

In response quote reference: Doc: M 2428725 / LUSE-202.2018.00000873.001

In response enquire to: Louise Cowan

2 August 2018



Kaimai Wind Farm Limited
C/- Glenn Starr
M338 Private Bag 300987
Albany
Auckland

Dear Glenn

Resource Consent Application – Further Information Request

Application number(s):	202.2018.00000873.001
Applicant:	Kaimai Wind Farm Limited
Address:	771 and 604 Rotokohu Road and 6356 State Highway 26, Paeroa
Proposed activity(s):	Construction and operation of 24 wind turbines and associated ancillary activities.

Further to Hauraki District Council's letter of 3 July 2018, we have decided the application is complete in terms of the provisions of Section 88 of the Resource Management Act 1991. Following this decision we have reviewed your application in detail, including initial technical review of information submitted as part of the application.

This letter is a request for further information that will help Council better understand your proposal, including its effect on the environment and the ways any adverse effects might be mitigated.

We have separated out the information requested under a heading for each of the documents to which it relates, or under a heading where the questions have been raised during technical review. In some instances we have appended the whole technical review to this letter. Where possible we have provided a page (eg P1) or paragraph reference.

The requested information is identified as follows:

Assessment of Environmental Effects

P1 Concern with regard to the generality of the statement within 1.2 of the AEE that:

"The application expressly seeks resource consents for any and all variations or amendments to the plans and information described and appended to this AEE report, to the extent necessary to enable implementation of the resource consents, assuming granted, upon progression of the Project through the detailed design phase. This is provided any such variations or amendments do not create materially different or additional effects to those assessed, described or illustrated in this AEE and the Technical Reports and plans included within Attachments B to E".

Council request that this statement be amended or removed.

P10 It is noted that KWF is now engaged with Transpower on the next design stage, what, if any, amendments are likely to result from this process?

P13 There is no evidence provided as part of the application to support the statement that the Hazardous Substances requirements of the District Plan (Rule 7.7.6(1)(a)) will be complied with. Please provide appropriate evidence to confirm this statement.

P21 It is noted that a lapse period of 12 years is sought. Further assessment is needed to be provided to support this request. The information provided within section 3.8 is very general and could apply to any application. Particular and convincing reasons are needed, given that more than double the lapsing period is sought, as not only might such a long period unreasonably impact on surrounding landowners, causing uncertainty, but once granted a resource consent becomes part of the consented environment and can have a profound effect on the consideration of other resource consent applications during the period that it exists.

P26 Incorrect interpretation of excavations and placement of fill. The following definitions from the District Plan are noted:

“Mineral: Means a naturally occurring inorganic substance beneath or at the surface of the earth, whether or not under water, and includes all metallic minerals, non-metallic minerals, fuel minerals, precious stones, industrial rocks and building stones, a prescribed substance within the meaning of the Atomic Energy Act 1945, and peat, topsoil and sand.”

“Mining Operations: Means operations in connection with mining (for any mineral), and shall include the following:

- (a) the transport, treatment, processing and separation of any mineral; and*
- (b) the construction, maintenance and operation of any works, structures and other land improvements, and of any machinery and equipment connected with such operations; and*
- (c) the removal of overburden and waste rock, by mechanical or other means and the stacking, deposit, storage and treatment of any substance considered to contain any mineral; and*
- (d) the deposit or discharge of any mineral, material, debris, tailings, refuse or wastewater produced from or consequent on any such operation; and*
- (e) the doing of all lawful acts incidental or conducive to any such operations.”*

“Surface Mining: Means taking, winning or extraction of naturally occurring minerals from under or on the land surface utilising open pit, open cast or other recognised surface mining techniques, methods and equipment. It does not include minor surface activities (eg removal of boulders from the surface of land) which are provided for separately under the “Earthworks” provisions. It excludes “Mining Operations” (refer to separate definition).”

These definitions are of significance to the nature of the activities for which consent is sought. The application refers to the quarry activity as “excavations and placement of fill” permitted within the plan. However, the proposed quarry activities, intended to win rock for use in roading activities and as basecourse for windfarm platforms clearly falls within the definition of surface mining and the associated activities within the definition of mining operations. These activities are identified as Discretionary Activities under Rule 5.1.4.4 D14.

The associated assessment in relation to all of the effects of this activity are therefore required. These matters have not been adequately addressed within the AEE nor parties of the technical reports as they currently stand.

P31 Rule 8.2.2 relates to Floor Levels not Flood Levels.

P32 Rule 8.2A.1.3(1) – plan needed showing proposed transmission towers and substation in relation to centre line of High Voltage Transmission Lines. HDC and Transpower will need information to know if the proposed distance is appropriate or not.
Also need information in relation to Rule 8.2A.1.3(3) regarding earthworks within 32m of centre line of High Voltage Transmission Lines.

P33 As per the Chiles report the District Plan noise rule is irrelevant in relation to turbine noise, can't therefore say that the proposal complies with this noise standard. For all other activities, other than the turbines, the noise rules do apply, this is not assessed adequately within the AEE or associated noise report.

