

IN THE MATTER

of the Resource Management Act
1991

AND

IN THE MATTER

of applications to the **WAIKATO
DISTRICT COUNCIL** and
WAIKATO REGIONAL COUNCIL
by **WEL NETWORKS LTD** for
resource consents to authorise the
establishment, operation and
maintenance of 28 wind turbines for
the generation of electricity and
associated activities on the
Wharauoroa Plateau near Te Uku

STATEMENT OF EVIDENCE OF BOYDEN EVANS

1. INTRODUCTION

Qualifications and experience

- 1.1 My name is Boyden Henry Evans. I am a landscape architect and a Director of Boffa Miskell Limited, environmental planners, landscape architects and ecologists. I am based in the Wellington office of Boffa Miskell. I have a Bachelor of Science, majoring in botany, from Victoria University (1974) and a post-graduate Diploma of Landscape Architecture from Lincoln University (1977). I am a Fellow of the New Zealand Institute of Landscape Architects.
- 1.2 I have practised as a landscape architect for 30 years, the past 21 years as a consultant with Boffa Miskell. I have worked on many large-scale development projects including wind farms, transmission lines, roading and infrastructure, quarries, residential subdivision, farm parks, resorts and open space and recreational developments. This previous work has involved landscape assessment, input into resource consent applications and district plan changes, master planning and detailed design. I have prepared and presented landscape evidence at many hearings and before the Environment Court.
- 1.3 I have had an interest in wind energy and wind farms since the early 1990s. In 1995 I spent 3 weeks in the UK visiting wind farms and meeting with agencies, developers and consultants involved in wind farm planning and design. I have

remained in regular contact with some of the UK wind consultants and through them have kept abreast of wind farm matters.

- 1.4 I coordinate Boffa Miskell's Wind Farm Group, which comprises 15 planning, landscape, ecology, and 3D specialist staff, who are involved in wind farm investigations throughout New Zealand. In 2005, as part of up-skilling the Boffa Miskell team on wind farm assessment, I organised a month-long visit to New Zealand by an experienced landscape consultant who has been involved with over 25 wind farm projects in the UK and the Netherlands.
- 1.5 Over the past five years I have been involved in wind farm investigations in Manawatu, Tararua, Wellington, Hawkes Bay and Porirua. I have also assisted colleagues from our other offices with wind farm investigations in various parts of the country. I prepared the landscape and visual assessments for the Te Apiti Wind Farm in 2003, the Tararua Wind Farm Stage 3, and the Okura Stage 1 (Titiokura) Wind Farm in 2005, Okura Stage 2 (Te Waka) Wind Farm¹ in 2006 and presented evidence at the consent hearings for these projects. I also presented evidence for the Okura Stage 1 (Titiokura) Wind Farm appeal to the Environment Court in 2006 and the Okura Stage 2 (Te Waka) Wind Farm appeal earlier this year. I am currently preparing the landscape and visual assessment for the Puketiro Wind Farm in Porirua.

Purpose and scope of evidence

- 1.6 I have been engaged by WEL Networks Ltd ("WEL") in connection with the company's proposal to establish and operate a wind farm on the Wharauora Plateau, near Te Uku in Waikato District. My role has been primarily to peer review the work undertaken for WEL by David Mansergh of Mansergh Graham, landscape architects. In that capacity I have reviewed and commented on the analysis conducted by Mr Mansergh and also on the review of Mr Mansergh's work undertaken by Stephen Brown of Stephen Brown Environments Ltd (report dated October 2007). The purpose of my evidence is to address issues arising from that analysis in relation to the Te Uku proposal in light of that analysis.
- 1.7 My evidence will:
- (a) Provide an overview of landscape issues associated with wind farms (Section 3)

