

**BEFORE THE HEARING COMMISSIONERS
AT PALMERSTON NORTH**

IN THE MATTER of the Resource Management Act 1991
(the Act)

AND

IN THE MATTER of a review by **PALMERSTON NORTH CITY
COUNCIL** of the conditions of consent for
Te Rere Hau Windfarms under section
128 of the Act

**JOINT MEMORANDUM OF COUNSEL FOR NZ WINDFARMS LIMITED
AND PALMERSTON NORTH CITY COUNCIL IN RELATION TO TE RERE
HAU WINDFARM PROPOSED CONDITIONS
31 OCTOBER 2017**

MAY IT PLEASE THE COMMISSIONERS:

INTRODUCTION

1. In accordance with paragraph 12 of the Commissioners' 21 September 2017 Minute, this joint memorandum of counsel attaches (as **Appendix 1**) a proposed final set of conditions for Te Rere Hau windfarm (TRH) subject to resolution of the matters of disagreement stated below.
2. The Palmerston North City Council (PNCC) and NZ Windfarms Limited (NZ Windfarms) agree on most aspects of the conditions.
3. The remaining areas of difference between PNCC and NZ Windfarms relate to tonality. The areas of difference are outlined further below. A clean copy of the proposed conditions are attached with just the areas of difference highlighted (**green** for NZ Windfarms and **red** for PNCC).
4. Submitters remain concerned about a number of matters and a brief summary of these concerns and how PNCC and NZ Windfarms consider the conditions respond to the concerns are set out below.
5. This memorandum also addresses the two other matters raised at paragraph 15 of the 21 September 2017 Minute by the Commissioners for NZ Windfarms' consideration.

PNCC AND NZ WINDFARMS – REMAINING AREAS OF DIFFERENCE

6. The remaining area of difference relates to:
 - (a) *Tonality conditions 8.4, 8.5 and 11.5* and whether these should be deleted (as NZ Windfarms suggests) or redrafted and retained as PNCC suggests.

Tonality - conditions 8.4, and 8.5

7. PNCC proposes a new condition 8.4 which would replace the former conditions 8.4 and 8.5 but would retain condition 11.5. These are shown in red the attached conditions.

NZ Windfarms position
8. NZ Windfarms considers that PNCC's condition 8.4 requires subjective judgement calls to be made by the assessor and it

provides no certainty as to how penalties should be applied to the data.

9. This additional analysis is open ended and could require a huge amount of time, effort and cost to be expended in trying to determine a reason or correlation between an exceedance and specific conditions – when potentially no such correlation may exist. Further as there is no cut-off point a lengthy investigation would be required even if it only affected one point out of 500.
10. NZ Windfarms considers that the existing conditions and NZ Standard already provide an adequate approach for dealing with tonality and this condition (and related condition 11.5) is unreasonable and unnecessary.
11. If however, the Panel considers that a condition is necessary, NZ Windfarms prefers the Council's original conditions – 8.4 and 8.5 (which referred to 10%) as while arbitrary, the conditions are certain and will ensure that exceedances below that limit are treated in the context of the frequency of their occurrence. Condition 11.5 would not be required if these conditions were adopted.

PNCC position

12. PNCC considers condition 8.4 should be inserted for the reasons stated at page [8] of PNCC's memorandum dated 17 October 2017 together with the insertion of condition 11.4 on the same page of that memorandum (condition 11.5 in the attached version).
13. The condition is reasonable and objective and the experts agreed it was appropriate. The standard is not sufficiently clear and if it was then there is no harm in making it clearer.
14. If that is not adopted then [8.4] and [8.5] as originally notified should apply as per NZ Windfarms' position at [11] above.

REMAINING SUBMITTER CONCERNS

15. Comments on the NZ Windfarms 10 October 2017 version of conditions were received from two submitters:
 - (a) RC Wallace and NJ Banks-Wallace; and

(b) Lawrence Hill.

16. Further material was also received from submitter Bill Harding. However this material did not relate to conditions and was a restatement of points made during the hearing. As NZ Windfarms and PNCC responded to those matters during the hearing, no further response is included here.