P33 Tables do not quote District Plan accurately. Only Table 8.3.1.3(1)(a) is relevant. Don't know where the 55/70 in the LAeq and 75/85 in the Afmax columns come from as these are not in the District Plan. This reference needs to be removed.

Second table is totally irrelevant as it is our understanding that the activity is not to be located in the Conservation (Indigenous Forest) zone.

P34 Construction noise assessment, the middle column appears to quote the District Plan but leaves several parts of the actual DP statement out.

The Chiles report says "long term duration standard" is applicable; however, the AEE table has "typical duration" figures listed. Why is there a discrepancy?

Also the limits are applicable to the Rural and Conservation (Indigenous Forest) zones. Neither the AEE or the S Chiles report provide details of noise at either zone boundary (or for the Rural Zone outside buildings – approximately 1m from the wall most exposed to the sound), nor is there any assessment in relation to effects on the Conservation (Indigenous Forest) zone.

P34 Rule 8.4.1.3 – is not interpreted correctly. The Hauraki District Plan defines Road as "including all land comprising legal but unformed roads and all land comprising formed and existing roads under the control of the road controlling authority and is inclusive of the definitions contained in the Local Government Act 1974 and the Government Roading Powers Act 1989."

It is noted that a number of activities are occurring within the unformed road running through the site, which is identified on Council Plans and within the legal title as "Wright Road". This includes activities such as culvert replacement and repair along with widening of the current alignment.

Rule 7.9.5 (3) specifies:

The formation and use of a proposed road (including an existing legal unformed road) which is part of a subdivision or development that is a permitted, controlled, discretionary or non-complying activity shall assume the same activity status as the subdivision or development, and shall be assessed accordingly.

As such these activities are also considered to be Discretionary Activities requiring consent. The associated assessment in relation to all of the effects of this activity are therefore required. These matters have not been adequately addressed within the AEE or the technical reports as they currently stand.

P35 Comments regarding assessment against 8.4.8.3 incorrect, roadways are not an "internal access" so no limit applies to length.

8.4.9.3 has not been addressed at all, this needs to be considered for Wright Road, which although unformed is still a public road.

8.4.3.3 sight distance is not relevant for Wright Road intersection. Rotokohu Road entrance is not addressed.

P35 8.5.5.3 irrelevant –as the application area is not in a Council Drainage District.

P59 Does not contain an assessment of the NES for Assessing and Managing Contaminants in Soil to Protect Human Health. Although contaminated land is mentioned within the AEE, and there are statements along the lines of ‘but it’s not relevant because there are no contaminated/HAIL sites’. This may well be true, however there is nothing in the AEE to confirm how this is known. Has some form of assessment (eg confirmation from Regional and District Council records or a PSI) been completed? Or is there a general assumption being made based on the current land uses? Please confirm how it is known that there are no areas of potentially contaminated land and/or HAIL sites within the site.

Report No 2 - Aviation

P2 Notes an Aeronautical Study, pursuant to Civil Aviation Rule 77.17(a) is to be done. When will this be done, and is it of relevance to the assessment of potential for adverse effects?

Appendix Two and Three are missing from the document. Can these please be supplied.

Aviation Review

Following review of the Document by AECOM New Zealand Limited the following points are made:

P10 Item 46 in the Conclusion should include the following statements

The proposed structure, at up to 207m above natural ground level, triggers a requirement under the CAANZ Rule 77.5 (1) as follows, for consideration of the Director:

77.5 Notice of construction or alteration of structure. A person proposing to construct or alter a structure must notify the Director of the proposal in accordance with rule 77.13 if the proposed structure or alteration to a structure—

(1) extends more than 60 m in height above the ground level at its site.

Furthermore the height of the structures, at some 207m above ground levels to the tip of the rotor blade potentially constitutes a major airspace obstruction as per CAANZ rule 77.19 (a):

77.19 Standards for determining hazards

(a) The Director must determine a structure to be a hazard in navigable airspace if it is 120 m or higher above ground level at its site.”

This links the recommendation clearly to the CCANZ rules accordingly.

Other considerations - Risk Mitigation Measures

Noting Items 27 and 28:

P7 Item 27. KWF Limited have, subsequent to discussions, 18 May 2017, removed one turbine from the site proposal, this has had the effect of providing greater open distance between proposed turbines 17 and 18, approximately 1.5km apart, enabling low height glider flight between.

P7 Item 28. KWF Limited recognise the importance of the area for glider flight activity, especially during competitions, and to facilitate glider activity and provide some risk mitigation from turbulence in the lee of the turbines, are open to shutting down proposed turbines 16 and 17 on some days of the year.

And noting risk mitigation 47.3

P10 Item 47.3. Shut down turbines 16 and 17 on ten days per year, during glider competitions under the auspices of the Matamata Soaring Centre and with wind conditions 12 knots or less (<6m/s).

Review comments are as follows:

This implies that competition gliders could fly at or lower than the turbine prop heights between the masts? Please confirm whether this assumption is correct?