1 Now known as Okura Wind Farm Stage 2 and the subject of this appeal.

- (b) Comment on the results of my peer review of Mr Mansergh's visual and landscape assessment report on the WEL Wind Park (Section 4).
 - (c) Comment on Mr Brown's peer review of Mr Mansergh's assessment (Section 5).
 - (d) Set out my overall conclusion (Section 6).
- 1.8 In preparing my evidence I have read Mr Mansergh's report, studied his visual simulations and other graphic material he prepared as part of this and I have had several discussions with him on his methodology and his conclusions. I have also reviewed draft and final versions of Mr Mansergh's expert witness evidence prepared for this hearing. I visited and drove over the site on one occasion and also viewed it from some of the distant and close viewpoints identified in Mr Mansergh's assessment report.
- 1.9 I have also read Mr Brown's Draft report prepared in February 2007, his section 92 Request report on 'Landscape, Amenity and Natural Character Effects, and his report *WEL Wind Park – Te Hauhiko O Wharauoa: Review of Landscape, Amenity and Natural Character Effects* (October 2007) I have also read the section 92 Request from Ana Maria d'Aubert, the planning officer engaged by Waikato District Council.
- 1.10 My evidence does not describe the key elements of the Te Uku proposal because other witnesses do that (especially Mr Burchett of Watershed Solutions Ltd), but I am familiar with the proposal as described in WEL's assessment of environmental effects dated July 2007, and as per Mr Burchett's evidence.

Relevant local experience

- 1.11 I am generally familiar with the landscape of the Waikato District, especially the areas around Mt Karioi, Mt Pirongia and Kawhia, although not from a professional perspective in recent times. I was the landscape architect with the Queen Elizabeth the Second National Trust (QEII Trust) for 6.5 years (1979-86) and during that time completed several significant landscape protection projects in the Waikato. These included the Mt Karioi Landscape Study (1979) that led to the protection of large tracts of native forest as well as wetlands and other landscape features in this area through QEII Open Space covenants and other protection mechanisms.
- 1.12 I was also responsible for the Waipa Landscape Study that involved a district-wide landscape assessment and promoted awareness of landscape issues and management of landscape change through a series of booklets sent to all

landowners. Through the project significant landscape features such as remnant native forest, wetlands and peat lakes were protected through open space covenants. In addition, throughout my time with the Trust, I was involved in negotiating open space covenants with many, mainly rural landowners in the Waikato.

Expert Witness Code of Conduct

- 1.13 I have been provided with a copy of the 'Code of Conduct for Expert Witnesses' contained in the Environment Court's Consolidated Practice Note 2006 [NZRMA 357]. I have read and agree to comply with that Code. Other than where I state that I am relying upon evidence of another person, my evidence in this statement is within my area of expertise and experience. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2. SUMMARY OF EVIDENCE

- 2.1 In my opinion, after having read the visual and landscape assessment prepared by Mr Mansergh, and discussing key aspects with him, together with reading Mr Browns' peer review report, I conclude that the methodologies used are robust and that I support the conclusions reached with regard to landscape and visual effects. I have questioned some of the details of the approach used by Mr Mansergh, especially with regard to undertaking and presenting some aspects of potential visual effects in his photo montages, but this does not alter my view of the overall conclusions reached.

- 2.2 While I concur with many of Mr Brown's generic comments on the landscape assessment of wind farms and their potential landscape and visual effects that he raises in his peer review report, together with some of his specific comments on Mr Mansergh's assessment, I do not agree with some of his criticisms of Mr Mansergh's work. However, I am pleased to see that the additional fieldwork Mr Brown completed has enabled him to arrive at similar conclusions to Mr Mansergh with regard to landscape and visual effects.

3. LANDSCAPE AND VISUAL ASPECTS OF WIND FARMS

- 3.1 The purpose of this section of my evidence is to make some general comments which I consider relevant to the appropriate assessment of wind farms and to comment on the techniques which are commonly used for visual assessment, including their usefulness and limitations.