RC Wallace and NJ Banks-Wallace

17. RC Wallace and NJ Banks-Wallace provided comment on the NZ Windfarms proposed revised operating conditions on 12 October 2017 and again on 27 October 2017, following a meeting with NZ Windfarms on 20 October 2017.
18. Key concerns for this submitter were tighter controls on the operation of the windfarm to ensure that amenity was better protected.
19. NZ Windfarms and PNCC consider that these concerns were raised and responded to at the hearing and that the final set of conditions is appropriate to address these concerns.
20. While PNCC has agreed to a five year sunset clause for continuous monitoring (condition 13), PNCC notes there is a case for longer continuous monitoring than 5 years as Mr Wallace notes.
21. PNCC notes that there is a complaint management procedure and review option should these changes to conditions not achieve acceptable levels of amenity however the framework is expected to deliver improvements but not inaudibility.
22. In case it is of assistance for the Panel and the submitter, NZ Windfarms has attached a more detailed response to the matters raised in **Appendix 2a**.

Lawrence Hill

23. Lawrence Hill provided comment on the NZ Windfarms proposed revised operating conditions on 15 October 2017,¹

¹ Submission was dated 13 October 2017 but was not circulated until 15 October 2017.

raising similar issues to those in his 12 September 2017 supplementary submission.

24. NZ Windfarms met with Mr Hill on 24 October 2017 to discuss his concerns and explain the rationale for the conditions proposed, including in particular where the conditions were drafted to address near neighbour concerns.
25. NZ Windfarms and PNCC consider that Mr Hill's concerns about impacts on near neighbours were canvassed at the hearing and will be adequately addressed by the attached version of conditions. No further changes to conditions are proposed. However, in case it is of assistance for the Panel and the submitter, NZ Windfarms has attached a more detailed response to the matters raised in **Appendix 2b**.
26. Mr Hill also raised two other matters in his response relating to plan change 15B and the costs of curtailment. These go beyond the comments on conditions which the Commissioners requested. NZ Windfarms and PNCC consider that both of these matters were discussed and considered at the hearing and were the subject of specific evidence (from Mr Low and Mr Auckram in relation to PC15B and Mr Worth in relation to the costs of curtailment).

RESPONSE TO PARAGRAPH 15 OF THE COMMISSIONERS MINUTE

27. In its 21 September 2017 Minute the Commissioners suggested that NZ Windfarms may wish to consider:
 - (a) Whether any other turbines should be considered as part of Option 1 at paragraph 7(a) above. If yes, perhaps current Option 1 can be renamed Option 1A and the new option, with the alternate turbines to be named Option 1B;*
 - (b) Whether either Option 1A, Option 1B (if applicable) or Option 2 should apply to stage 4 of the windfarm.*
28. NZ Windfarms has considered these matters and advises that:
 - (a) The 6 October 2017 joint acoustic statement of Mr Evans and Halstead considered whether T088 should be included in Option 1 and concluded it was not necessary as further modelling had shown that the gearbox noise from that turbine is not likely to be prominent; and

- (b) Option 1 (conditions 4 and 5A – 5D) would still be required to be met if unconstructed turbines were erected. These conditions are not specific to the existing turbine configuration and apply to the operation of the windfarm which includes the unconstructed sites. There are no unconstructed turbine sites which are closer than T103 and T104 to the Ridgeview Road residents and no reason why additional sites should be added (including T088 for the reasons set out in Mr Evans and Mr Halstead's joint statement).

Dated this 31st day of October 2017



Vicki Morrison-Shaw

Legal Counsel for NZ
Windfarms Ltd



John Maassen

Legal Counsel for Palmerston
North City Council

APPENDIX 1 – PROPOSED FINAL SET OF CONDITIONS

Note:

- These conditions show a final set of conditions for Te Rere Hau windfarm subject to resolution of the areas of disagreement in relation to tonality – conditions 8.4, 8.5 and 11.5.
- For these conditions NZ Windfarms proposed version is shown in **green** and PNCC is shown in **red**

1. The proposed Te Rere Hau Wind Farm must be constructed and operated generally in accordance with all the information, site plans and drawings accompanying the application or submitted as additional information, except the noise predictions accompanying the original application. The relevant noise standards for the Te Rere Hau windfarm are set out in conditions 4-12 of this consent. Each turbine shall be located within a 20m radius of its nominated coordinates as outlined in the Application (contained on File No: N21/PLN – Plans drawn by Connell Wagner drawing number 101E, 3A).