With regard to Item 47.3, how practical is it to include obstruction lighting in the blade tips as these are of significant length and will protrude above and abeam of the obstruction light fitted to the mast head area?

Recommend an alteration to Item 47.3 to say:

“Competition glider activity in the vicinity of turbines 16 and 17 presents a risk component that warrants further investigation: Whilst shut down of turbines 16 and 17 for up to ten days per annum is recommended to facilitate glider competition flights in the vicinity of these towers in coordination with the Matamata glider club with wind conditions 12 knots or less (<6m/s), there is still a risk element of a thin stationary blade protruding above or abeam of the main structure, noting that the aircraft would have to be relatively close to the main structure for this to become a risk consideration.”

What is the minimum acceptable clearance envelope around these structures, and how is this spatially assessed by a pilot?

Would this be a component addressed under the recommended Aeronautical Study as per CAANZ 77.19?

Report No 4 - Civil Peer Review

The Civil Engineering Peer Review supplied in Appendix 4 raises several questions regarding consistency between reports – can you confirm if all of these matters have been addressed within the final technical reports supplied as part of the application?

Report No 5 - Construction Report

P8 2.1 advises that noise will be kept to a minimum during the hours of 6.30am to 7.30am and 6pm to 8pm, how will this be done?

P8 2.2 advises in relation to turbine foundations that the positions are given within a 20m radius of potential locations to allow for micro-siting. Is this correct, as it seems at odds with the very detailed civil drawing provided in relation to the location of each turbine on site?

P9 Based on the proposed size of the turbine foundations, approximately 100 concrete trucks will be required to supply the required concrete, can you confirm the proposed construction methodology, ie continuous pour, will this be over a certain time period, and how many concrete truck will this equate to per hour, in any one 24 hour period?

P9 2.3 identifies general laydown areas which will temporarily contain fuel tanks. Can a better description of how and where these will be located be provided, along with sufficient information eg volumes, means of storage, to provide confirmation that the temporary storage of fuel can meet the hazardous substances provisions of the District Plan.

P11 2.7 110kV Pylons refers to Drawing 212, where is this drawing?

P11 2.8 Site Entrance refers to Taumatatotoara West Road, where is this road? This section also advises that concrete trucks may enter via Rotokohu Road can you please advise where the details and assessment of effects in relation to this are within the report and where the proposed entrance is located. Also throughout the report reference is made to Thorpe, which should be Thorp.

P11 2.9 refers to the need to move the Lightwire Ltd telecoms facility, can you please provide evidence of consultation with Lightwire Ltd in relation to this.

P12 Repeats section reference 2.8 and 2.9. Within 2.8 Fencing the appendix number provided does not match with the appendix as numbered (should this be appendix 4 not 3?).

P12 3. Site road, reference should be appendix 3 not appendix 4?

P13 The wording within the diagrams provided in Figure 2 is not readable.

P16 3.4 refers to temporary facilities, can additional details in relation to the proposed layout of these site, and the potential for visual effects, noise effects and so on be provided. How many transportation movements are likely to be required to set up and service these areas?

P16 numbering is again confused with reference to 3.1 following 3.1.

P16 3.1.1 Concrete notes that "a second option for sourcing concrete is to establish a batching plant on site". If this is to truly be considered as a potential option then an appropriate assessment of the effects of this activity needs to be provided, including siting, hours of operation, potential noise effects, visual effects, access, lighting and so on. Additionally it is noted that this type of facility will require water, water take matters will need to be addressed via the Regional Council's consenting process.

P17 It is noted that rock may be sourced from the Tirohia Quarry. If this is so how will the material be moved, directly to the site via private access, or via public roads? If the rock is to be moved directly, can the location of the new internal access road be provided, along with any indication of earthworks and so on required to create this access.

P17 3.1.4 reinforcing steel and 3.1.5 cables, which road and/or entrance is to be used for the transportation of the incidental materials such as reinforcing steel, cables and so on?

P18 4. Craneage again is reference to the incorrect appendix, should be appendix 7 not 6?

Report No 6 - Ecology Report (Kessels)

P8 1.2 notes that the use of Rotokohu Road is proposed for post construction operation and maintenance, yet no corresponding details are provided within the AEE in relation to the number, frequency, type of traffic and the effects of this, along with any mitigation measures.

P15 There is a reference to Rotor Impact Zone in Figures 4 and 5, is this the same as the “rotor sweep zones” referred to in 6.3 (P35) and the RSA Strike Area referred to elsewhere within the report? If so what do these terms mean?

P15 The rotor impact zone circles (shown as light blue in Figures 4 and 5) for turbines 5, 11, 15, 16, 21, 22 and 23 appear to extend out over the various SNA areas. Can you please clarify if this is the case, what potential impact this will have on these areas and where the potential effects of this have been considered within the documentation.

P31 Bottom paragraph refers to Waikato District Plan rather than Hauraki District Plan.

P49 68.3 Fill disposal sites recommends that “*any fill disposal sites avoid seepage zones and indigenous vegetation remnants where possible and that any wetland and stream infills are adequately mitigated for habitat loss.*” Are any of the fill sites as shown on the civil drawings within seepage zones, wetland areas or streams, and if so have these been “adequately mitigated”?