General comments

- 3.2 The pattern of wind farm development in New Zealand is similar to that of several other countries - a relatively slow start followed by a period of intense activity where numerous wind farms are established on prime wind farm sites. The level of public response to wind farm development commonly follows a pattern where often there is general initial acceptance of a wind farm being developed in an area, and even development of a second one nearby, but when subsequent wind farms are proposed in the same geographic area, public support is often replaced by strident opposition. This pattern has occurred in the UK, especially in Scotland, and in parts of Europe where large scale wind farms have been developed.² A similar pattern has also occurred in the Manawatu, is starting to emerge in Otago and in Wellington, and it could be said to be also emerging in the Waikato.
- 3.3 As has occurred in many other countries, local anti-wind farm lobby groups in New Zealand draw heavily on evidence and material that relates to wind farm development in other places, both overseas and elsewhere in New Zealand. Visual and landscape impacts are typically the main or one of the main issues people oppose in relation to wind farm development.
- 3.4 The level and complexity of landscape and visual assessments carried out in New Zealand has increased markedly since those that were completed for the Haunui Wind Farm in the Wairarapa in 1995 or for Te Apiti in 2003. The level of scrutiny by local authorities, community groups and the public has also ramped up substantially since those early proposals, as have the length and detail of the resource consent decisions and the conditions imposed.
- 3.5 To date the sites proposed for wind farms in New Zealand are generally on prominent and highly visible ridgelines, which have often been identified as outstanding landscapes or protected ridgelines.
- 3.6 Cumulative landscape and visual effects have very quickly become a significant issue in the assessment of wind farm proposals due to several developers focussing on prime wind producing sites close to the grid, as has occurred in the Manawatu, Hawkes Bay, Otago and the Waikato.
- 3.7 The purposes of a professional landscape assessment are to provide a comprehensive overview and analysis of the proposal and to provide sufficient information to enable territorial and other agencies, community and interest groups, and the public to gain a thorough understanding and clear impression of the

² As opposed to small scale developments of a few turbines as has occurred throughout Denmark.

proposal in its landscape context. In terms of landscape and visual aspects, it is almost impossible to substantially shift people's perception of wind farms, especially with regard to proposals in their locality. In my experience of New Zealand wind farms and familiarity with overseas wind farm projects, someone who dislikes turbines or is opposed to wind farms is highly unlikely to change their opinion in response to the assessment information produced by landscape and other professionals.

- 3.8 Surveys carried out overseas and similar ones conducted in New Zealand, clearly show that while there is overwhelming public support for wind energy, levels of support decline in areas where respondents live close to a proposed wind farm and, in particular, can see turbines from their homes. Some overseas studies, however, have shown that the level of public acceptance increases with increasing distance from respondents' properties / homes.
- 3.9 It is not surprising that landscape and especially visual issues are at the forefront on the siting of wind farms because people typically describe their feelings and experiences about places in terms of landscape and, in particular, in terms of what they see. It should also be noted that while visual effects are what most people relate to and can describe, effects on landscape character and values and peoples' perception of the landscape are also important to address. It is not just a matter of "if it can't be seen, it's okay" if a proposed activity may change the way people feel and interact with the landscape. Landscape and visual assessments certainly do need to address both landscape and visual aspects. However, from my familiarity and understanding of investigations carried out both overseas and in New Zealand, potential *visual* effects attract the most attention.

Methods used to demonstrate visual effects of wind farms

- 3.10 Various methods are used to help illustrate visual effects – annotated photographs, static visual simulations (or photo montages), animated visual simulations, 3D animated models, video drive bys and fly-throughs. Some are more useful than others and the most complex and costly methods are not necessarily the most effective. For example, fly-through video animations are often quite dramatic in terms of presentation but are quite divorced from reality as no one ever experiences a wind farm in this way.
- 3.11 Animated video drive-bys are often used but sometimes the modelling required to depict foreground elements in these is unconvincing and does not depict the situation realistically. In my opinion, they can be useful if they are well executed but are nevertheless of limited value on their own.

- 3.12 Static visual simulations provide a 'snapshot' from particular locations and a series of these showing a representative range of viewpoints, can help build up a comprehensive appreciation of the potential visual effects. With static visual simulations (photo montages) none of the landscape elements are modelled; instead turbines and other elements of the wind farm are accurately superimposed on to actual photographs.
- 3.13 Animated visual simulations, where the turbines are rotating, are one step further advanced from static visual simulations. They are most useful when depicting wind farms from nearby viewpoints because there are difficulties with depicting movement of turbines as seen from distance viewpoints, mainly because of pixel size.
- 3.14 Using screenshots of 3D terrain models of a wind farm in the landscape as has been used in a couple of recent (successful) wind farm consent applications tend to distort reality because of the lack of 3D detail in the models. In my opinion, the total reliance on 3D modelling and the lack of detail makes them unhelpful in conveying an appreciation of the level of visibility and visual effects.
- 3.15 The most important aspect to remember with visual simulations and video animations is that they cannot depict reality. They are, however, very useful tools for helping to display landscape assessment findings and for communicating those findings to consent authorities and the public alike. Photographic visual simulations (or photo montages) do have limitations but they are far superior and more useful than other techniques because of the reasons I have outlined above. Simulations are an aid to preparing visual assessments but they do not replace comprehensive and thorough fieldwork, which amongst other things enables an appreciation of landscape context and scale to be gained.

