assessed by Mr Galloway. Turbine components will be transported by specialist haulage vehicles to the Turitea Wind Farm site. Overall, the effects of construction traffic associated with the Turitea Wind Farm have been assessed by Mr Galloway as being minor.
84. Once construction is complete, the Turitea Wind Farm will generate very little traffic, with up to 15 FTE staff on site to operate and maintain the Turitea Wind Farm. Improvements to be made to the existing Pahiatua-Aokautere Road - South Range Road intersection will enable the long-term safety and efficiency of access to the site.
85. Mr Galloway has concluded that driver distraction will not adversely affect road safety, while any increase in overall visitor traffic is expected to be minor, and will likewise have no adverse effect on road safety. The improvements to South Range Road and Pahiatua-Aokautere Road, if vested as road reserve, will provide a permanently improved road layout with benefits for road safety.
86. Mr Galloway has also assessed the proposed wind farm against the transportation related policies of the Palmerston North and Tararua District Plans, as well as the Regional Land Transport Strategy. He concludes that with the various road improvements and management measures proposed (including the Traffic Management Plan), the wind farm can be constructed and operated with only minor effects on the transport network, and that the proposal is aligned with the policy framework. I concur with his conclusion in this regard.
87. Having regard to Mr Galloway's assessment, I conclude that the adverse transport-related effects of the proposal are acceptable. Changes to the proposed truck traffic regime have in my opinion, suitably addressed the concerns raised by submitters relating to Greens Road, and the potential for adverse effects has reduced further. In addition, the suite of road improvements and management measures recommended by Mr Galloway should be implemented to ensure the traffic related effects are managed, such that they are acceptable. I consider that the proposed resource consent conditions will appropriately address these issues. Therefore, I consider that the overall the traffic and transport related effects are acceptable and consistent with the district plan framework.

**viii. Radio communication**

88. Mr Hills has concluded that the potential effects on radio services from the proposed Turitea Wind Farm will be minor, and for the most part so low that effects are unlikely to be detectable and will not require specific actions or mitigation. Other effects on RADAR systems have similarly been assessed and are considered acceptably low. Based on Mr Hills' conclusion that the adverse effects on radio and other communication signals will be limited to TV signal interference for up to 23 houses, and that this effect is easily mitigated, I conclude that these adverse effects are acceptable.

**ix. Cultural**

89. The main cultural concern raised during pre-lodgement consultation with tangata whenua was the impact on Mauri (spirit) from the Tararua Ranges, and on sites of significance, particularly the peaks Awararu, Te Mata, and Tirohanga. These sites are considered by local Maori to be locations that supply the Mauri for Rangitaane.

90. Mr Henry has provided an overview of the consultation undertaken by Mighty River Power with Rangitaane iwi, which is ongoing, in recognition of these cultural values, and to allow an expression of kaitiakitanga in relation to the site and proposal. I also understand that Mighty River Power will provide the opportunity for a representative of Rangitaane iwi to be present on site during earthworks in any areas identified as being sensitive, as provided for in the proposed conditions of consent.

91. Mr Henry makes the following summary of the positions taken by three recognised iwi groups:

- The Te Rangimarie Marae Trustees are particularly cognisant of the importance of sustainability and the need for renewable electricity generation to provide for the well-being of current and future generations.
- Tanenuiarangi Manawatu Incorporated has raised a number of matters, including concern relating to three sites of significance which are potentially affected by turbine zones 27, 55 and 99. Issues related to turbine zone 55 remain unresolved.
- Rangitāne o Tamaki nui a Rua (also a submitter) is currently preparing a Cultural Values Assessment as a method to convey matters raised in its submission.

92. In assessing adverse effects on sites of cultural value, the policy framework is quite clear. Policy 1.1 of the RPS is

*“To actively protect the resource management interests of nga hapu and nga iwi of the Manawatu-Wanganui Region in their lands and resources.”*

93. Of further relevance is Policy 2.1 of the RPS, which is:

*“To recognise nga hapu and nga iwi of the Manawatu-Wanganui Region as Treaty (Te Tiriti o Waitangi - Treaty of Waitangi) partners in resource management and to provide for their participation in Regional Plans and resource consent decisions.”*

94. At the time of writing this evidence, issues relating to turbine #55 have not been finally resolved. Should TMI confirm that the construction of this turbine will cause an adverse effect on this cultural site, it would be my conclusion that this turbine should be deleted from the proposal as such an adverse effect is likely to be unacceptable. In all other respects, it is my assessment that the adverse effects on cultural values have (and will continue to be) adequately addressed through the on-going dialogue and relationships Mighty River Power has established with relevant iwi groups.

**x. Aviation**

95. The Civil Aviation Authority (CAA) undertook the necessary assessment of this hazard in accordance with Part 77 of the Civil Aviation Rules. That Determination is attached to the evidence of Mr Henry, and came into effect on 18 December 2008 following a public submission period. The Determination identifies that the Turitea Wind Farm could constitute a hazard in navigable airspace, and therefore a number of conditions are identified which Mighty River Power must comply with in order to minimise the potential effects of the Turitea Wind Farm on aircraft. Accordingly, I conclude that there will be no adverse effect on aviation.

**xi. Recreation and tourism**

96. Part of the Turitea Wind Farm is proposed within the Turitea Reserve, which adjoins Harding's Park (see map at **Appendix 2**). Both parks and surrounding areas have been identified as important for recreation by a number of submitters.
97. The vast majority of the Turitea Reserve is not accessible to the general public, excluding a small spur bordering Harding's Park; it is shown as 'Reserve Access Zone C3'. The area is called "army track" spur.

98. Turitea Reserve, in particular “Reserve Access Zone C1” and “Reserve Access Zone C2” is only accessible to Council authorised personnel and approved hunters. Currently, Council records indicate that 260 people have permits to hunt the Turitea Reserve, and 30-40 people hunt on a regular basis.
99. On available information, it appears that the public does not use the Turitea Reserve apart from dedicated hunters and authorised personnel. It requires significant effort to gain legal access, and ‘approved’ hunting groups have not identified their recreation as being adversely affected by the proposal in any submission.
100. Authorised hunters generally gain access to the reserve via South Range Road and onto the Water Catchment Access Track. This is a four-wheel-drive only access track and runs approximately NE-SW right through the Turitea Reserve (mainly along ridgelines). The main reason for the track is for fire fighting purposes and pest control.
101. Access to the Turitea Reserve is also possible from the Kahuterawa Road side, but permission is required to pass over private property.
102. Greens Road (also known locally as ‘Dam Block’ by mountain bikers) is used for recreation by mountain bikers and walkers, and borders the Palmerston North side of the Turitea Reserve. I understand that the middle section of Greens Road is closed to vehicle traffic at all times. Greens Road is also used by horse riders.
103. The Manawatu Active Transportation Strategy 2007 identifies the following areas as being important to mountain biking: Turitea Road, Kahuterawa Road, Greens Road, South Range Road and Water Catchment Access Track (restricted access), and North Range Road. The Turitea Reserve Management Plan also identifies Scotts Road and Gordon Kear Forest as popular mountain biking areas.
104. The Water Catchment Access Track is owned by the PNCC. Mountain bikers are not legally allowed to use this road according to the Turitea Reserve Management Plan. Yet the Manawatu Active Transportation Strategy 2007 identifies it as an important route to mountain bikers. If cyclists want to use the track they would have to pass private property on one end with two locked gates. On the South Range Road side there would be another locked gate. Other than these gates, there is nothing stopping cyclists from using the track considering the remoteness of the area.
105. Kahuterawa Valley is used by many recreationalists, in particular walkers, trampers, mountain bikers, cyclists, horse riders and is accessible via Kahuterawa Road. Sledge Track, Greens Road, Back Track, Kahuterawa Look (K-loop) are all located near the end of

this road. These areas are popular for picnicking and swimming in summer. This area was identified as being adversely affected by a number of submitters.

106. Back Track is on private land but is used extensively by mountain bikers. The track itself is a disused public road and links to Scotts Road. It also provides links to club mountain biking in Gordon Kear Forest. Some submitters also considered this track as being adversely affected.
107. Te Araroa Walkway is the New Zealand walkway that runs the length of the country. Turitea Road, Greens Road and Kahuterawa Road form part of this walkway. At the end of Kahuterawa Road it completes the Sledge Track.
108. While North Range Road and South Range Road are popular four wheel drive tracks, no issues in this regard were raised in submissions.
109. Bridle Track (not displayed on map) is 10-20km long. It is located on the edge of Palmerston North and is probably the most heavily used recreational area by mountain bikers and walkers. It travels along the northern side of the river approximately the distance of Palmerston North within the floodplain of the river. Many sections of the track have panoramic views of the ranges. Despite the popularity of this recreational area no submitters have raised concerns that it may be adversely affected by the proposal.
110. Pahiatua Track, Old West Road and Balance Valley Road have been identified as key cycling training routes in the Manawatu Active Transportation Strategy 2007. Pahiatua Track was also identified as a cycling route of importance by one submitter.
111. The Turitea Wind Farm will not result in any changes to access arrangements to those tracks, roads and other recreational activities identified in this section of my evidence. Mr Wyatt also notes that in relation to the experience with the Tararua State Forest Park, Harding's Park and other nearby areas, once consideration is given to topography and the screening effect of vegetation, any adverse visual effect will be appropriately low. On this basis, it is my assessment that any adverse effects on the recreational experience in and around the Turitea reserve will be appropriately low.

**xii. Sedimentation and Water Quality**

112. The evidence with respect to adverse sedimentation and water quality effects is that:

- The environmental management and sediment and erosion techniques to be adopted will provide a robust programme to ensure good environmental outcomes, and are in line with accepted industry practice.
- An overarching construction environmental management plan (CEMP) is a key tool in managing earthworks. This plan will be supported by more detailed site environmental management plans (SEMPs).
- The staging of earthworks into small defined areas which will be identified as part of the detailed design phase will assist in reducing risks associated with earthworks.
- SEMPs will be produced in accordance with the standards outlined in the Greater Wellington Regional Council Erosion and Sediment Control Guidelines (Denton and Robson, 2002). These guidelines have been agreed by Horizons as being acceptable with respect to the Turitea Wind Farm and they are appropriate for the project area.
- The risks to the aquatic environment arising from sediment or hydro-carbon sources are appropriately low.
- It is very unlikely that any hydrocarbons would reach the water treatment plant in sufficient quantity to have any effect on operation of the plant.
- The risk of any other contaminant that may be used on site reaching other aquatic environments in sufficient quantities to have any more than a minor adverse effect is very low.
- Under both the construction phase and the operational phase, the risk of adverse effects on the Palmerston North Water Supply and other aquatic environments occurring will be acceptably low.

113. Overall, Mr Levy's assessment is that there are no adverse effects arising from the Turitea Wind Farm – either during construction or operation phases –that will cause any concern. Therefore, with consideration to the range of management techniques proposed, he considers that the risk of adverse effects occurring is considered to be appropriately low, and I adopt his conclusions.

#### **4.1.2 STATUTORY / PLANNING INSTRUMENTS**

114. Section 104(1)(b) requires consideration of the relevant provisions of:

- The NPS on Electricity Transmission;
- The proposed NPS on Renewable Electricity Generation;
- The RPS;

- The proposed 'One Plan' (which combines the proposed RPS and various operative Regional Plans);
- The operative Manawatu-Wanganui Regional Land and Water Plan;
- The operative Manawatu-Wanganui Regional Plan for the Beds of Rivers and Lakes;
- The operative Regional Air Plan for Manawatu-Wanganui;
- The operative Manawatu Catchment Water Quality Regional Plan;
- The operative Palmerston North District Plan;
- Proposed Plan Change 42 to the Palmerston North District Plan;
- The operative Tararua District Plan; and
- The proposed Tararua District Plan.