P51 7.2 Recommended Amelioration Measures talks about allowing for “*quantifiable risk minimisation contingencies if required*”. What are these and how would they be determined and implemented, given that this is proposed for post construction and the wind turbines would already be in place?

There appears to be no discussion regarding the effects from turbulence created by the windfarm on SNA’s and the like. Please confirm why this has not been addressed.

Report No 7 - Ecology Report (ENZL)

Who was the author of the ENZL report? There is no name or qualifications and so on included as a reference within the report.

Ecological Review (both Reports 6 and 7)

For your information appended to this letter is the initial ecological review of the proposal undertaken by AECOM New Zealand Limited. This review looked at survey design, presentation of result, interpretation of results, conclusions in relation to impacts and the approach to the development of mitigation.

For clarification purposes the information requested and required within this review is briefly summarised below:

1. Methodology to Assessment

The Environment Institute of Australia and New Zealand (EIANZ) produced the Ecological Impact Assessment Guidelines for use in New Zealand: terrestrial and freshwater systems (1st edition 2015, 2nd edition 2018). The guidelines provide a framework for assessment that aims to:

- Improve the scientific rigour, objectivity and consistency of Ecological Impact Assessment (EclA).

- Assist consultants and officers in local and central government working with AEEs.
- Improve community confidence in the ability of professionals to undertake impartial assessments.
- Guide policy around biodiversity management.
- Contribute to better decision-making on environmental matters.

The Ecological Effects Assessment (and subsequently the Supplementary Ecological Report) has not followed the EIANZ guidelines. This has meant that the assessment process is not clear, stages of the assessment have been missed and conclusions are made without clarity around how these have been reached.

2. Scoping

A Scoping Report is not provided within the documentation submitted to Council. This documentation may provide clarity to the reader around decisions made in relation to the ecological survey methodology.

3. Consultation

The AEE in section 4.2 indicates that the Department of Conservation (DOC), HDC and Waikato Regional Council (WRC) were consulted in relation to the development. Has the information obtained during consultation with DOC, and other organisations, been integrated into the survey design and subsequently project design?

4. Plans and Policies

The Ecological Effects Assessment includes a section titled Policy Context in section 1.3. However, this section is very high level and does not go into detail about the legislation, plans and policies for which the EclA is aiming to provide evidence that the proposed project is compliant.

5. Description of Existing Environment

5.1 Study Area

The Ecology Effects Assessment does not clearly indicate (e.g. map), what it considers to be the extent of the project and what is considered to be the study area.

5.2 Desk Study

The reporting indicates that a desk study was undertaken, but there is no clear presentation of this information.

5.3 Survey Methodology

It is acknowledged that there are no guidelines within New Zealand as to the level of effort that is required for the completion of ecological surveys for windfarms. However, international guidelines exist and have been developed in response to the particular issues caused by windfarm developments (e.g. Rodrigues *et al.*, 2014, BCT, 2016, SNH, 2014). It is not evident from the Ecological Effects Assessment that consideration was given to international best practice.

5.4 Results

It would be beneficial if there was a clear separation between desk study information and field survey information. This separation will highlight where the Effects Assessment has not presented all of the species desk study data (e.g. migratory

birds) and highlight where there are gaps in existing knowledge that are then filled by the survey works completed for the project.

6. Evaluation

An EclA should include a section that confirms the species and habitats that are known to be present or likely to be present and assign a value to them. It is not clear how the significance test has then been undertaken.

In the assessment of effects the significance of the bat population is discussed in section 6.5.1, but this assessment is not undertaken for other species.

The Supplementary Ecological Report does not include any assessment of the value of the streams to be impacted.

7. Assessment of Effects

The Ecological Effects Assessment does not follow current guidance (EIANZ, 2015 & 2018) therefore the assessment of effects is not comprehensive.

The Effects Assessment does not identify at the start of the assessment the works that are to be considered and this leads to potential routes of impact being forgotten by the assessment e.g. the development includes the installation of a substation with lattice transmission towers and overhead power cables and these are not considered/referred to in the assessment of effects. It may be possible that these structures could provide additional strike risk for birds.

There is no assessment of effects prior to mitigation as is normal practice within an EclA

The Supplementary Ecological Report looks at the majority of impacts that could occur as a result of the upgrade of culverts, but it is not clear what the value of the impacted streams are, the footprint of the works and whether culverts are perched. Where on site was fish passage restricted and what area of stream do the culvert upgrade works create access to?

8. Mitigation

EclA requires that impacts are identified prior to mitigation. This does not occur in the Ecological Effects Assessment.

It is unclear as to how this project has followed the mitigation hierarchy; avoid, reduce, mitigate, offset and then finally compensate. It appears from the information provided that compensation is the main route of mitigation?

Although research in New Zealand is limited in relation to the effects of windfarms on bats it is not within Europe and America. Best practice guidelines indicate that windfarm turbines should be located 200m from a forest edge (tip of blade should be 200m from forest) to avoid significant impacts to bats (Rodrigues 2014). It is recommended that this international best practice is considered and commented upon due to the presence of a threatened bat species adjacent to a forest edge.