4. COMMENTARY ON VISUAL AND LANDSCAPE ASSESSMENT REPORT

- 4.1 The purpose of this section is to comment on the landscape and visual assessment undertaken by Mansergh Graham in relation to the Te Uku proposal.

Overall assessment

- 4.2 The visual and landscape assessment completed by Mr Mansergh is comprehensive and the methodology used is generally consistent with best practice for a project of this scale. It follows a similar approach and methodology to other landscape and visual assessments recently completed in New Zealand for wind farm projects of a similar scale but there are some differences, which I will discuss later. The graphics used to help support and illustrate the assessment are generally

clear and descriptive, although I have some specific comments to make on these too.

4.3 As a result of my review of the assessment report and discussions with Mr Mansergh, I am satisfied that the way he conducted the fieldwork, carried out his analysis, identified and dealt with issues and formulated his conclusions is logical and consistent.

4.4 **Specific comments**

4.5 There are five aspects of the assessment that I wish to comment on specifically. These are:

- (a) Exclusion of transmission aspects;
- (b) Use and extent of the Zone of Visual Influence (ZVI);
- (c) Types of photo montages used and their effectiveness;
- (d) Level of description of methodology used for production of the photo montages;
- (e) Number of viewpoints selected for photo montages.

4.6 While my comments in relation to these aspects may be seen as criticisms of Mr Mansergh's work, they do not alter my overall conclusion that the approach Mr Mansergh adopted to completing his visual and landscape assessment was robust and generally in line with best practice.

Exclusion of transmission aspects

4.7 I share Mr Brown's concerns that the transmission aspects associated with the wind farm were excluded from the application because transmission can very often have significant landscape and visual effects. However, that is a reflection of the scope of the application made by WEL rather than the quality of the visual assessment. In that regard, I understand WEL's rationale for excluding transmission given that a more extensive upgrade of transmission in this part of the district is planned and that notices of requirement for designations to authorise this work would be lodged in due course. That procedure entails public notification so assessment of that aspect of the proposed wind farm will be necessary at that stage.

4.8 I am, however, aware of the nature of the transmission upgrade in terms of the poles and conductors that are proposed to relay power from the wind farm. I

understand that the 110kV line will connect the wind farm to the Te Kowhai substation and this line will comprise typically, 15.0m concrete poles with the 110kV line as a delta construction on top of the pole rather than lattice towers or larger pole structures. If cross arms are attached to these poles they will be used for lower transmission line voltages. From my experience, this scale and type of pole will be a lot easier to align and position so as to minimise landscape and visual effects than would lattice towers or larger type pole designs.

ZVI Analysis

- 4.9 The Zone of Visual Influence (ZVI), or as it is now more correctly referred to as the Zone of Theoretical Visual Influence (ZTVI), is a useful and proven tool in carrying out landscape assessments. It is referred to as theoretical because it is a computer generated intervisibility analysis based solely on topography and does not account for vegetation, buildings or other elements in the landscape. A ZVI analysis is useful to provide an overview of the visibility of a proposal and to help determine where, in the field, representative viewpoints of the site should most appropriately be selected. It does not replace fieldwork. Mr Mansergh explains the limitations on page 13 of his report and Mr Brown also discusses the use and limitations of ZVI in his peer review. I concur with their comments.
- 4.10 Generally, a ZVI is based on all of the turbines in a wind farm and if other wind farms already exist or are proposed in the area then ZVI mapping is used to assist in determining the intervisibility of all the turbines that would be in the area once all of the wind farms and turbines were in place.
- 4.11 For the WEL Wind Park, a ZVI has been generated for each individual turbine (i.e. 29 ZVI's) together with two ZVI maps for the WEL Wind Park and a ZVI for the three combined wind farms proposed. Mr Mansergh also completed ZVI mapping for the recently announced Contact Wind Farm that will be located north of the WEL site, extending along the coast towards Port Waikato.
- 4.12 While such detailed ZVI mapping and analysis may provide useful background for the landscape architect carrying out the assessment and, perhaps for some individuals, I think most people would find the sheer number of ZVI maps too difficult to digest and not particularly helpful. To me, it seemed to indicate an undue reliance on ZVI in determining levels of turbine visibility, rather than it simply being a helpful tool and guide. In my experience and from my review of many landscape assessments of wind farms overseas and discussions with practitioners in the UK, ZVI mapping for individual turbines is regarded as unnecessary.