115. In terms of these documents, in the following section of my evidence I focus on those objectives and policies I consider of particular importance in the context of the Turitea Wind Farm. A summary list of other relevant objectives and policies from the regional and district policy documents is included in **Appendix 9** of my evidence.

**(a) NPS – Electricity transmission**

116. The NPS on Electricity Transmission was gazetted on 13th March 2008. The objective of this national policy statement 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.”*

117. The NPS provides guidance on matters of national significance that are relevant to this proposal. In particular, Policy 1 notes that:

*“In achieving the purpose of the Act, decision makers must recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission. The benefits relevant to any particular project or development of the electricity transmission network may include:*

*i) maintained or improved security of supply of electricity; or ...*

*iii) the facilitation of the use and development of new electricity generation, including renewable generation which assists in the management of the effects of climate change; or...*

118. This policy recognises that both security of supply of electricity and renewable generation are important in the national context. I note that the NPS itself defines the electricity transmission network in such a manner that for consenting purposes it applies only to those assets of Transpower New Zealand Ltd – that is, the operator of the national grid. While therefore not directly relevant to the Turitea project, I consider that the proposal is consistent with the objective and key policies of the NPS. In particular, it will improve security of supply and facilitate the use and development of renewable energy.

**(b) Proposed NPS – Renewable Electricity Generation**

119. On 6 September 2008, a proposed NPS for Renewable Electricity Generation was publicly notified.

120. In my opinion little weight can be accorded to the specific provisions of this document given its early stage of development. However, what I consider to be useful in making an assessment of the proposal, and what can be given some weight, is that the proposed NPS signals the need to consider the benefits of renewable electricity generation and therefore gives further definition to section 7(j). The NPS reflects the Government's commitment to the development of renewable energy sources and improving security of supply, and will therefore provide policy guidance at a national level for the development of renewable energy projects such as the Turitea Wind Farm.

121. In particular, the objective of the proposed NPS is:

*"To recognise the national significance of renewable electricity generation by promoting the development, upgrading, maintenance and operation of new and existing renewable electricity generation activities, such that 90 per cent of New Zealand's electricity will be generated from renewable sources by 2025 (based on delivered electricity in an average hydrological year)."*

122. The proposed NPS also recognises that renewable electricity generation projects can have adverse effects. Policy 2 however directs decision makers to have particular regard to the constraints which exist to the ability of an applicant to avoid, remedy or mitigate effects.

123. On the whole, while I recognise that the NPS is still at an early stage of development, I consider the Turitea Wind Farm proposal, and the assessment framework that applies to it,

to be consistent with the general intent of the proposed NPS, which is to provide guidance to decision makers on renewable electricity generation projects and how to consider the benefits that can be derived from them.

**(c) Manawatu-Wanganui - RPS**

124. The RPS was made operative in August 1998. This document includes a number of relevant objectives and policies including those related to renewable energy and greenhouse gas emissions; sustainable land use and water management; landscape matters and ecological protection.

125. Dealing firstly with the resource management issues associated with the sustainable management of energy resources, Objective 28 is as follows:

*To promote the sustainable management of energy resources.*

126. Policy 28.1 and 28.2 are relevant as follows:

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

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

127. The evidence of Dr Layton is that the Turitea Wind Farm will make a significant contribution to New Zealand's electricity supply, while also displacing up to 1.1m tonnes of CO<sub>2</sub> per annum.

128. The RPS recognises that energy generation can have adverse effects. Objective 29 is:

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

129. I have provided an overview of my assessment of the nature of adverse effects, and based on the conclusions of the experts and the policy framework, I consider the proposal to be consistent with this objective.

130. Next, I turn to objectives and policies in the RPS that relate to 'air', and of particular relevance is Objective 19A and Policy 19A.1 as follows:

*To reduce greenhouse gas emissions in the Region.*

*To promote measures which achieve a reduction in greenhouse gas emissions in the Region.*

131. As outlined by Dr Layton, the Turitea Wind Farm will provide significant savings in particular with respect to CO<sub>2</sub> emissions. This is also important relative to New Zealand's international obligations to reduce emissions.

132. Turning to sustainable land use and water management, there are a group of objectives which I consider important when assessing the proposal. Objective 5 and Policy 5.1 are as follows:

*To achieve sustainable land use.*

*All land in the Region shall be managed sustainably. In particular the adverse effects of land use activities resulting in a significant:*

*...loss of soil from subsidence, landslip or erosion; or*

*...degradation of water quality shall be avoided, remedied or mitigated*

133. Objective 11 and 11A as follows:

*To maintain or enhance surface water quality.*

*To avoid, remedy or mitigate the adverse effects of land use on water quality in lakes, rivers and streams.*

134. It is my assessment that the proposal is consistent with these objectives and policies. In particular, the evidence of Messrs Levy and James and Dr Coffey is that the approach taken to sediment management is considered best practice, and is highly unlikely to have an adverse effect on water quality that can be considered significant.

135. In relation to landscape and visual amenity issues, the RPS includes Objective 8 and Policy 8.3 as follows:

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

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

*p. The skyline of the Tararua Ranges, specifically:*

*i. its scenic qualities provided by its prominence throughout much of the Region and its backdrop vista in contrast to the Region's plains.*

136. In addition, the RPS goes on to provide further discussion in relation to the skyline of the Tararua Ranges:

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

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

137. The evidence of Messrs Wyatt and Brown is that neither the highest ridgeline nor any other aspect of the landscape that comprises the site constitutes an outstanding natural landscape. On this basis, it is my assessment that the proposal is not inconsistent with the RPS provisions regarding landscape and visual amenity issues.

138. Finally, the RPS includes objectives and policies on ecological values in the region. In particular, Objective 9 is as follows:

*To protect areas of significant indigenous vegetation and significant habitats of indigenous fauna.*

139. The evidence of Mr Shaw is that while there are some adverse effects associated with the removal of up to 25 hectares of native vegetation from within the Turitea Reserve, the remedial measures he has developed lead him to conclude that the proposal will not have an inappropriate adverse effect on native fauna or habitat values. In addition, Dr Coffey potential adverse effects on concludes that operation of the Turitea Wind Farm will cause no on-going issues for the protection and conservation of freshwater resources. He recognises the potential for adverse effects on high quality and sensitive freshwater communities in receiving water catchments during the construction phase of the proposed Wind Farm, and concludes that with a number of best practice and construction measures in place, the potential construction risks can be avoided. Overall, based on the evidence presented, I consider the Turitea Wind farm will provide for the protection of significant indigenous vegetation and significant habitats of indigenous fauna, such as they exist on the site.

140. In summary, it is my overall opinion that the RPS provides a relatively clear framework for assessment of the application. Specific objectives and policies on sustainable management of energy resources provide a high level of support for the Turitea Wind farm proposal. The RPS recognises the potential for adverse effects on the environment arising from renewable

electricity generation proposals, and the evidence presented by experts appearing for Mighty River Power concludes that adverse effects can be avoided, remedied or mitigated. This leads me to conclude that the proposal is broadly consistent with the objectives and policies of the RPS.

**(d) The Proposed One Plan**

141. Horizons have proposed a combined RPS and regional planning framework within one statutory document; hence its title is the “One Plan”. It was notified for public submissions on May 3 2007. From the outset, I note that this is a very complex document, in particular in relation to the interrelationship between rules in the plan, and how the RPS elements tie in with the regional plan elements.

142. The proposed One Plan has received a large number of submissions and hearings are underway. Given the complexity of the document, and the divergent range of relief sought in submissions, and the fact that no decisions have yet been issued, I consider this plan should be afforded little weight. The main purpose in reviewing objectives and policies from this Plan is to provide the Board with an indication of future policy direction at the regional level. In that context, I identify the most relevant as follows.

143. Objective 3-1 signals that the RPS will continue to “promote” renewable energy. While the specific wording of the objective is modified from the operative RPS, and now specifically refers to renewable energy in my assessment the intent remains similar. The objective is as follows:

*Resource use activities associated with the provision, maintenance and upgrading of infrastructure\*, and/or with the use of renewable energy, will be recognised and enabled.*

144. Policy 3-1 provides guidance in relation to the matters relating to infrastructure (the definition of which provides for wind farms) which are to be considered in decision making. The relevant matters are as follows:

*(a) All persons exercising functions and powers under the RMA shall recognise the following infrastructure\* within the Region as being physical resources of regional and national importance:*

*(i) facilities for the generation of electricity where the electricity generated is supplied to the electricity grid and facilities and infrastructure to transmit the electricity generated into the electricity grid.*

*(b) In making decisions about the establishment, maintenance, alteration, upgrading, and expansion of infrastructure\* within the Region, including the infrastructure\* of regional and national importance listed in subsection (a), the benefits derived from the infrastructure\* at a local, regional and national level shall be taken into account.*

145. Policy 3-2 is also relevant in my opinion, largely because it fills a policy “void” that exists in both District Plans at present – that is, protecting significant infrastructure from the effects of other activities. I consider that given the level of investment occurring in the region in relation to wind farms and other significant infrastructure, once established, these facilities should have some protection from the effects of reverse sensitivity. Policy 3-2 states that:

*Adverse effects from other activities on infrastructure shall be avoided by using the following mechanisms...(b) ensuring that any new activities that will adversely affect the efficiency or effectiveness of infrastructure are not located near existing infrastructure, and that there is no change to existing activities that increases their incompatibility with existing infrastructure*

146. Policy 3-3 also seeks to provide guidance on the adverse effects of infrastructure to be avoided, and how other effects will be dealt with, including benefits of infrastructure (which mentions to benefits to be derived from the use and development of renewable energy). The policy is as follows:

*When making decisions on consent applications regarding infrastructure, the adverse effects of infrastructure on the environment shall be managed in the following manner:*

*(a) **Effects to be avoided** – The following adverse effects of infrastructure\* shall be avoided to the same extent required of other types of activities:*

*(i) effects on waahi tapu, waahi tupuna and other sites of significance to Māori*

*(ii) effects on specified waterways valued for natural state and sites of significance (aquatic)*

*(iii) effects on rare and threatened habitats as defined in Chapter 7*

*(iv) effects on the outstanding natural features and landscapes identified in Chapter 7*

*unless functional constraints make this impossible, in which case adverse effects should be mitigated. Mitigation may include the use of financial contributions in accordance with the policies in Chapter 18.*

*(b) **Other effects** – All other adverse effects of infrastructure will be managed in a manner that tolerates minor adverse local effects and takes into account:*

*(i) the benefits of infrastructure, particularly the benefits of regionally or nationally important infrastructure\**

*(ii) the integration of the infrastructure with land use*

*(iii) the benefits to be derived from the use and development of renewable energy.*

147. A financial contribution may be sought in order to provide the option of offsetting or compensating for adverse effects, rather than requiring adverse effects to be avoided, remedied or mitigated. While this is an acceptable approach, in this instance I do not consider a financial contribution to be necessary, as the evidence is that adverse effects have already been appropriately avoided, remedied or mitigated.