Are the culverts within the 1-2 streams highlighted by the AEE perched? Will there be loss of stream length or any instream works? There is no indication as to where stream restoration will occur and the scale of works. It is not evident as to whether this is mitigation for impacts, enhancement works or compensation for other effects of the development. Please clarify.

9. Assessment of Residual Effects

It is good practice after the implementation of mitigation to assess residual effects. This assessment is presented in part within the assessment of effects, however, it is not always clear as to how the conclusions have been reached.

The Ecological Effects Assessment does not include a summary table of residual effects. However, one is presented within the Supplementary Ecology Report, which is then represented within the Assessment of Environmental Effects.

In the Ecological Effects Assessment it states that 'after mitigation effects on bat mortality are uncertain'. However, in Table 3 of the Supplementary Ecology Report it is indicated that residual impacts are non-significant with uncertainty.

It is unclear how the Supplementary Ecology Report can present an assessment of residual ecological effects as this document is not an EclA and has not gone through the assessment process.

10. Conclusion

The information submitted to date is not fit for purpose.

- It is not clear from the information provided that the survey design has been appropriate to establish the true ecological baseline for the site.
- A clear evaluation of the value of habitats and species on site has not been completed.
- The impact assessment does not consider impacts from all aspects or stages of the development.
- The impact assessment is not completed prior to mitigation.
- The mitigation does not present how the development has worked through the mitigation hierarchy to reach proposed mitigation for each of the species and habitats that are significantly impacted.
- There is no clear assessment of residual impacts post mitigation.

Please provide sufficient ecological information to meet the requirements as laid out within the appended ecological review. It is suggested that the applicant's ecologist confers with the Council's ecologist to determine the best way forward to address all of these matters.

Report No 10 - Noise

P3 2. Criteria. It is assumed that the District Plan noise standards (both HDC and MPDC) will apply to all noise, except noise created by the turbines themselves. Please confirm.

P13 7. Construction Noise – no modelling of expected noise levels provided, an assessment should be provided using worst case scenarios of all likely machinery to be operating at any one time. There is nothing provided to support the statements of compliance. What is meant by the statement "temporary disturbance for occupants of houses along Rawhiti Road"? What about quarrying noise, vehicle noise, crane noise, and assembly noise (when assembling the turbine pieces). The construction noise assessment is lacking "overall" assessment of a number of activities that could be combined on the site and occurring together at any one time.

P14 8. Conditions. In relation to condition 1, why is the assessment limited to these sites? What if additional houses are built during the life of the wind farm, in particular during the 12 year lapse period that is sought? Why is the condition not worded to require that noise levels shall be made to comply at the notional boundary of all dwellings?

In relation to 1. (b) how would such a condition be able to be monitored? Unless there is a noise meter continuously measuring background noise levels how will anyone know whether (a) or (b) applies at any given time. Once the windfarm is operational won't the noise from it also then form part of the background?

In relation to condition 4, how were the three properties chosen? What would be the purpose of post installation measurements at these sites? Condition 1 says to comply at the sites shown on Figure 1 (which are more than these three properties).

Acousafe Noise Control Solutions Review

Following review of the application information by Acousafe Noise Control Solutions which is appended to this letter the following matters need to be addressed:

Further information should be supplied regarding:

- the monitoring of background sound levels during the winter months (without cicadas),
- a breakdown into wind direction (if this can be done), and
- a breakdown into background sound levels during the Amenity Hours and Night-time Hours,
- remove the presence of noise sources which are not common to the representative measurement locations and neighbouring noise sensitive properties, using a review of time histories and scatter plots,
- if appropriate remove clear dawn chorus effects from night-time data,
- exclude any data directly affected by rainfall, or when rainfall has resulted in atypical levels, and
- plot the background sound levels against wind speed to determine the prevailing background sound levels at each representative assessment position. The order of regression analysis to use (linear to fourth order) will depend upon the nature of the background environment.

This will demonstrate the seasonal and diurnal variations in background sound level.

We recommend that further information is sought regarding:

- Predicted data which should cover the range of wind speeds between cut-in and the speed at which maximum sound power level is achieved,
- Use the hub height wind speed (not 10m AGL),
- Identify if wind sheer issues affect noise generation or propagation,
- Justify why 106 dB L_{Aeq} sound power level has been selected,
- Justify the spectral adjustment used,
- Provide justification why this data should represent other turbines that may be selected,
- Undertaken predictions with both zero and 0.5 ground absorption,
- Do predictions at a receiver height of 4.0 metres to reduce the potential oversensitivity of the calculation to the receiver region ground factor compared to lower receiver heights, and
- Provide for safety factors and uncertainty including any terrain screening concerns described in the GPG (if no data on uncertainty is provided then a factor of +2dB should be added to WTG noise levels).