- 4.13 There are two further points that I wish to make in relation to ZVI maps. First, it would have been helpful to have analysed the level of turbine visibility along main roads or routes (eg SH 23) and illustrated this with a map. This would have provided useful information for a sector of the viewer audience. Second, there are no figure numbers on the ZVI maps and they are not specifically referred to in the text which reduces their usefulness.
- 4.14 Notwithstanding my comments above, I do not consider that having individual ZVI's and including them in the assessment report has affected or undermined the outcome and conclusions of the assessment itself. It is more of a comment on providing a level of information that achieves useful analysis and helps with understanding the potential level of turbine visibility

Photo Montages and Methodology Used

- 4.15 Three different types of photo montages have been used in the assessment report, which I consider to be potentially confusing. The purpose of any graphics and photo montages especially should be to assist the viewer/public understanding.
- 4.16 Mr Mansergh has provided an explanation of his methodology for generating simulations on page 44 of his report. In preparing the simulations, Mr Mansergh used several pieces of software, which is acceptable practice and the method described is similar to that used by other landscape consultants in visual assessment of projects of this type. Over the last few years however, software programmes have been developed specifically for visual assessment of wind farms, which in effect integrate and streamline the steps described by Mr Mansergh.
- 4.17 I have not carried out an analysis to determine the accuracy of each of the photo montages included in the assessment report but from my review of the methodology used and discussions with Mr Mansergh, I have no reason to doubt their accuracy. Mr Mansergh in his Appendix 6 on pages 98-99 provides a helpful explanation on the technique used.
- 4.18 Mr Mansergh explains that there was no attempt to actually depict the turbines in several of the montages from distant viewpoints because of the limitations of the reproduction techniques used. While hard copy reproduction in the form of colour prints do have some limitations but having three different methods of illustrating turbine visibility is confusing. The two alternative methods used by Mr Mansergh³

³ The two alternative methods referred to are the use of screen shots of the 3D model and just showing the general position of the wind farm on a photograph and not depicting the turbines.

might overcome some of the difficulties that he raises but in my opinion, the potential for confusion far outweighs any advantages there may be.

- 4.19 However, Mr Mansergh observes correctly, in my opinion, that photo montages are only a tool used to communicate and to aid in the understanding of the visual changes that are likely to occur. It is important that they are interpreted within the context of the site and should not be used as a stand-alone means of evaluating the visual effects of the proposal.
- 4.20 My final point concerns a matter of presentation; it would have been helpful to clearly show on each of the photo montages, the distance from the wind farm (or nearest turbine), either on the photograph itself or in the accompanying table. While there are maps at the front of each of the six geographical sections in the report, it is difficult for the reader to appreciate the distance when looking at each of the individual images.

Viewpoint Selection

- 4.21 Sixty-three viewpoints were selected and photo montages used to illustrate these. In comparison to other wind farm assessments carried out in New Zealand and also those done for projects overseas, this is a very large number of viewpoints and photo montages. In my own experience, I have used between 25 and 35 representative viewpoints with each one displayed in a similar manner (i.e. one method used). In Scotland for example, between 10-25 photo montages are recommended in the 2006 good practice guide for landscape assessment of wind farms.⁴ This Scottish document is regarded by many as the most complete and comprehensive guide for visual assessment of wind farms.
- 4.22 In mentioning this, I do not mean that the situation with regard to wind farms in New Zealand is exactly the same as wind farms in the Scottish landscape. Viewpoint selection is dependent on each particular landscape and situation. In my own work and in the best practice guides for assessment of wind farms that I am familiar with, the essential principle is that viewpoints must be carefully selected to be *representative* of the range of views and viewer audiences that will experience the proposed development. The nature of the landscape, the location and size of the viewing audience and the scale of the project should largely dictate the number of viewpoints selected.