148. Policy 3-4 provides clear direction on how the Region will respond to different proposals for energy generation, clearly favouring renewable generation over non-renewable. This indicates that the future direction of the Regional Council is to more strongly support renewable generation:

*The development of renewable energy generation and use of renewable energy resources shall be preferred to the development and use of non-renewable energy resources in policy development and resource consent decision making.*

149. While the objectives and policies in the proposed RPS appear to be relatively similar in intent to the operative RPS, objectives relating to land and indigenous biodiversity management introduce concepts such as highly erodible land and rare or threatened habitat. Objective 5-1 is as follows:

*Land is used in a manner that ensures:*

*(b) sediment loads entering waterways as a result of accelerated erosion are reduced to the extent required to be consistent with the water management objectives and policies set out in Chapter 6 of this Plan and the targets established in Schedule D for those water management zones with elevated sediment levels*

*(c) accelerated erosion caused by vegetation clearance and land disturbance is minimised*

*(d) the damage to roads and other infrastructure caused by landslides and sediment run-off from hill country is minimised*

150. One of the factors as to whether land is highly erodible is slope. A detailed assessment of slope of the Turitea site was carried out, and this identified that while some parts of the works for the wind farm were to be carried out in steep areas, they did not trigger these provisions. However I note that again, a conservative approach has been used in identifying this policy as relevant. Policy 5-3 relates to the regulation of vegetation clearance and land disturbance on areas identified as Highly Erodible Land as follows:

*(a) Vegetation clearance and land disturbance, including excavation, filling, tracking and soil cultivation, shall generally not be allowed on Highly Erodible Land unless:*

*(iii) the activity is for the purpose of establishing or maintaining a fenceline or other infrastructure\* and there is no reasonable alternative location, or*

*(vi) other exceptional circumstances apply.*

*(b) Any vegetation clearance or land disturbance that is allowed on Highly Erodible Land shall not significantly increase the risk of erosion or land instability.*

151. Based on Mr Levy's evidence, I conclude that neither the vegetation clearance nor earthworks proposed will significantly increase the risk or erosion or land stability once the specific erosion and sediment control measures are considered.

152. The proposed One Plan provides new regional policy direction in relation to vegetation clearance. I note that neither District Plan contains provisions which manage indigenous vegetation clearance. Objective 7-1 is as follows:

*The existing level of indigenous biological diversity is maintained into the future by ensuring that:*

*(a) rare and threatened habitats, as defined in Schedule E, are protected from activities that may cause any loss or modification to the representativeness, distinctiveness or ecological context of these areas*

*(b) at-risk habitats, as defined in Schedule E, are maintained by ensuring that activities do not cause any significant adverse effects on their representativeness, distinctiveness or ecological context*

*(c) the best representative examples of rare and threatened habitats and at risk habitats are proactively managed in order to improve their function.*

153. Mr Shaw's evidence is that the vegetation affected by the Wind Farm does not include that contained in Table E.1 of Schedule E (that is, it is not a rare or threatened habitat), but Table E.2 (a) and E.3 are relevant, which relate to firstly the water management sub-zone and secondly life-supporting habitat to a threatened species (which relates to NZ falcon). The relevant hearing report recommends deleting the reference to NZ Falcon from this table.

154. The final One Plan provisions which need to be evaluated are the landscape provisions. The first point to note is that the 'outstanding' landscapes listed in the operative RPS have been included in the One Plan, although new objectives and policies are provided. Objective 7-2 is as follows:

*(a) The characteristics and values of the outstanding landscapes identified in Schedule F are protected as far as practicable.*

*(b) Adverse effects, including cumulative adverse effects, on the natural character of the coastal environment, wetlands, and rivers, lakes and their margins are:*

*(i) avoided in areas with a high degree of naturalness*

*(ii) avoided, remedied or mitigated in other areas*

155. Schedule F identifies the 'Skyline of the Tararua Ranges' as being an outstanding landscape within the region.

156. Policy 7-7(c) further provides that:

*The landscapes listed in Schedule F shall be recognised as outstanding. All subdivision, use and development affecting these areas shall be managed in a manner which:*

*(a) avoids or minimises to the extent reasonable any adverse effects on the characteristics and values specified in Schedule F for each landscape*

*(b) takes into account and avoids any cumulative adverse effects*

*(c) takes into account the policies in Chapter 3 when assessing activities involving renewable energy and infrastructure of regional importance.*

157. Given the similarity with the operative RPS provisions regarding visual and landscape amenity, my assessment with respect to those also applies here.
158. The proposed One Plan seeks to continue the existing RPS's approach to recognising the importance of renewable energy. It adds further objectives and policies which assist decision makers in assessing such proposals. Overall, it is my opinion that the proposed One Plan provides support for the Turitea Wind Farm proposal, but that little weight can be assigned to the objectives and policies given its early stage of development.

**(e) Regional Plans**

159. There are four operative regional plans that provide policy guidance in respect of these applications.

***i. The Manawatu-Wanganui Regional Land and Water Plan***

160. Under this plan the key objectives and policies with respect to the Turitea Wind Farm are:

*DL Objective 3: To reduce sediment, microbial contamination and nutrient runoff to lakes and rivers.*

161. The Turitea Wind Farm will avoid or mitigate adverse effects arising from sediment run-off. Best practice measures are identified by Mr Levy to reduce the risks associated with sediment run-off, and works are not proposed in the vicinity of the water reservoirs. His evidence is that the earthworks proposed on the site, and associated sediment laden discharges will have acceptably low effects. Other discharges from substation sites, and other locations have been designed to reduce sediment and other contaminants so that any potential adverse effects associated with them are avoided. Dr Black also concludes that there will be no adverse effects on human health arising from the wind farm.
162. Therefore it is my conclusion that the Turitea Wind Farm proposal is consistent with the relevant objectives and policies of this plan.

***ii. The Manawatu-Wanganui Regional Plan for the Beds of Rivers and Lakes***

163. The Regional Plan for Rivers and Lakes includes Objective 3 which is as follows:

*To enable the use and development of resources in, on, or under the beds of rivers and lakes, while ensuring...any adverse effects on natural character, ecological, intrinsic, amenity or cultural values are avoided, remedied or mitigated; and the existing life supporting capacity is maintained or enhanced.*

164. This objective recognises that some activities will need to occur in the beds of lakes and rivers. In relation to the Turitea Wind Farm, this will include works over watercourses and the placement of culverts in them. Other structures, including transmission cables will also need to cross watercourses in some locations. The evidence of Dr Coffey and Mr Levy has assessed the potential adverse effects arising from these works as being very low risk and acceptable, and the project will not affect the life supporting capacity of the relevant water courses.
165. Therefore, it is my assessment that the Turitea Wind Farm proposal is consistent with the relevant objective of this plan.

**iii. The Manawatu-Wanganui Regional Air Plan**

166. Under the Regional Air Plan, the Objective is:

*To maintain or enhance air quality in the Region, and have ambient air quality that does not adversely affect human health and well being, animal and plant health, amenity values and cultural values.*

167. The Turitea Wind Farm will have minimal, if any, effects on air quality. Such effects as will arise will be generated by discharges from the temporary concrete batching plant, and the mobile rock crushing plant. In addition, there is potential for nuisance dust to arise during the construction process. The evidence of Dr Black is that these discharges will not cause any adverse effects on human health.

168. Policy 2 states

*To have particular regard to the following matters when considering resource consent applications:*

*a. the effects of the discharge on:*

*i. human health, safety and well-being;*

*ii. health and functioning of ecosystems, plants and animals, including indigenous ecosystems;*

*iii. other components of the receiving environment, including surface waters and land;*

*iv. structures;*

*v. ambient air quality;*

*vi. visibility; and*

*b. the effects of the proposed discharge on any sensitive receiving environments (refer to Glossary), in particular discharges which have adverse effects on visibility or which cause the soiling of property; and*

*c. the nature of the discharge with respect to tangata whenua concerns and the effect of the discharge on waahi tapu, marae and other places or features of significance to tangata whenua, particularly adverse effects from the intrusion of odour and visual contaminants; and*

*d. the outcome of consultation between the applicant and affected parties; and*

*e. the results of any emission testing, ambient air monitoring or atmospheric modelling undertaken; and*

*f. meteorological conditions, local micro-climates, topography and any other surrounding environmental conditions that may influence the effects of the proposed discharge; and*

*g. the potential for reducing the quantity, or improving the quality, of the discharge at source and where the potential is not to be realised, the reasons for not doing so; and*

*h. whether the best practicable option for the management of discharges to air is proposed or in place and where the best practicable option is not proposed or not in place, the reasons for not doing so; and*

*i. the likely contribution of the proposed discharge to any cumulative adverse effect, including from the same property, that could arise over time or in combination with other effects; and*

*j. any relevant code of practice and any management and maintenance systems; and*

*k. the training and qualifications of the operator; and*

*l. any adverse effects on cultural and historic heritage resources, having particular regard to any adverse effects on the scenic,*

*aesthetic and recreational values associated with heritage resources;  
and*

*m. the frequency, intensity, duration, offensiveness and location of the  
discharge to which the application relates; and*

*n. whether the activity was legally established and/or allowed by the  
District Plan.*

169. The evidence demonstrates that the matters identified in this policy can be adequately addressed. There are not considered to be any adverse effects on human health, ecosystems or freshwater, ambient air quality or visibility. The effects of the air discharges will be acceptably low as a result, and will not result in any cumulative effects. The effects of air discharges during construction have not been raised as a major concern by submitters. Overall, the evidence of Messrs Levy and Shaw and Drs Black, and Coffey is that the operation of both the concrete batching plants and mobile crusher and the potential “dust” and other emissions that may arise from that are highly unlikely to have adverse effects that are unacceptable on the receiving environment.

170. Policy 6 is as follows:

*To avoid, remedy or mitigate adverse effects on amenity values,  
human health and well being or property arising from:*

*a. the frequency, intensity, duration or offensiveness and location of  
odour; and*

*b. the discharge of dust, smoke, or other particulate matter; and*

*c. the creation of odour, dust and smoke nuisance from land use.*

171. Dust suppression will be provided on site during construction, meaning the Turitea Wind Farm project will comply with this policy. Therefore my assessment is that the Turitea Wind Farm proposal is consistent with all relevant objectives and policies of this plan.

**iv. The Manawatu Catchment Water Quality Regional Plan**

172. The objective for the Manawatu Catchment as set out in this plan is:

*To enhance surface water quality in the Manawatu catchment by the  
year 2009 to a level which meets the needs of all people and  
communities while safeguarding the life-supporting capacity of the  
water*

173. I consider Policy 8 to be the key relevant policy, which is as follows:

*To recognise that the catchment's remaining lakes and natural wetlands are particularly sensitive receiving environments when considering resource consent applications to discharge into them.*

174. The importance of natural wetlands within the catchment are recognised by the regional policy framework and this would therefore include Brown's Flat. While turbines were initially proposed within the Brown's Flat wetland, four turbines were removed from this location in order to avoid the potential for adverse effects on it.

175. The expert evidence, in particular that of Mr Levy and Dr Coffey, is that there will be no other adverse effect on the life-supporting capacity of aquatic communities within affected waterways. Therefore, overall I consider that the Turitea Wind Farm proposal is consistent with the objectives and policies of this plan.

**(f) Operative PNCC District Plan**

176. The Palmerston North District Plan was made operative in December 2000. There is one plan change (#42) which deals with Earthworks provisions, which I will comment on separately.

177. The entire portion of the site that falls within the Palmerton North City boundary is zoned 'Rural' and therefore the objectives and policies in the District Plan that are most relevant to assessing the proposal are contained in the Rural Zone chapter. While there are other objectives referenced in relation to Chapter 2 which are District wide, in my opinion these are (by necessity) so generic (as they cover a range of resource management issues across the City) that they are unhelpful in assessing the proposal. However, my assessment is that the proposal is consistent with these objectives.