Section 7 discusses construction noise. No mention is made of traffic using the internal roading network particularly during Amenity Hours and at Night. This network is likely to be closer to receivers than proposed turbine locations and may involve steep terrain. Would the

sound of labouring trucks on steep internal roads be likely to cause an impact on neighbours and should this be controlled at critical times?

Is concrete manufacture proposed on the wind farm site?

In relation to the proposed conditions it is noted:

The current background sound monitoring shows no correlation between wind farm wind speed and background sound level at residential neighbours. This makes it impossible to apply proposed condition 1(b) because there is no method of determining the background sound level. The further information sought above may improve this level of knowledge but if not, then how is NZS 6808 to be applied?

Report No 11 and 20 - Land Transportation of Wind Turbine Equipment and Traffic

In terms of 2.2 of the Tranzcarr report, there are contradictory statements regarding over height loads, one part saying none, another part saying likelihood still exists. If the potential exists then an appropriate assessment of effects should be made. There is a comment that more detailed study of the route is needed. What alternatives are proposed if the current route is found not to be viable? The assessment provided is based on using the full length of Rawhiti Road, information provided elsewhere suggests the use of SH26 and the northern portion of Rawhiti Road. Can confirmation be provided as to which route will be used so appropriate assessment can be completed?

In terms of 2.3 of the Tranzcarr report it is noted that 2.1 of the report indicates that the heaviest loads will be up to 90 tonne, however the feasibility permit request is based on 80 tonne loads, why the disparity?

The description within the Tranzcarr report regarding the route, and the maps provided do not match. Words advise that SH will be used essentially all the way apart from Rawhiti Road, however the map shows Tower Road being utilised for part of the route. Please confirm which it will be.

Please provide evidence of any correspondence with Lines Companies and Kiwi Rail in relation to the potential for over height and over dimension loads.

Rule 8.4.1.3 (8) of the Hauraki District Plan sets out the level of detail required within a Transport Impact Assessment. The rule identifies the following:

“(8) Where a Transportation Impact Assessment is required, it shall be at a level of detail appropriate to the scale of the activity, consider all relevant modes, and consider the network affected by the proposal at least including the intersections upstream and downstream. The assessment shall address the following matters:

- (a) Description of the existing environment, including:
 - (i) The site, its location and existing activities*
 - (ii) The surrounding road network – infrastructure capacity and condition, traffic volumes, traffic conditions, safety performance, any transport strategy considerations and the ability of the local network to safely and efficiently accommodate traffic.**
- (b) Location, type and scale of the proposal – traffic generation, transport modes, vehicle types, vehicle parking and manoeuvring layout and design standards, signage, pedestrian and cycle access, cycle parking, end of journey facilities, rail level crossings and consistency with any relevant transport strategies.*
- (c) Transportation Considerations – the extent to which particular roads will be affected in terms of safety, efficiency, pavement life and maintenance cost; on-site provision for parking; loading/servicing and queuing; safe and efficient provision for ingress/egress*

including capacity, separation and visibility. Note: Where fewer carpark spaces are proposed than required by the Standard in Rule 8.4.1.3, an assessment in terms of the matters in Rule 8.4.1.4(1)(a) shall be provided.

- (d) *Evaluation of Transportation Impacts – transportation effects, mitigation options and proposals for mitigation.*
- (e) *Written approvals/comments from the relevant road controlling authority.*
- (f) *Conclusions - transportation impact, mitigation proposed.”*

In this instance no consideration has been given within the Gray Matter ITA in relation to the potential alternative use of Rotokohu Road for construction traffic and the like (it is mentioned as a potential issue within the consultation record), what this would mean in terms of safety, pavement life and maintenance costs.

No consideration has been given to pavement life and maintenance costs in relation to Rawhiti Road either.

No written approval or comments from the relevant road controlling authorities have been provided, being NZTA, Matamata-Piako District Council as well as Hauraki District Council. Can any evidence of consideration of the above points please be provided?

P1 Gray Matter report - Potential Effects Summary – none of the potential effects on the physical road are addressed. No assessment of Rotokohu Road is provided at all, although it is mentioned as a potential path for construction vehicles and post construction traffic in various other reports.

P3 The Gray Matter report should also assess against the provisions of the Matamata Piako District Plan given that a large portion of the transportation activities will occur within that District.

P10 The two transport reports provided need to agree on which route and which Rawhiti Road intersection is to be used for site/turbine access. This will assist with determination of directly affected parties.

Transportation Review

Following review of the transportation documents by AECOM New Zealand Limited the following comments are made and information requested:

The Report does not include:

- Indicative schedule and dates/times during which no transportation shall/may occur.
- Approval to transport blade loads through Tower Road in Matamata.
- Swept path analysis of truck and trailer tracking through the full route. The report does acknowledge that this needs to be carried out in more detail when more information regarding the trailer and truck combination choices have been considered.
- Road closure requirements for certain turning movements that require overhands or driving on the wrong side of the road;
- Layover areas if required;
- Approval from the overhead lines companies for transporting loads with heights in excess of 4.8m; and
- Details of how the SH29 route over the Kaimai's can be negotiated with a 78m blade.