⁴ Page 60, *Visual Representation of Windfarms: Good Practice Guidance*, prepared for Scottish Natural Heritage, The Scottish Renewables Forum and the Scottish Societies of Directors of Planning by h+m and envision, March 2006.

- 4.23 Mr Mansergh explains the rationale behind the selection and number of viewpoints on page 42 of his report and I understand that WEL Networks, because of its community ownership and its commitment to consultation, elected to assess turbine visibility from a large number of viewpoints to ensure this aspect was well covered.
- 4.24 The inclusion of the additional viewpoints as recommended by Mr Brown in his peer review and agreed to by Mr Mansergh and included in the landscape assessment report submitted as part of the resource consent application, was appropriate. In my own work once I have completed ZVI mapping and sufficient fieldwork in and around a proposed wind farm I will then be able to determine a list of representative viewpoints to reflect the various viewing audiences. I have then found it useful to discuss viewpoint selection with local authority staff and any other 'key' agencies. Mr Brown's recommendations to include the additional viewpoints, has in my opinion enabled the full range of viewing distances and audiences to be well covered.

Photo Montages and Built Wind Farms

- 4.25 I have compared photo montages that I used in the landscape and visual assessment reports for two wind farm applications with the actual wind farms once they were built: namely the Te Apiti Wind Farm and Stage 3 of the Tararua Wind Farm.
- 4.26 With Te Apiti we took photographs of the built wind farm from various distances (i.e. 5, 10, 20, 30, 40 km). I also returned to some of the same viewpoints and took photographs to illustrate the 'before and after' situations. I have attached to my evidence, examples of this comparative work (Attachments 1-8). While acknowledging the limitations of photography, I have found it helpful to present these comparisons, as part of my expert evidence, to planning committees and to the Environment Court, to illustrate how photo montages are an important tool in helping to understand the level of visibility and visual effects.

5. LANDSCAPE PEER REVIEW

- 5.1 I have read the initial peer review report produced by Mr Brown dated February 2007, and the final version dated October 2007 (included as part of the WDC report) and make a number of comments. In making these comments, I wish to point out that while I support the approach and methodology adopted by Mr Mansergh in his visual and landscape assessment (apart from the matters that have raised in some of my earlier comments), I have not carried out the fieldwork that both Mr Mansergh and Mr Brown have done. Instead, I have focussed very much on the suitability of

the approach, the methodology and the conclusions drawn by Mr Mansergh in his work and the issues raised by Mr Brown in his peer review for the Council.

- 5.2 I wish to comment on several comments made by Mr Brown in his report. At the outset, I note that I consider that the additional fieldwork that Mr Brown has undertaken subsequent to his initial peer review report in February, has provided additional information which should assist the hearing committee to better understand the issues and the potential level of landscape and visual effects.
- 5.3 At the outset, I note that the additional fieldwork Mr Brown undertook subsequent to his initial peer review report in February did, in my opinion, provide additional information that should assist the commissioners to better understand the issues and the potential level of landscape and visual effects.
- 5.4 I concur with many of Mr Brown's observations and comments with regard to the development of wind energy and wind farms in New Zealand, the limitations of photo montages in visual assessments, the relative value of ZVI mapping, and people's perception of the potential landscape and visual effects of wind turbines. I also support Mr Brown's recommendation (which was adopted) that additional viewpoints be included and photo montages from these viewpoints prepared. However, I do not agree with some of Mr Brown's criticisms of Mr Mansergh's report.
- 5.5 As noted previously, I consider the approach Mr Mansergh adopted to completing his visual and landscape assessment was robust and generally in line with best practice. From my reading, Mr Brown also acknowledges the thoroughness and detail provided by Mr Mansergh (page 42/102). Mr Brown has highlighted some areas where he considered that Mr Mansergh's assessment was deficient, primarily in relation to aspects concerned with outstanding landscapes and natural character, which Mr Brown calls "strategic implications" (Section 6 of Mr Brown's report).
- 5.6 In my opinion, Mr Mansergh has adequately addressed matters of natural character and outstanding natural features and landscapes in his report. However, I tend to agree with Mr Brown that Mr Mansergh probably does not state, with as much clarity as he might have, how his consideration of these matters were directly addressed through his fieldwork assessment method and the conclusions reached.
- 5.7 In light of Mr Brown's concerns about the translation of Mr Mansergh's findings on landscape amenity to a broader assessment of strategic implications (as set out on page 42 of Mr Brown's report), Mr Brown undertook his own fieldwork to assess these issues. That fieldwork specifically focused on issues of outstanding