178. The first relevant guidance is found at Objective 2, which is as follows:

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

179. Policies 2.2 and 2.3 are as follows:

*To ensure that the adverse effects of activities in the rural area are avoided, remedied or mitigated such that the amenities of the area and nearby urban areas are maintained.*

*To control the actual or potential environmentally adverse effects of activities in the rural area, including the adverse effects of: odour; noise; traffic; visual impact.*

180. The effect of the objective and policies is to describe the type of rural environment, in part, that the Plan seeks for Palmerston North City. Firstly, the objective notes that the rural environment is focussed on the use and development of natural and physical resources, which in my opinion reinforces the nature of the rural zone as a “working” area, with active farms, forestry and wind farms all co-existing. The policies then also refer to the potential for adverse effects arising from activities in the rural area, and in particular that those activities may affect nearby urban areas. In my assessment, the two key amenity issues raised in the evidence are potential noise and visual amenity affects. The evidence of Mr Hegley is that the noise effects for all areas will be managed in accordance with NZS:6808. Mr Wyatt’s assessment does acknowledge potential adverse effects on urban areas with reference to a series of public viewpoints; and considers these potential adverse effects to be acceptably low. Mr Wyatt’s evidence in other respects, including on visual amenity, is that with mitigation the adverse effects are also considered acceptably low. In both assessments, the potential adverse effects on amenity, including urban amenity, has been appropriately avoided, remedied or mitigated, such that in my opinion the proposal is consistent with the objectives and policies. In addition, the evidence of Mr Galloway is that the potential adverse effects associated with traffic will be acceptably low. I therefore consider the proposal to be consistent with these policies.

181. Objective 3 is also relevant, as follows:

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

182. Policies 3.1 and 3.3 are also relevant as follows:

*To provide for the health and safety of rural dwellers by establishing specific noise limits for the rural area.*

*To control the adverse visual effects on the rural environment (including effects on rural dwellers) of activities that disturb the land surface, introduce buildings, remove and/or process natural material.*

183. The issues relevant to Policy 3.1 have been assessed in the evidence of Mr Hegley, and he concludes that the Turitea Wind Farm will comply with noise requirements. Furthermore, Dr Black concludes that potential adverse effects associated with noise issues will not cause a public health concern. In relation to Policy 3.3, Mr Wyatt’s evidence is that because the majority of earthworks activity in particular is in ‘cut’, the potential for adverse effects arising from land disturbance has been significantly reduced to the point that these effects have

been controlled and are acceptable. Visual effects from buildings (in the form of substations) will also occur, but given the location of these features, the potential effects are considered by Mr Wyatt to be very low. On the basis of this evidence, and my interpretation of these objectives and policies, I consider the proposal is consistent with them.

184. Objective 4 is most relevant to the proposal, as follows:

*To recognise and enhance the diversity of the rural community.*

185. Policies 4.1 and 4.3 are also relevant to the consideration of a wind farm as follows:

*To permit a variety of land-based activities subject to control of their adverse environmental effects*

*To allow a range of other activities where their adverse effects can be avoided or mitigated.*

186. Objective 4 refers to the diversity of the rural community. Again, interpretation of this objective is assisted by the relevant policies. The policies identify that a range of land based activities should be permitted in the rural area, as well as other activities, provided the adverse effects can be avoided or mitigated or otherwise controlled, Wind farms are identified in the plan as a discretionary activity and the evidence is the adverse effects can be avoided, remedied or mitigated, and therefore I consider that the proposal is consistent with these objective and policies.

187. Wind farms are identified in the Plan as a discretionary activity, along with sawmills and rural industries (Rule 9.9.2). Associated with this rule, it is noted that any application will be assessed in terms of the following further “policies” (although I note that given they are associated with this “rule” these may more appropriately be read as assessment criteria):

*(a) To avoid, remedy or mitigate adverse visual impacts of any proposed building, structure or storage areas for products and waste, on the surrounding rural environment, and on the landscape values of adjoining areas.*

*(b) To avoid, remedy or mitigate the effects of noise and other environmental disturbance, on the amenity of the surrounding area.*

*(c) To avoid, remedy or mitigate the risk of contamination posed by hazardous substances.*

*(d) To avoid, remedy or mitigate the adverse effects on the safe and efficient operation of the roading network from the traffic movements generated by activities.*

*(e) To ensure the provision of adequate on-site parking, loading, manoeuvring and access space to avoid this taking place on roads.*

188. I comment on each of these policies as follows:

- Policy 9.9.2(a) relates to adverse visual effects of any structure – in this instance, wind turbines, transmission towers and substations. Mr Wyatt's assessment is that the adverse visual effects of these components of the Turitea Wind Farm are initially significant in particular from residential view points, but that with appropriate mitigation, become acceptable.
- Policy 9.9.2(b) relates to noise, and in this respect the evidence of Messrs Hegley and Day is that the operation of the Turitea Wind Farm can occur without any inappropriate adverse effects, and once recommended mitigation and noise management measures are implemented, the proposal will meet the noise requirements of the plan, and of NZS:6808.
- Policy 9.9.2(c) has been addressed through the inclusion of appropriate bunding around each potential source of hazardous substance, while site management practices will be governed by the CEMP and SEMP, which will include industry standard requirements on handling of on-site fuel.
- Policy 9.9.2(d) has been addressed by Mr Galloway, who concludes that any adverse effect on the road network or other road users will be minor, and that long term the improvements to the road network at Pahiatua-Aokautere Road and South Range Road intersection will result in improvements to road user safety. Furthermore, his assessment is that there will be sufficient parking space provided on site, and therefore the proposal is also considered to be consistent with Policy 9.9.2(e).

189. Overall, I consider the Turitea Wind Farm complies and is consistent with the additional “policies” included in Rule 9.9.2. These policies are important, because they are the only ones that deal specifically with the activity of wind farms. These policies provide a specific list of the effects PNCC considers important in relation to wind farms. The evidence of the Mighty River Power experts is that each of these effects has been considered, and appropriately avoided, remedied or mitigated as required.

190. Finally, the District Plan includes objectives and policies relating to network utilities. These are important in considering the internal and external transmission lines which connect the site to the national grid at Linton. Utilities Objective 1 and 3 are as follows:

*To enable the establishment and maintenance of network utilities in the interests of community well-being, health and safety.*

*To ensure network utilities are constructed and located in a manner sensitive to amenity and landscape values in both urban and rural environments*

191. In commenting on the transmission line components of the project, I refer to the evidence of Mr Wyatt. His assessment is that there is a potentially significant adverse effect arising from the 220kV transmission lines. While written approvals have been provided for the properties across which these lines traverse, other nearby residential properties are affected. Mr Wyatt concludes that the scale of these potential adverse effects can be appropriately mitigated by landscape screening, and I adopt that conclusion.

192. My overall assessment is that the proposal is consistent with the objectives and policies of the Palmerston North District Plan, and the rural zone provisions in particular.

**(g) Plan Change 42 – Earthworks**

193. Plan Change 42 introduces new objectives, policies and methods in relation to earthworks activities in the City. The main objective is as follows:

*To provide for earthworks activities where the associated adverse effects are able to be avoided, remedied, or mitigated.*

194. Given that the expert assessment of Messrs James and Levy, and Dr Coffey is that the adverse effects associated with earthworks can be avoided or mitigated, I consider the proposal is consistent with this objective.

**(h) Operative Tararua District Plan**

195. That part of the site which falls within the Tararua District is zoned as “Rural Management Area.” The Rural Management Area includes objectives and policies that are most relevant to assessment of the Turitea Wind Farm.

196. Firstly, Objectives 2.3.2.1 and 2.3.3.1 are as follows

*To achieve sustainable rural land use and efficient use of resources.*

*To maintain the vitality and character of the District's rural areas.*

197. These objectives recognise the nature of the rural environment as having vitality and character, while also recognising they are used for a range of productive and lifestyle activities. Objective 2.3.2.1 relates to use of land for productive activities and protecting important environmental qualities of the rural area. I note that traditional productive rural

activities and wind farms are highly compatible, and there will be no loss of productive potential of the land as a result of the proposal. Furthermore, the Turitea Wind Farm will increase the efficient use of natural and physical resources, as land will become more productive by carrying out normal farming operations and harnessing the wind resource. Policy 2.3.3.2(b) is particularly relevant in my view. It reads as follows:

*To provide, in rural areas, for activities which require a rural location or which specifically serve or support the rural community, where their effects are compatible with the surrounding rural area and the environmental results sought for Rural Management Areas.*

198. My observation of the existing rural environment is that wind farms do not interfere with the normal operation of productive rural activities, such as pastoral farming. Furthermore, the harnessing of wind energy represents a further efficient use of rural land. In my assessment, wind farms also require a rural location or one that allows a proposal which has a need for large areas of land within which to generally contain the potential adverse effects. Furthermore, the rural environment is more 'sparsely' populated, and hence the sensitivity of that environment is less than for an equivalent urban area. This is not to say that adverse effects are more acceptable, but simply that the potential for them to arise is less. On the basis of this assessment, I consider the Turitea Wind Farm is consistent with these rural objectives and policies relating to sustainable land use and management, and that the Turitea Wind Farm is likely to be 'compatible' with the surrounding rural area.

199. Objective 2.9.6.1 relates to water quality, as follows:

*To avoid the degradation of surface water and groundwater quality in the District.*

200. The potential degradation of surface and groundwater quality could arise from uncontained sediment laden run-off entering waterways within the site. The evidence of Mr Levy is that this is unlikely to occur, and any discharges will be acceptable. Any sediment discharges that do occur are also likely to be short term in nature. The CEMP which will govern activities on the site will impose industry standard run-off and sediment controls which have previously been proven to be effective. I anticipate that consent conditions will reinforce the CEMP provisions. I consider the proposal is therefore consistent with this objective.

201. Other relevant objectives and policies from this plan are as follows: Objective 2.3.4.1:

*To ensure a high level of environmental quality and amenity throughout the rural areas of the District.*

202. Policy 2.3.4.2:

*(a) To ensure that any actual or potential adverse environmental effects of activities are avoided, remedied or mitigated.*

*(b) To protect and enhance the character, features, level of amenity and environmental quality of the District's rural areas.*

*(c) To reduce the potential for conflict between incompatible activities in rural areas, particularly in the rural-urban fringe.*

203. Objective 2.6.2.1 is as follows:

*To protect and enhance amenity values and environmental quality in the District, for present and future generations.*

204. Objective 2.6.4.1:

*To protect important natural features (including areas of indigenous vegetation and habitats of indigenous fauna) and landscapes in the District which are of local, regional or national significance.*

205. Policy 2.6.4.2(c):

*To encourage the protection of significant natural features, landscapes and habitats from inappropriate subdivision, development or use, and to promote public access where this will not adversely affect conservation or private property values.*

206. In relation to indigenous vegetation clearance, the evidence of Mr Shaw is that there is no significant indigenous vegetation within the Tararua District part of the site, and so this is not considered relevant under this District Plan. The rest of these objectives and policies deal with issues of rural amenity. I consider noise and visual and landscape amenity to be relevant.

207. The evidence of Mr Hegley is that, while the District Plan does not include specific rules on noise related to wind farms, the construction of the wind farm will comply with the relevant standard (NZS:6803). Furthermore, the operation of the wind farm will comply with the relevant standard (NZS:6808). Mr Day also provides evidence in support of Mr Hegley's findings. On this basis, I consider the Turitea Wind Farm will not have an adverse effect on rural amenity from a noise perspective, and therefore, the proposal is consistent with these objectives and policies.