Having reviewed the content of the three transportation related documents we are concerned that the following information is not presented:

1. Swept path or other indication as to whether or not a vehicle hauling a 78 metre blade can safely negotiate the roading network from the port through to the site haul road;
2. Journey times for the abnormal / oversized load transporters would be helpful to determine the impact on traffic movement along the full route.
3. Details of the actual alignment of the site access road to and along the windfarm site;

Please provide the above information.

Report No 12 - Landscape and Visual Effects Assessment Report

Within the report Thorpe Road should be Thorp Road.

Please provide further consideration of the visual effects of quarry activities with the site.

No landscape evaluation of the substation, new transmission lines is provided within the report. Please provide.

P45 Although it is noted that the “turbine colour is set by Civil Aviation requirements and is appropriate to mitigate visual effects as the off white colour helps to minimise contrast with generally light, sky colours” please explain the potential effect of this colour when viewed against a backdrop of pasture and bush as will be partly the case here.

How is the “2km” sensitive viewpoints cut off arrived at, ie as referenced on P20 and P52. Can it please be explained further as to why those within 2km are likely to be more sensitive than those slightly further or at a greater distance away. Why is a 2km point chosen?

Landscape and Visual Effects Assessment Review by Brown NZ Ltd

A copy of this review is appended to this letter. The following points are summarised:

Landscape Effects

There is no mention of the substation or analysis of its effects at pp.15 and 16. where the “*Main Kaimai Range Ridgeline Area*” is analysed in terms of its value and sensitivity, and effects on it.

- What will the effects of a substation (and access to it) be?
- Would these effects compound the High level of effect identified for the turbines?
- In relation to the rest of the application, will the juxtaposition of the lower turbines on the Kaimai Range also affect its profile, characteristics and values – in a cumulative fashion, building on the effects of the 7 more elevated turbines in that regard?
- In a related vein, would any other cumulative effects arise in relation to landscape character and values from the ‘upper’ and ‘lower’ turbines, substation, transmission line, roading and earthworks?
- Given that ‘landscape’ is both a biophysical entity and the product of human perception (as described in the NZILA Charter), to what degree does the visibility of the wind turbines – which is addressed separately under Visual Effects – affect the effects ratings under Landscape Character and Values at pages 15-17.

Visual Effects

- What are the cumulative or combined effects of the 'lower group' and the 'Higher Group' for the Paeroa (B1 – B3), SH2 (B6 and B7), Waikino (B16), and Kaimai Mamaku Conservation Park – Mt Karangahake (B20) viewpoints?
- To what degree would the turbines' dynamic movement compound the close proximity of the turbines in some views, especially for viewpoints like B8 and B10 (northern Rawhiti Rd)?
- There are markedly different ratings for the B10 viewpoint when employed to assess effects on Rawhiti Rd (p.28) versus "Close Residential / Sensitive Viewpoints – Rawhiti Road – North End" (p.33) in a subsequent part of the report. It is assumed that this relates to the sensitivity of road users versus local residents, but what do these ratings mean in a cumulative fashion for the northern Rawhiti Rd locality?
- In a somewhat different vein, what would the 'adverse' effects of night-time lighting (mentioned by Mr Moore) actually be – subject to active management?

Statutory Planning Assessment

- Why have no private dwellings been visited, including that residence identified as being 804m from the nearest turbine?
- What would the effects be in relation to the dwellings within 2kms of the turbines – given that the viewpoint ratings for effects on those dwellings that have been assessed range from Moderate to High and the report goes on to state that "it is likely that there will be high adverse visual effects from some nearby properties" and that 15 properties are subject to the effects of shadow flicker?
- Which properties would be affected in this manner? At the very least, it is important to have an understanding of those properties that would be worst affected by the proposal and the impacts on views needs to be addressed.
- What mitigation measures is Mr Moore / Ventus proposing to address any identified effects? On p.45 of his report, Mr Moore states that "Mitigation involving planting is impractical given the scale of the structures but could be considered for offsite locations to screen particular views if desired by affected neighbours". However, it is unclear where this might be considered necessary and/or appropriate as part of the application.

Conclusion

The Moore report concludes by determining that:

1. the upper 7 turbines would have an adverse and high level of effect on landscape character and values;
2. the lower turbines would have an adverse and moderate level of effect on landscape character and values;
3. other 'amenity' effects would range from adverse and low to adverse and high, with local residents most affected by the proposed wind farm.

However, it is unclear what these findings mean in terms of the overall acceptability of the proposal from a landscape standpoint:

- What level of effect would the combined turbines, substation, transmission line, roading, earthworks and mitigation (if any) have?
- With reference to the King Salmon decision of the Supreme Court, the question of 'avoiding' all adverse effects may not be relevant to assessment of this application, as we are not dealing with an ONL in the Coastal Environment; even so, "protect" probably still means "protect", with reference to section 6(b) of the Resource Management Act. Consequently, a broad judgment about the acceptability of the wind farm proposal needs to be made. This relates to both section 6(b) and the various statutory

instruments devolved from it, at both the district and regional levels (as set out in Appendix A of Mr Moore's report).