landscapes and natural character, as reported in Section 7 of his October 2007 report –‘Re-evaluation of the Proposal – Conclusions’.

- 5.8 As a result of this work, Mr Brown concludes (on pages 45-49/105-108), that the impacts of the wind farm proposal “*in relation to the West Coast’s outstanding landscapes would be acceptable*”; that the proposal would “*overall generate few effects of consequence in relation to the natural character of the coastal environment between Raglan / Horea and Kawhia Harbour*”; that there would not be significant cumulative effects; and that the wind farm would be “*generally acceptable in terms of its amenity effects*”.
- 5.9 In my view, the important point in terms of landscape and visual assessment is that both Mr Mansergh and Mr Brown reached the same conclusion on landscape and visual effects of the proposed wind farm as regards the strategic implications (Section 6 of Mr Brown’s report). To that extent, Mr Brown’s fieldwork represents a very helpful augmentation of the work undertaken by Mr Mansergh because, when added to Mr Mansergh’s analysis, it increases the level of confidence with which we can conclude that the effects of the proposal are within acceptable bounds.
- 5.10 Although I agree with Mr Brown’s conclusions as regards strategic implications, I do not agree with Mr Brown’s contention that the proposed wind farm site forms part of the coastal environment. Whilst the turbines may be visible from some parts of the coast along the edge of the Raglan, Aotea and Kawhia Harbours, I do not consider that this justifies his conclusion that the proposed wind farm site is part of the coastal environment and must therefore be subjected to the level of assessment that he recommends (page 39).
- 5.11 I also do not understand why Mr Brown has included his Addendum – October 2007 comments on the recently announced Contact Energy wind farm proposed in the area between Raglan and Port Waikato. In this Addendum, Mr Brown states that, in his view, the Contact Energy proposal is likely to be the most environmentally acceptable and likely to have the least landscape / amenity effects of the four wind farm developments currently promulgated in the Waikato. Unless he has carried out a similar level of landscape and visual assessment of the Contact Energy proposal to that of the WEL proposal, such a broad and favourable endorsement seems to me to be inappropriate. In addition, the Addendum appears to be outside the scope of his brief as set out on pages 7 & 8 / 67 & 68 of his report.
- 5.12 I endorse Mr Brown’s comments on page 12 in relation to visual effects and the inability to effectively ‘screen’ the turbines from both public and private viewpoints. I have two comments to make in relation to this.

- 5.13 First, while the height of the turbines is much larger than other built elements, such as the existing Telecom tower, they would not be out of scale with the surrounding landscape. They would not 'domesticate' the landscape but would instead introduce elements which are in scale with the Wharaurua Plateau, Mt Pirongia and Mt Karioi.
- 5.14 Second, it is important to remember that visibility does not necessarily equate to adverse visual effects. In my experience, disappointingly, I have found that some landscape and visual assessments, conclude that, because new built elements introduced into a landscape are visible or may result in some degree of landscape change, that the landscape and visual effects must be adverse. In my view, this is often overly simplistic and incorrect.

6. **OVERALL CONCLUSION**

- 6.1 In my opinion Mr Mansergh, together with Mr Brown's peer review and additional fieldwork, have clearly described and illustrated the nature and level of landscape and visual effects of the WEL Networks Te Uku Wind Park proposal, and have arrived at conclusions that suggest its approval is appropriate.

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16 November 2007