208. Turning to visual and landscape amenity issues, Mr Wyatt's evidence is that the area is located in a landscape with a high level of amenity. However, he also notes that this landscape is constantly changing, and is able to absorb change, and for this reason (in addition to others I have previously recorded) he concludes that the development is appropriate. As noted previously, the site does not contain an outstanding natural feature under section 6(c). However, the District Plan notes that one 'important' natural feature which is of local and regional significance is the 'skyline' of the Tararua Ranges. This provision is included to give effect to the RPS provisions. Objective 2.6.4.1 has substituted 'outstanding' for 'important', which is a lesser test in my opinion and not related to section 6(b). However, as noted in my earlier assessment of the corresponding RPS provisions, it is my assessment that the skyline provisions do not apply to this part of the Turitea site given it is not an outstanding natural landscape. In any event the evidence of Mr Wyatt is that the potential adverse effects associated with the proposal are acceptable, and therefore my assessment is that the Turitea Wind farm is consistent with these objectives and policies.
209. The District Plan identifies the diverse nature of the rural area, and recognises that there are some activities which must occur in the Rural Management Area. I consider the Plan provides guidance that the site is appropriately zoned for this wind farm and therefore, overall I conclude that the proposal is consistent with the objectives and policies of the plan.

**(i) Proposed Tararua District Plan**

210. The operative and proposed TDC District Plans are essentially identical documents. The relevant provisions that I have referred to have not been amended. However it should be noted that in relation to the proposed Plan, there are a number of submissions that relate specifically to wind farms and wind farm development. Therefore, the proposed Plan should not, in my assessment, carry any weight in relation to the "rolled over" objectives and policies.

#### **4.1.3 OTHER RELEVANT CONSIDERATIONS**

211. The following documents are, in my view, relevant 'other matters' for the Board to consider under section 104(1)(c).

**(a) NZ Energy Strategy**

212. In 2007 the Government introduced the "New Zealand Energy Strategy to 2050: Towards A Sustainable Low Emissions Energy System" (October 2007) (the Energy Strategy). The document recognises two major energy challenges faced by New Zealand, including:

- the need to respond to the risks of climate change by reducing the greenhouse gases caused the by the production and use of energy; and
- the need to produce clean, secure, affordable energy while treating the environment responsibly.

Consenting new renewable generation is clearly a fundamental part of the solution in meeting both of these challenges.

213. The vision identified in the Energy Strategy was:

*“A reliable and resilient system delivering New Zealand sustainable, low emissions energy services, through:*

- *providing clear direction on the future of New Zealand’s energy system;*
- *utilising markets and focussed regulation to securely deliver energy services at competitive prices;*
- *reducing greenhouse gas emissions, including through an emissions trading scheme;*
- *maximising the contribution of cost-effective energy efficiency and conservation of energy;*
- *maximising the contribution of cost-effective renewable energy resources while safeguarding our environment;*
- *promoting early adoption of environmentally sustainable energy technologies; and*
- *supporting consumers through the transition.”*

214. The Energy Strategy includes a range of measures to achieve this vision, but of greatest relevance to the Turitea Wind Farm is the target for an increase in renewable electricity generation capacity. At section 4.2.1 of the Energy Strategy, the Government has identified the *“adoption of a target for renewable electricity generation of 90 per cent by 2025 (based on delivered electricity in an average hydrological year).”*

215. Appendix 1 to Dr Layton’s evidence identifies the current quantum of renewable electricity generation New Zealand is able to provide based on current installed capacity. This is approximately 27,969 GWh (based on output of hydro, geothermal, wood and wind which are renewable resources). Based on an overall generation of 42,290 GWh, this means that at present, New Zealand can generate 66% of its electricity from renewable sources (based

on 2007 figures). This leads to the conclusion that in order to achieve the 90% target, a significant investment in new renewables projects will be required. These projects must also meet the sustainable management purpose of the RMA. I note that Dr Layton's evidence is that the Turitea Wind Farm will add between 2.3% and 3.1% to annual generation rates (at 45% utilisation). In my opinion, this is a significant contribution to electricity generation from a single project. While further renewable generation will be required to meet this target, with a requisite mix of renewable generation technology (i.e. wind, hydro, geothermal, and perhaps in the future, marine/tidal), the Turitea proposal would provide a significant contribution to this target.

216. The Energy Strategy is consistent with Dr Layton's conclusions, and notes that there is likely to be enough geothermal, wind and hydro energy resources available to meet New Zealand's electricity demand for the next 20 years or so. It goes on to state that if marine generation (and other renewable sources) become economically viable within that time, New Zealand would be able to use predominantly renewable electricity sources for even longer.
217. While the Energy Strategy provides clear direction for a focus on development of renewable energy generation, it also notes (at 4.6.4) that improved leadership and guidance will be provided through the RMA in relation to consenting such projects. These measures include the proposed NPS on Renewable Electricity generation which I have already discussed in my evidence.
218. I consider the Energy Strategy to be relevant to this proposal because it provides a national context for the significance of renewable energy generation. The evidence of Dr Layton in particular supports this conclusion, as he has clearly identified the significant national, regional and local benefits associated with the project, including from an energy perspective. The project will also assist in diversifying the country's generation portfolio, increasing generation from renewable energy sources, and reducing greenhouse gas emissions.
219. I conclude that the Turitea Wind Farm project is highly consistent with the Energy Strategy. However, the level of weight that should be afforded to the strategy needs to be considered given that a change in Government has occurred, and with it, a potential for a changed policy emphasis. I have reviewed the incoming Government's publicly released statements relating to the Energy Strategy. In particular, I note the following:

*"National supports the 90% renewables target, and we believe our reforms of the Resource Management Act will encourage new renewable electricity generation. However, we will not let the 90% target get in the way of security of supply. We will not sacrifice energy security and our economy for the sake of a mere number. There may well be times by 2025 when 90% of electricity demand is met from*

*renewable sources. But we will continue to need the constant reliability of thermal generation"* (source: www.national.org.nz).

220. The new Government has repealed the prohibition on new thermal generation. However, strong support for renewable energy remains, and on this basis, in my view the Strategy remains valid as the Turitea Wind Farm will increase security of supply from a renewable source. Given the incoming Government's statements in support of renewable energy, I consider that significant weight should be given to this document under section 104(1)(c).

**(b) NZEECS**

221. The New Zealand Energy Efficiency and Conservation Strategy (NZEECS) (2007) is a Government action plan to maximise energy efficiency and renewable energy. The NZEECS states the Government's commitment to 90 percent renewable generation by 2025 and notes that meeting that target will require generating electricity from a "*diverse range of renewable sources such as wind, geothermal, hydro and biomass*".

222. The Energy Strategy includes an objective which is: "*More energy efficient and competitive businesses using more renewable energy and emitting less carbon dioxide*". The document states that it is in New Zealand's longer-term and environmental interests to meet increases in demand through an economic mix of renewable energy sources that will meet security of supply objectives. The future mix of generation should ensure New Zealand's energy system is well placed to prosper in a low carbon economy. To achieve this outcome requires a very high rate of investment in renewable generation, lower utilisation of existing thermal plant and decommissioning of older thermal plant. The evidence of Dr Layton is that the Turitea Wind Farm will, in part enable these outcomes to be achieved. I therefore consider that the proposal is consistent with the NZEECS.

**(c) Turitea Reserve Management Plan**

223. The TRMP was initially prepared under the Reserves Act 1977 and provides a framework for the management and use of the Turitea Reserve. As noted previously in my evidence, the TRMP was amended to provide for 'electricity generation' as an additional purpose. The TRMP contains a range of policies that seek to protect and manage the Reserve's values and attributes including water supply, indigenous vegetation, plantation forestry, landscape, amenity, fauna, cultural, historic and recreation - all of which contribute to the value of the Reserve and require an integrated management approach.

224. The 'Protecting Water Supply Quality and Storage' section of the TRMP, includes the following objectives:

- *"To maintain a high quality and secure water source.*
- *To maintain a low level of risk of contamination and preserve options in terms of future barriers to contamination.*
- *To minimise sediment input in reservoirs."*

225. The construction activities that could potentially adversely affect water supply in the Turitea Reserve will be carefully managed. The evidence of Mr Levy is that the construction, operation and maintenance of the wind farm will not adversely affect the Turitea water supply.

226. The 'Conserving and Restoring Flora and Fauna, Ecosystems and Natural Landscapes', section of the TRMP includes the following objectives:

*"1. To protect indigenous flora and fauna, habitats and ecosystems within the reserve..."*

*2. To promote the restoration of indigenous plants, animals and habitats within the Reserve...*

*5. To preserve and where practicable enhance the natural landscape values of the reserve, except where another objective in this plan is pursued in which case the impact on landscape values will be mitigated...*

*6. To develop the Reserve as an ecological reservoir for the city by encouraging the development of ecological linkages and corridors, and helping to facilitate the implementation of the above objectives on private and public land adjacent to the Reserve."*

227. These policies provide that the important values of the Reserve including ecological and landscape values should be preserved, protected and restored. The exception to this is where another objective of the Plan is pursued, which, based on the policies included in the TRMP on electricity generation (see below), could include the development of a wind farm. In this instance, the TRMP provides that the impact on landscape values will be mitigated, should these objectives be pursued. Mr Wyatt has identified a package of mitigation measures in relation to landscape and visual effects, which in relation to the RMA context, is such that the potential adverse visual effects are considered acceptable. On this basis, it follows, in my opinion, that the proposal is also consistent with the TRMP.

228. The final relevant section of the TRMP relates to 'electricity generation' and the following objectives and policies apply:

*"1. To allow electrical generation activities in the Reserve that do not compromise the Reserve's function as a water supply catchment and ensure adverse effects and other values are appropriately mitigated..."*

*Policy 1 Electrical generation projects will be considered in the Reserve where these do not compromise the achievement of the objectives of this management plan*

*Policy 1.2 Allow the installation of transmission lines and communication equipment as required by development of electricity generation".*

229. Under the TRMP, the purpose of the Reserve is multi-faceted. However, this Objective and Policy 1 make it clear that while a wind farm is contemplated, it must demonstrate that it can be constructed and operated without undue adverse effects on the other values of the Reserve, or other objectives of the TRMP. I have outlined those other objectives above, and do not consider any will be compromised. Perhaps most importantly, the evidence of Mr Levy is that the Turitea Wind Farm will not compromise the Reserve's function as a water supply catchment.

230. Turning to adverse effects on other values, the objective specifically allows adverse effects to be mitigated, and in my opinion this means that some adverse effects are also contemplated – that is, the TRMP reinforces other aspects of the RMA policy framework that I interpret to mean the Reserve is not to be protected or preserved from all change. Rather the TRMP accepts that some appropriate change is able to occur in this already modified environment. In relation to these adverse effects, Mighty River Power has identified and provided a comprehensive ecological mitigation package under the RMA. This includes most significantly, remediation of the ecological effects arising from vegetation clearance and involves significant areas (75ha) of revegetation in the Reserve, pest and weed control and rehabilitation of up to 8 hectares of the affected areas. This remediation has been previously described in my evidence and that of Mr Shaw.

231. Overall, I conclude therefore that provided the 'footprint' of any wind farm falls within the area defined in the TRMP, and the applicant can demonstrate the construction, operation and maintenance of the wind farm does not adversely affect the other values of the reserve, including its water supply function, a wind farm can be assessed as being consistent with the objectives of the TRMP. In accordance with the advice from Mighty River Power's various experts, I believe that this will be the case for the Turitea Wind Farm project. I

therefore consider that the proposal is consistent with the objectives and policies of the TRMP.