Report No 15 - Radio Interference

Following review of the Radio Communications Information by AECOM New Zealand Limited it is noted that there are some other communications services that have not been considered by the report and they need to be investigated and analysed to determine if the wind farm will have any impact on them. These services are:

Aviation Radio
VOR, DME, NDB and SSR
Weather Radar

Aviation Secondary Surveillance Radar (SSR)

There are secondary surveillance radar sites at Ruaotuhenua (NZAA) and Hamilton (NZHN) that cover the wind farm site. CAA ENR 1.6 shows coverage at least down to 1500ft over the area. More detailed and lower level maps may be available from CAA. SSR normally has filters to avoid detection of slow moving targets however the speed of blade tips can exceed these thresholds and sites overseas have been known to cause clutter on SSR screens.

Aviation Navigation Beacons

There are VHF omnidirectional range (VOR) beacons in the 112-118MHz band, distance measuring equipment (DME) in the 962-1213MHz band and non-directional beacons (NDB) in the MF band operating in the area. For example Hamilton VOR operates at 114MHz and NDB operates at 390kHz.

Weather Radar

The Bay of Plenty weather radar is located in the vicinity. Wind turbines have been known to cause false rain areas on weather radars.

An assessment in relation to these facilities is required to provide a comprehensive assessment of the potential effects.

Report No 16 - Shadow Flicker

P3 It is noted that there are 13 dwellings within 1.1km of the turbines (1.1km distance is based on international guidelines) however 15 dwellings within 2km experience more than 30 hours of shadow flicker per year. Please confirm if more than 30 hours of shadow flicker is an adverse effect for those houses between 1.1km and 2km away from the turbines. Is the effect of shadow flicker reduced with distance from the turbine, or will the dwellings within the 1.1km to 2km range still experience the same level of adverse effect as those up to 1.1km away?

P12 Why was the Thames meteorological station used rather than the Paeroa one?

Report No 17 - Siltation Mitigation Proposals

P3 Road Formation and Construction section notes in brackets that "some of these potential areas shown on the consent area plans are considered to have a contour that is too

steep for this purpose...". If this is the case, why are these areas shown as sites for potential fill? They should be removed from the plans.

Report No 18 - Culverts along Main Access Road

The report is based throughout on the incorrect assumption that the road will be an "internal site access road", when in fact all but one of the eight culverts proposed for upgrade are located within Wright Road, which is an unformed paper road, which is still a public road. Works within this corridor require resource consent and will need to address the appropriate District Plan roading standards.

The photographs provided within this report require some form of label identifying location they were taken and direction they were taken in.

Report No 19 - Tourism

The report is unclear whether any tourism development is proposed in association with this site. If it is then District Plan requirements in relation to the activity ie a cycleway, will be required to be met or resource consent will be required.

Bottom P16, think east has been confused with west.

P18 4.1 Construction Mitigation. Is it intended to limit oversize vehicle movements to periods outside school holidays and major visitor periods? This has not been covered off within any of the transportation reports provided. Please confirm.

Maps and Other Matters

Quarry Reverse Sensitivity Area (not "Reserve" or "Sensitive")

Marae Development Zone (not Area)

Wright Road is a legal road (although unformed) not an internal road or track as referenced in a number of reports.

Culverts – all culverts to be upgraded need to be identified correctly on the various maps. ie Integrated Transport Assessment map shows culvert 4 and 5 to be upgraded, whereas the Civil Engineering Services report identifies 8 culverts to be upgraded.

The maps also need to show the Hauraki District Plan ONL and DAL areas, plus WRC ONL area, as these do differ.

Only a floor plan of the proposed substation is provided, no elevations. It is noted that the application seeks an envelope type approval, but this is not clear without reading through the documents in detail. Please provide elevations meeting the envelope requirements for the proposed substation building.

Numerous photos throughout the application documents are missing any form of label or explanation to advise where they were taken, looking in what direction etc. ie the Civil Engineering Services report re stormwater. Can this please be corrected.

Documents note that there is a "summary Cultural Impact Assessment" can this be made available to Council.

Differences in naming and numbering of dwellings list DW60-97, doesn't correspond with the DW lists within the Noise and Landscape reports. Can these please be made consistent across the various appendix documents.

Providing the information

Please provide this information in writing within 15 working days¹ being 23 August 2018. If you will not be able to provide the information by that date, please contact me before then to arrange an alternative time. We will not work on your application any further until either you provide this information, or you state that you refuse to provide it.

Refusing to provide the information

If you refuse to provide the information, or if you do not submit the information to us within 15 days (or by another other agreed time), the RMA requires that we publicly notify your application.²

Next steps

Once you have provided the requested information, I will review what you have provided to make sure it adequately addresses all of the points of this request.

If you are not sure how to respond, please call me and we can discuss your options.

Yours faithfully

Louise Cowan
Consultant Planner

Attachments: Ecological Memo from Lyndsey Smith (Principal Ecologist, AECOM)
Acousafe Noise Control Solutions Letter
Brown NZ Limited Letter