## 4.2 SECTION 105

232. The Turitea Wind Farm proposal requires six discharge consents, being two discharges to air, and four discharges to land. Three of these discharges relate to construction works, and three are “permanent”. In my opinion, all are associated with adverse effects that have been assessed by experts as being appropriately low, albeit that one of the discharge consents (#104559) for the discharge of cleanfill to land involves a significant volume of earthworks.
233. In the following sections I provide an assessment of these five discharge consents against the relevant criteria in section 105 of the Act. I rely in particular on the evidence of Messrs Chris James and Graham Levy, and Drs Brian Coffey and David Black in making these assessments.
234. Discharge Consent (#104555) for the discharge of dust to air from the concrete batching plants at two locations on the site.
- s105 (1)(a): This discharge involves a small amount of dust and particulate matter being discharged from a concrete batching plant. Dr Black has assessed these effects, and does not consider any harmful effects will arise to public health or to people within the receiving environment. The evidence of Dr Coffey is also that any adverse effect on aquatic ecology will be minor and the risks of any discharge are low.
  - S105 (1)(b): Concrete is required on the site for turbine pads/foundations. It is impractical to truck concrete to the site, so a batching plant is proposed on the site. This is common practice for many wind farms.
  - s105 (1)(c): It is my understanding that there are no practicable alternatives, and given the appropriately low nature of potential effects arising from the discharge, no alternative has been investigated.
235. Discharge Consent (#104556) for the discharge of dust to air from the mobile crushing plants. Based on the evidence, it is highly unlikely that this discharge will cause a nuisance to any person beyond the boundary of the site, or cause any adverse environmental effect within the site.
- s105 (1)(a): This discharge involves dust being discharged from a mobile aggregate crushing plant. Dr Black has assessed these effects, and does not consider any harmful effects will arise to public health or to people within the receiving environment.

- s105(1)(b): Some aggregate can be sourced from site for use on access tracks, which would reduce overall cost and the volume of aggregate (and hence trucks) that would be required from off-site. The approach adopted also utilises aggregate that would otherwise need to be disposed of, resulting in an efficient use of the aggregate resource.
  - s105 (1)(c): The main alternative would be to dispose of rock on site at the identified spoil sites. This would cause an increase in trucks required to bring aggregate to the site, and also increase the amount of fill that would need to be disposed of to spoil sites. Given the appropriately low nature of potential effects arising from the discharge, no other alternative has been investigated.
236. Discharge Consent (#104557) for the discharge of wastewater from two 'operations and maintenance facilities' to land.
- s105 (1)(a): The discharge will be to an appropriately designed septic tank system, which will include underground disposal.
  - s105(1)(b): Mighty River Power has chosen to dispose of wastewater via disposal to ground as this technology is well understood, relatively common, readily serviced, and the evidence is that it will have minimal effects on the environment, including no adverse effect on the water supply catchment. The design of the system will be such that it can treat the expected volume and nature of effluent.
  - s105 (1)(c): There are a number of alternative technologies, which all largely result in a discharge of wastewater to ground. Other alternatives include removing all waste from site by tanker, which in my opinion is not necessary given the low risk and minor nature of the potential adverse effects. Another alternative is discharging to an alternative catchment or receiving environment. Again, this is not an option due to the more sensitive nature of that receiving environment – the only nearby option being the Turitea Water Supply catchment, which would involve underground piping of effluent to that catchment.
237. Discharge Consent (#104558) for the discharge of stormwater from substations to land. Again I note that the discharges are to land not within the city water supply catchment.
- s105 (1)(a): In the event of a spill of transformer oil, the substations are entirely bunded, and plate separators will be in place to prevent the discharge of transformer oil to the environment. This is common and proven technology at substation sites around the country. There are two stormwater discharge points, given there are two substation sites. The first, at the proposed Plantation substation discharges to the east of the site to the Tararua catchment. This has been assessed by experts as being an appropriate receiving environment. The second proposed substation at Browns flat is located within a sensitive environment, and so stormwater will be piped to discharge into the adjoining catchment

onto farmland, which has been assessed by Dr Coffey as an appropriate receiving environment.

- s105(1)(b): The location of the substations has been dictated by a number of factors, including to provide maximum avoidance or mitigation of relevant environmental effects (and therefore an appropriate discharge location). The transformers are also banded to contain oil in the event of a spill. The evidence is that it is best practice to discharge stormwater via a plate separator.
- s105(1)(c): No reasonable alternative exists to the discharge of stormwater as proposed. The alternative receiving environment, being the Turitea Water Supply catchment in both cases, is considered by experts to be too sensitive.

238. Discharge Consent (#104559) for the discharge of cleanfill to land.

- s105(1)(a): The discharge is for cleanfill to land. Up to 740,000 cubic metres of fill may need to be disposed of on the site as a result of earthworks for the access tracks and turbine platforms. Wherever possible, cleanfill will be used on access tracks to meet design requirements. However, the balance of cleanfill (740,000m<sup>3</sup>) will be disposed of at identified cleanfill disposal sites. The receiving environment is largely farmland, although some sites within the Reserve are also identified. Each cleanfill disposal site will be contained by appropriate silt fences or other devices to contain any sediment laden runoff that may occur. In addition, the existing vegetation provides an excellent and proven natural 'filter' for any sediment laden runoff that may escape.
- s105(1)(b): The reason for discharging cleanfill to land, and at the disposal sites that have been identified, is that it is the best option available. Other options would involve removing the cleanfill from site, but the potential adverse traffic effects from this would likely be significant. Furthermore, removing the cleanfill from site would still require a suitable alternative location, which would likely involve similar potential adverse effects. Material will be placed at engineered locations.
- s105(1)(c): There are two alternative methods. Firstly, to identify alternative spoil disposal sites. Mr James' evidence is that extensive field work and design work was done to identify the best locations, in consultation with Mr Shaw. The second approach is to remove the spoil from site by truck. While this is possible, it would be uneconomic, would still need to be disposed of elsewhere, and the impacts of such a significant number of additional truck movements would likely be unacceptable.

239. Discharge consent (#104560) for the discharge of stormwater from roads and turbine platforms and other areas to land.

- s105(1)(a): All stormwater discharges will be appropriately managed with sediment management devices, which will treat stormwater to remove sediment according to the

best practicable option. Following treatment and a range of control measures, Dr Coffey considers that each receiving environment is able to accommodate such discharges without an unacceptable adverse effect on aquatic ecology or life supporting capacity of waterways.

- s105(1)(b): There are no other options for dealing with stormwater on the site. The measures described by Mr Levy to control the discharge of sediment laden stormwater run-off are such that the adverse effects are considered acceptably low.
- s105(1)(c): There are no other practical alternative methods of discharge for stormwater on a site of this size. Receiving environments are varied around the site. Wherever possible, discharge to the water supply catchment is avoided through the design of the access tracks and their cross-fall, so that discharges occur to the adjoining catchment.

240. Overall, it is my conclusion that, having had regard to the matters set out s105(1)(a), (b) and (c) of the RMA, the activities associated with the six discharge consents meet the requirements of this section of the Act. The approach taken by Mighty River Power has sought to minimise discharges to any sensitive receiving environment, and has identified the best practicable option for each proposed discharge.

### 4.3 SECTION 107

241. Based on the evidence of Messrs Levy and James and Dr Coffey, it is my conclusion that there is a high level of confidence that none of the effects identified in section 107 of the Act will arise. On this basis, I further conclude that there are no reasons why the Board is unable to grant the discharge consents applied for in relation to section 107 matters. In particular, the adverse effects of all discharges will be avoided, remedied or mitigated to the appropriate level. The sensitive nature of the water supply catchment has been appropriately recognised and provided for.

### 4.4 SECTION 141B(2)

242. The Minister for the Environment has cited four reasons for 'calling in' the proposal under the Act. I wish to comment on three of those reasons:

- The first is that the *"proposal affects, or is likely to affect, or is relevant to, New Zealand's international obligations to the global environment"*. The evidence of Dr Layton is that the Turitea Wind Farm with an installed capacity of 336MW and operating at 45% utilisation could displace approximately 484,950 (gas) and 1,148,775 (coal) tonnes of CO<sub>2</sub>. This in turn means that New Zealand will avoid Kyoto liability of between \$10.6-25m per year (calculated by Dr Layton at a conservative level of \$21/tonne).

- The third reason cited for calling in the proposal is that it *“will contribute to the achievement of the national target of 90 per cent of electricity generation from renewable energy sources by 2025”*. As previously noted, and outlined by Dr Layton, the Turitea Wind Farm will make a significant contribution to the overall installed renewable generation in New Zealand.
- Finally, *“the proposal will have national benefits deriving from the use and development of renewable energy in accordance with Section 7(j) of the RMA”*. These benefits are multi-faceted. Firstly, at regional and national level, the significant economic benefits include cheaper electricity for consumers, lower costs of electricity production and a reduced tax burden on New Zealanders as a result of emissions avoidance (valued at between \$10.6 - 25 million/year). Furthermore, at a local level Dr Layton has identified short term benefits during construction amounting to \$504m including 250 FTE jobs. The long term impact includes revenue benefits to PNCC (and the general rate-paying public), landowners, and 26 FTE jobs per year. In my assessment, these benefits in total are significant. Secondly, the Turitea Wind Farm (will help to boost electricity security of supply nationally). The key factors that should be considered in relation to this matter are the lower transmission losses, as the Turitea Wind farm will generate electricity close to the source of demand (that is, the North Island), and is close to Palmerston North and a national grid connection. Furthermore, the Turitea Wind Farm will complement hydro-generation, as when generating will allow water stored in hydro lakes to be retained. Overall, it is my assessment that the proposal is highly consistent with section 7(j).

243. In assessing the proposal against the criteria set out by the Minister, it is my conclusion that the Turitea Wind Farm is a project of national significance which will deliver significant benefits to the national and local community alike. The Turitea Wind Farm will make a major contribution to New Zealand's economy while also assisting to meet our international obligations to reduce greenhouse gas emissions. The project is of significant size in terms of both generation and installed capacity and as a renewable project, also meets other Government objectives. These unequivocal and significant national benefits are critical when assessing the proposal. However, the adverse effects of the proposal must also be considered, and the proposal assessed as a whole on its merits. I now turn to Part 2 of the Act, which provides the framework for that assessment to occur.

## 4.5 PART 2

244. In my assessment of Part 2, I consider sections 6, 7 and 8 initially, and then provide an overall assessment of Part 2, and in particular section 5, of the Act.

#### 4.5.1 SECTION 6

245. Those matters of national importance that in my opinion are relevant to the Turitea Wind Farm are set out below (in bold):

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

***(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:***

***(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:***

***(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:***

*(d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*

***(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.***

*(f) the protection of historic heritage from inappropriate subdivision, use, and development.*

*(g) the protection of recognised customary activities.*

246. Section 6(a) is relevant to this proposal in terms of the margins of wetlands and rivers. The proposal involves works in watercourses, and adjacent to wetlands and rivers within the site. The evidence is that the works required within the rivers and streams on the site will have an appropriately low and temporary adverse effect. Furthermore, the proposal has been modified to remove turbines from the Browns Flat 'wetland.' Overall, the experts have concluded that the use and development of the site as proposed is appropriate in relation to wetlands and rivers and their margins.

247. Both Messrs Wyatt and Brown conclude that the wind farm does not meet the criteria for an outstanding section 6(b) landscape. On this basis, I consider that section 6(b) matters have been recognised and provided for.

248. As previously described, the site includes the Turitea Reserve, which amongst other things, protects a large area of indigenous habitat. While that habitat is valuable, it is not considered by Mr Shaw to be significant and therefore in my interpretation, the indigenous vegetation on the site which is affected by the proposal is not “significant” in terms of section 6(c).
249. Dr Coffey identifies the headwaters of a number of streams as providing significant in-stream habitat for indigenous fauna. Dr Coffey goes on to note that the operation of the Turitea Wind Farm will cause no on-going issues for the protection and conservation of freshwater resources. However, he does recognise the “potential for adverse effects on high quality and sensitive freshwater communities in receiving water catchments during the construction phase of the proposed Wind Farm”. His evidence is that with a number of best practice and construction measures in place, the potential construction risks can be avoided, and therefore I consider section 6(c) matters to have been recognised and provided for.
250. In relation to section 6(e) of the RMA, as previously noted, consultation with tangata whenua is ongoing and issues related to turbine number 55 have not been finally resolved. Should tangata whenua identify the construction and operation of this turbine as causing an unacceptable adverse effect at this location, it would be my conclusion that this turbine be deleted in order to recognise and provide for section 6(e) matters. In all other respects, I consider that section 6(e) has been recognised and provided for.
251. I consider that the matters that I have stated are the only section 6 matters of relevance in the context of the present applications. With reference to the expert evidence presented and my own assessment, I therefore conclude that these matters have been recognised and provided for, and that the Turitea Wind Farm proposal is consistent with section 6 of the Act.

#### 4.5.2 SECTION 7

252. Relevant section 7 matters are identified in bold, as follows:

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

**(a) Kaitiakitanga:**

**(aa) The ethic of stewardship:**

**(b) The efficient use and development of natural and physical resources:**

*(ba) the efficiency of the end use of energy:*

**(c) The maintenance and enhancement of amenity values:**

***(d) Intrinsic values of ecosystems:***

***(f) Maintenance and enhancement of the quality of the environment:***

*(g) Any finite characteristics of natural and physical resources:*

*(h) The protection of the habitat of trout and salmon:*

*(i) the effects of climate change:*

***(j) the benefits to be derived from the use and development of renewable energy.***

253. In relation to section 7(a) and (aa) I consider the proposal is consistent with these matters. This is because, in accordance with the evidence of Mr Henry, Mighty River Power has consulted with the community, and iwi in particular, and acknowledged their concerns and values. Furthermore, the evidence of Mr Henry and Dr Clough responds to issues raised, and therefore recommends that resource consent conditions should be imposed regarding accidental discovery protocols and general site observation by tangata whenua during earthworks in sensitive locations. I consider this to be an appropriate and practical means for Mighty River Power to enable the exercise of these principles. In my opinion, section 7(a) and (aa) have been given particular regard to.
254. The evidence of Mr Wong Too and Dr Layton is particularly relevant to efficient use and development. In particular, Mr Wong Too concludes that the establishment of a wind farm in this location will result in a highly efficient wind farm, as the wind resource is of international 'quality.' Specifically, the consistency of wind speeds means the efficiency of wind farms in this location are well above international averages. The Turitea Wind Farm provides a significant opportunity to optimally harness this valuable resource. The evidence of Dr Layton has provided detailed assessment of the economic efficiency of the project, and he concludes that the Turitea Wind Farm will improve resource use efficiency through the harnessing of a free resource (wind) to create something of value.
255. In terms of the maintenance and enhancement of amenity values, there are two key issues in my opinion – potential adverse effects arising from noise and on landscape and visual amenity. As already outlined above, and in the evidence of other witnesses, I consider that any adverse effects on amenity arising from both noise and visual amenity will be acceptable.
256. Finally, while not specifically identified as an amenity issue, I have also considered the potential impact on recreation. My assessment is that there is no change to the access arrangements to the Turitea Reserve. Furthermore, the experience of those people enjoying Reserve areas adjoining the Turitea Reserve is unlikely to be adversely affected, although

there may be a change to the environment. I consider the Turitea Wind Farm site, once developed, will maintain the present levels of amenity and recreational opportunity, and therefore, section 7(c) has been given particular regard to.

257. The intrinsic values of ecosystems has been raised by the Department of Conservation in its submission as a matter of concern. I refer to the evidence of Mr Shaw, who concludes that the adverse effects on terrestrial ecosystems within the Reserve are acceptable. Professor Craig also suggests an approach to monitoring bird strike. Dr Coffey also considers the life-supporting capacity of the instream habitat to be provided for, and on this basis, I consider their intrinsic values have been recognised and provided for. Overall, the evidence is that the functioning of the ecosystems within the Reserve are not adversely affected, and that the significant majority of the Reserve will remain unaffected. Therefore, I consider the intrinsic value of the ecosystem as a whole is not affected, and that section 7(d) has been recognised and provided for.
258. Maintaining and enhancing the quality of the environment is a further matter to which the Board must give particular regard. My assessment of effects that arise as a result of the Turitea Wind farm proposal, based on the evidence of Mighty River Power's various experts, is that the quality of the environment when taken as a whole will not be adversely affected, and will in fact be maintained. Whether an enhancement occurs is dependent on the weight accorded to the benefits derived from having the wind farm as part of the environment versus not. In my assessment, the wind farm will provide a range of benefits that will in fact enhance the environment, even though this is not a requirement under section 7, particularly when the broadest definition of the environment is taken, as is required under the RMA. These benefits have been considered elsewhere.
259. Finally, under section 7(j), particular regard must be had to the benefits to be derived from the use and development of renewable energy. The Turitea Wind Farm can provide a range of national benefits to electricity consumers, including; security of supply, reduced cost of electricity, reduced dependence on fossil fuels, efficiencies in power distribution, plus a range of regional benefits arising from the construction and operation of the Wind Farm. As a renewable energy project, I consider that section 7(j) lends considerable support to the project.

#### **4.5.3 SECTION 8**

260. Section 8 of the Act requires a consent authority to take into account the principles of the Treaty of Waitangi. As discussed by Mr Henry, consultation with tangata whenua has been undertaken and is ongoing and in accordance with Tikanga Maori. This will continue through all stages of planning and, if consents are granted, construction.

261. My assessment of section 8 is based on the information which is presented and summarised in the evidence of Mr Henry and the relevant submissions he has identified. In my opinion, the consultation undertaken by Mighty River Power is consistent with the requirements of the various objectives and policies in the RPS and District Plans, and with what I would term 'best practice'. On the basis of that consultation, I am able to conclude that the proposal is consistent with section 8 of the RMA, and that the principles of the Treaty of Waitangi have been taken into account.

#### **4.5.4 SECTION 5 AND OVERALL PART 2 ASSESSMENT**

262. There are a number of aspects to section 5 and I address each of these in turn.

##### **(a) Use, Development and Protection of Natural and Physical Resources**

263. The Turitea Wind Farm will involve the use and development of the significant 'wind resource' available on the site. This resource is significant by international and national standards. The wind resource itself is a natural resource in terms of the RMA that needs to be sustainably managed.

264. In order to harness this wind resource, the construction of the Turitea Wind Farm will involve the use and development of other natural and physical resources, while the majority of the Reserve and farmland surrounding it is not affected. On the basis of all the evidence presented for Mighty River Power, I consider the Turitea Wind Farm involves the use, development and protection of natural and physical resources in a manner that will promote the sustainable management purpose of the Act.

##### **(b) Providing for Social, Economic and Cultural Wellbeing**

265. The generation of electricity and its secure supply is imperative to the social and economic wellbeing of New Zealanders and New Zealand Business. The generation of electricity is therefore by implication an opportunity to allow people to provide for their overall wellbeing. With growing awareness of the challenges of generating electricity, particularly in a global context of climate change, the ability to generate electricity from renewable sources is, in my opinion, an increasingly essential activity. The statutory policy framework supports this conclusion, with support from Part 2, a proposed NPS on Renewable Electricity Generation, various national strategies, and the RPS. At a national, regional and local level, the project provides significant benefits to the social and economic wellbeing of people and communities. Mighty River Power has also sought to engage with tangata whenua to ensure they can continue to provide for their cultural wellbeing and the evidence is that this can occur.

**(c) Health and Safety**

266. In relation to health and safety, the evidence of Dr Black is that the Turitea Wind Farm proposal is unlikely to have any foreseeable effects on the health and safety of people or communities. No other health and safety concerns have been identified in relation to noise or traffic. Given the importance of the Turitea Reserve as a water supply catchment, there is potential concern relating to the ability to protect water quality from a public health perspective. However, based on the evidence, I consider it is unlikely that there will be any adverse effect on the water supply infrastructure, water quality or public health arising from the proposal.

**(d) Sustaining the Potential of Natural and Physical Resources for Future Generations**

267. At a strategic level, the development of renewable energy is at its very core, completely aligned with the principle of protecting resources for the future, that is, the proposal does not involve the depletion of resources that may be required by future generations.

268. Given the inherent “sustainability” of wind generation, the only potential concern for future generations relates to the potential for adverse effects to arise during construction that may remove the potential of future generations to use natural and physical resources. My assessment of the evidence presented by experts is that there are no resources that will be ‘depleted’ as a result of the project so as to risk their availability for future generations. On this basis, I consider that the project is consistent with protecting the needs of future generations.

**(e) Safeguarding the Life Supporting Capacity of Air, Water, Soil and Ecosystems**

269. In relation to the Turitea Wind Farm, the fact that life supporting capacity will be safeguarded is reasonably clear. In relation to the civil earthworks, it is the evidence of Messrs Levy, James and Shaw, and Dr Coffey that the life-supporting capacity of air, water, soil and ecosystems will be safeguarded. Therefore I consider that the package of measures to avoid, remedy or mitigate these effects is appropriate and consistent with the requirements of section 5(2)(b) of the Act.

**(f) Avoiding, Remediating or Mitigating Adverse Effects**

270. The Turitea Wind Farm project has been strongly steered by the need to avoid, remedy or mitigate adverse effects. In this respect, a range of adverse effects have been avoided through the Wind Farm layout design review process, and steps have been described by various experts including Messrs Henry and James. The most notable adverse effects are

those related to landscape and ecology. These were assessed by the experts to be initially significant, and therefore, the need to remedy or mitigate these effects arises.

271. Dealing firstly with the significant ecological effects, the evidence of Mr Shaw in relation to potential adverse ecological effects is that a package of measures is required to remedy these effects. He proposes significant ecological restoration, revegetation, and weed and pest control as the key measures to remedy these adverse effects. With these measures considered, Mr Shaw concludes that the adverse effects are appropriately low.

272. Turning to landscape matters, the potential for adverse effects on landscape and visual amenity effects have also been initially assessed by Mr Wyatt as being significant. Mr Wyatt, has undertaken a comprehensive assessment of the nature of adverse effects from various vantage points around the site. In relation to residential viewpoints in particular, he noted a number of locations where he considered the adverse effects to be significant. To avoid these effects is not possible, as this would require that no turbines be constructed, and therefore the significant project benefits could not be realised. Mr Wyatt has proposed localised mitigation planting for those residents he considers most notably affected. His recommendation is to put the offer of 'screening' planting in place to mitigate these effects for one year, and allow residents to take up this mitigation package. With this mitigation in place, Mr Wyatt concludes that the overall adverse effect on landscape and amenity values is acceptable.

273. The evidence has demonstrated the potential adverse effects that do arise are able to be mitigated so they are appropriately low.

**(g) Summary**

274. I have identified the relevant aspects of Part 2 of the RMA, and assessed the Turitea Wind Farm proposal against them, as well as the specific aspects of section 5. I now turn to making an overall assessment of the proposal against the sustainable management purpose in section 5 of the RMA. This requires an overall assessment of the project benefits and adverse effects to determine whether, on balance, granting consent for the proposal will achieve the purpose of sustainable management.

275. With respect to project benefits, in my assessment there are both significant national benefits and significant regional/local benefits. I consider the significant national benefits to be: enhanced security of electricity supply, reduced reliance on thermal generation, displacement of greenhouse gases and meeting New Zealand's international obligations and associated savings, and delivering price savings to electricity consumers nationwide.

276. I consider the significant regional and local benefits to be the short and long term economic benefits relating to the immediate investment in the region by Mighty River Power, the creation of jobs, and revenue flowing to local landowners and the PNCC (to all ratepayers). Therefore, based on the evidence provided, it is my conclusion that all of the identified project benefits are significant – either as national benefits or regional/local benefits. When considered as a whole, these benefits are significant.
277. In terms of the adverse effects which have been identified by the experts, two experts identify potential adverse effects that are significant at a local and site level - Mr Wyatt in relation to landscape amenity and Mr Shaw in relation to ecological values. In relation to landscape amenity, Mr Wyatt concludes that the most significant adverse effect is on residential properties in close proximity to proposal wind turbines. He concludes that effects on views from other public locations, cumulative effects and effects on the skyline of the Tararua Ranges are acceptably low. However, when the proposed landscape mitigation is included, his conclusion is that in nearly all instances visual impact is reduced from more than minor/significant to minor and in some cases *de minimis*. In relation to impact on ecological values, Mr Shaw notes that the potential adverse effects on ecological values associated with specific parts of the proposal are significant, but these effects become acceptably low when remediation is accounted for. Overall, I consider that, based on the evidence of Mr Wyatt and Mr Shaw, these significant adverse effects can be adequately remedied or mitigated to the extent where they can be considered appropriate.
278. Other experts have identified a range of adverse effects which are assessed as appropriately low. These include noise effects, public health effects, fish-passage and in-stream aquatic fauna, effects on the road network and road user safety, effects on water quality, and effects on cultural values. Taken in total, I conclude that when assessed with the specific mitigation measures and resource consent conditions proposed, these adverse effects can be considered as being acceptable.
279. Finally, there are a range of adverse effects which are assessed by experts as being *de minimis*. These effects include those on radio-communications, aviation, archaeological sites, recreation and tourism, and other construction related effects contained within the site. These adverse effects can be managed with appropriate consent conditions.
280. Also relevant in making an overall judgement as to the appropriateness of the Turitea Wind Farm is the statutory policy framework. In my assessment, the policy framework provides support for the Turitea Wind Farm proposal. Important direction from the policy framework comes from the RPS which promotes the use and development of renewable energy generation in the region. In the circumstances of this proposal, I consider this to be compelling, because at a regional policy level, there is policy support for the activity that is

proposed. The RPS also includes landscape provisions which require protection of outstanding landscapes. After expert assessment and interpretation of these provisions, I consider they have been provided for as the landscape is not identified as 'outstanding'. Finally, the RPS notes that adverse effects must be avoided, remedied or mitigated. The evidence presented by Mighty River Power's experts is that this will occur. This evidence further supports my assessment that the proposal is consistent with the relevant planning objectives and policies, and when taken as a whole, leads me to conclude that the proposal is consistent in an overall sense, with the planning framework.

281. Finally, the District Plans also provide a degree of guidance for the proposal. The Palmerston North District Plan identifies that wind farms are an appropriate part of the rural environment, and as such provides for them as a discretionary activity so that their appropriateness can rightly be assessed on a case by case basis. In my opinion such an assessment is appropriate given the variable nature of any wind farm proposal and the wide range of potential adverse effects they may have. The Palmerston North District Plan does include specific policies which are relevant to the assessment of wind farms, and my assessment is that the Turitea Wind Farm is consistent with those policies. While the Tararua Plan is silent on wind farms, in my opinion the rural management area is the most appropriate zone within the district, and that when considered against the objectives and policies of the zone, I consider the proposal is consistent with these provisions.

282. A final factor that I consider relevant to the overall assessment of the project is the range of government policy initiatives that are relevant to renewable electricity generation projects. I consider the Turitea Wind Farm is entirely consistent with, and indeed strongly supported by such initiatives, including the NZES and NZEECS, because it will:

- assist in the reduction of greenhouse gas emissions through the displacement of non-renewable energy generation;
- advance the Government's target of having 90% of electricity generated from renewable sources by 2025; and
- provide for the more efficient generation and transmission of energy.

283. In light of the above, the Turitea Wind Farm represents an important opportunity for a significant addition to New Zealand's renewable electricity generation capacity. The project will efficiently utilise a nationally significant wind resource, strategically located in close proximity to the national grid and a centre of significant electricity demand.

284. The key to determining whether a project will meet the sustainable management purpose of the Act is not the quantum of benefits, but first and foremost, the nature and scale of the potential adverse effects of the proposal, taking into account measures to remedy and

mitigate those effects. The expert evidence is that the potential adverse effects are able to be appropriately avoided, remedied or mitigated. My assessment is that while initially there are some significant adverse effects, these have been appropriately mitigated. A number of other less significant adverse effects have also been identified, and appropriate mitigation and resource consent conditions have been developed. I have based my assessment on all of the adverse effects identified, and I conclude that when considered with mitigation and the proposed resource consent conditions, they are appropriate when considered in isolation, cumulatively or in total.

285. The benefits to be obtained from the project are such that in my opinion, they will well outweigh the localised environmental effects it will generate, albeit that these effects are considered appropriate after remedial and mitigation measures are implemented. Therefore, it is my overall assessment that the Turitea Wind Farm is wholly consistent with section 5 as further informed by sections 6, 7 and 8 of the Act. It is therefore my overall judgement, that granting consent for the Turitea Wind Farm will promote the sustainable management purpose of the RMA.

## **5 SUBMISSIONS ANALYSIS**

286. The Turitea Wind Farm proposal was publically notified, with submissions closing on 23 February 2009. 702 submissions were received on the proposal. I have reviewed the draft submissions report, dated March 2009. The submission summary report identifies seven categories by which to summarise and assess submissions, and identifies the resource management issues raised that must be considered by the Board. Given the response to submissions provided by each of Mighty River Power's relevant experts, it is only necessary for me to comment on each category as follows:

- In relation to social and cultural effects (Category 2), I note the following:
  - I have reviewed submissions that raise adverse effects on recreation. In my assessment, there will be few if any adverse recreation effects arising from the proposal. Specifically, access arrangements to the reserve remain restricted and unaffected. While the experience of the surrounding reserve areas may change, this is not considered by Mr Wyatt to be a significant effect. Finally, in recognition of concern raised by submitters about traffic along Kahuterawa and Greens Roads, the amount of construction traffic that is to use these roads has been significantly reduced.
  - A number of submitters have raised the issue of precedent in relation to establishing wind farms in reserves. In my opinion, this precedent effect is not relevant for the Board to consider. Specifically, I note that the TRMP specifically provides for Wind Farms, and in order for any precedent to be established, any

other reserve would need to follow the same process. Any case must be considered on its merits, as was the case in this instance with the High Court confirming the PNCC's decision to amend the reserve status. In addition, all other wind farm developments would also have to undergo assessment through the consenting process under the RMA.

- In relation to economic effects (Category 3) I comment as follows:
  - In relation to submitters requests to more evenly distribute the commercial arrangements between Mighty River Power and landowners, I do not consider this to be an RMA matter.
  
- In relation to regulatory and strategic issues (Category 5) I comment as follows:
  - Some submissions have raised the issue of alternatives, in particular the need to consider other forms of energy generation. The Fourth Schedule of the RMA requires consideration of alternatives. Specifically, Clause 1(b) notes that "*Where it is likely that an activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity*". In this instance, while significant adverse effects have been identified I consider it inappropriate and unnecessary to consider alternative locations for the wind farm given the quality of the wind resource available on the site. I have also previously addressed the issues relating to alternatives as relevant under section 105 RMA.
  - A number of submissions identified the need to develop additional national policy before the Turitea proposal is considered. The RMA does not support this approach, and planning case law provides clear interpretation of the Act that proposals are to be assessed against the policy framework that applied at the time of lodgement of the application. Of course, I do note that national policy guidance is being prepared in the form of the proposed NPS on Renewable Electricity Generation.
  
- In relation to process issues (Category 6), one issue not addressed specifically relates to decommissioning. Mighty River Power has not sought consent to decommission the wind farm. Should the consent holder chose to decommission the wind farm in the future, an assessment of the regulatory requirements would be undertaken at that time.

287. In conclusion, a large number of submissions have been received, and these have raised a wide range of issues in relation to the proposal. The summary of submissions document has provided a robust summary of issues raised, and my assessment is that the evidence presented by experts appearing in support of Mighty River Power has addressed the legitimate resource management issues raised by submitters. The proposed resource consent conditions also respond to a number of the concerns raised by submitters. Overall, I

consider that the Board can have confidence that the concerns of submitters have been adequately and appropriately addressed.

## 6 PROPOSED CONSENT CONDITIONS

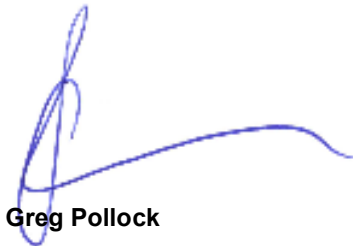
288. In accordance with the Board's directions, Mighty River Power has circulated an initial set of proposed consent conditions with its expert evidence (see **Appendix 10**). These conditions are based on, and reflect, the recommendations and advice of its various expert consultants, as far as that has been possible to date. They also incorporate general conditions considered standard and appropriate for developments of this type.
289. However, as is common with such projects, the development of conditions is an iterative process. In particular, it will be informed through further engagement with key stakeholders (including the Department of Conservation and iwi), as well as the outcomes of the expert caucusing discussions as also directed by the Board. I have been (and will remain) closely involved in the process of developing the conditions, and it is one that I support.
290. Mighty River Power therefore intends to present a modified and more comprehensive set of conditions prior to, or at, the start of the hearing of these applications. These may even be further refined as a result of discussions during the hearing itself. I will therefore provide detailed comment on the conditions, and their appropriateness from a planning perspective, once those have been more fully developed through the current process.

## 7 CONCLUSIONS

291. The Turitea Wind Farm will have significant national and regional/local benefits, and in my opinion, these have been clearly demonstrated in the evidence presented by experts appearing in support of Mighty River Power.
292. The New Zealand Government has signalled a clear policy direction to provide for new electricity generation through renewable energy sources. Furthermore, additional generation is required to provide increased security of supply for future generations. The Turitea Wind Farm is a significant renewable energy project that is consistent with these strategies. The development is also consistent with section 7(j) of the RMA, which aims to encourage the use and development of renewable energy.
293. Overall, the proposal requires resource consent as a discretionary activity in accordance with the relevant statutory documents outlined. I have considered the proposal against the relevant objectives, policies and standards from each of the applicable statutory planning

documents. Overall, I conclude that the objectives and policies support the proposal. The objectives and policies aim to ensure that any adverse effects on the environment are avoided, remedied or mitigated, and the assessment of the effects of Turitea Wind Farm by the experts giving evidence for Mighty River Power is that this will occur.

294. In addition, a number of the statutory documents provide a strong level of support for the development of renewable energy projects in the Region, recognising that while there are likely to be local adverse effects, the development of renewable energy has local, regional and national benefits.
295. Mighty River Power is seeking to construct a maximum of 122 turbines within 127 turbine zones. All effects have been assessed on the basis that a turbine is constructed in each of the 127 turbine zones, and so provides a maximum effects envelope. While slightly conservative, this approach provides a limited amount of flexibility around final turbine size and location, which is required because detailed design will rely on a decision regarding the type or model of turbines to be used. This will also allow Mighty River Power to take advantage of improvements in technology and long procurement lead times. In my opinion, this approach is entirely consistent with the purpose and principles of the Act, and will provide sufficient certainty in relation to the management of natural and physical resources, and in managing any potential adverse effects.
296. Overall, I conclude that the project has significant and compelling benefits to the local, regional and national community. Furthermore, the adverse effects of the Turitea Wind Farm have been avoided, remedied or mitigated, and are considered appropriate such that the sustainable management purpose of the Act will be achieved by granting consent.



**Greg Pollock**

Director – Planning, Beca  
Dated 1 May 2009