Advice Note: (a) the ability to alter the specific location of each turbine within a 20m radius is to provide for likely movement related to detailed design layout and the recommendations made in the Applicant's ecologist's report; and (b) non-reflective finishes shall be used and be maintained in such a manner to prevent blade glint and to assist in reducing the prominence of the turbines when viewed from a distance.

Noise (General)

2. Noise from all construction and decommissioning work including (but not limited to):
 - (a) site works;
 - (b) wind turbine generator (WTG) foundation construction;
 - (c) WTG assembly and placement;
 - (d) WTG removal;
 - (e) foundation demolition and removal; and
 - (f) land reinstatement

shall be measured, assessed and controlled using NZS 6803:1999 Acoustics – Construction Noise. The noise limits shall be those set out in Table 2 of NZS 6803:1999 for works of a “long term” duration.

5.2 The background noise level plus 5 dB(A).

This condition does not apply to the dwellings on Lot 1 DP 20911 (130 Harrison Hill Rd), Lot 2 SP 85413 (629 Pahiatua Track) and Lot 1 DP 85413 (631 Pahiatua Track).

T103 and T104

5A. By 1 December 2017 the WTGs identified as T103 and T104 must be operated so that when measured in accordance with IEC61400-11:2012:

5A.1 The sound power level of each turbine does not exceed 104.2dBA; and

5A.2 The WTGs do not produce tonal audibility greater than 4dB at wind speeds between 6m/s and 10m/s.

Advice Note: For the avoidance of doubt this is intended to be achieved by upgrading the Stage 3 gearset in T104. However, this condition may be achieved in part by curtailing WTG-operation in addition to a gearset upgrade.

5B. By 30 January 2018 the consent holder must provide PNCC a post T103 and T104 gearset upgrade report that describes the mechanical changes and demonstrates compliance with condition 5A and includes:

5B.1 Test results for the sound power levels of T103 and T104 measured in accordance with IEC 61400-11:2012; and

5B.2 Identifies any curtailment procedures necessary for ensuring compliance with the noise limits in condition 5A.

5C. If the wind direction falls within the south easterly quadrant (i.e. 90 to 180 degrees in summer (i.e. between 1 December and 31 March inclusive) during the following times:

5C.1 During weekends and public holidays from 6am until 10pm; and

5C.2 On weekdays from 6pm to 10pm;

then the consent holder must curtail operation of the WTGs identified as T103 and T104 so that neither WTG operates until the one minute average windspeed exceeds 9m/s.

6. For the purposes of Condition 4 and Condition 5, the background noise level used to establish noise limits should not be influenced by noise from the Te Rere Hau Extension or any other wind farm.

Windfarm Noise, Assessment and Measurement

7. Wind farm noise is to be measured and assessed in accordance with NZS 6808:2010 subject to the specific requirements set out below that prevail in the event of conflict:
 - 7.1 Noise levels are to be assessed over the 30m height wind speed range from 5.5 m/s to 15.5 m/s;
 - 7.2 The operational and background noise levels are to be assessed for the period 1 hour after sunset to 1 hour before sunrise only;
 - 7.3 The operational and background noise levels are to be individually assessed for each of the following wind sectors:
 - 7.3.1 WNW – 270° to 315° relative to true north;
 - 7.3.2 NNW - 315° to 360° relative to true north;
 - 7.3.3 SSE - 135° to 180° relative to true north;
 - 7.3.4 ESE - 90° to 135° relative to true north.
 - 7.4 Any data points collected under any of the following circumstances are to be excluded from the assessment:
 - 7.4.1 Less than 95% of the WTGs are online and available for generation. That is, more than 5% are offline for maintenance or due to failure;
 - 7.4.2 Less than 9 of the nearest 10 WTGs to a measurement location are online and available for generation;

7.4.3 Either T103 or T104 (or both) are not online and available for generation (for Harrison Hill Road, 428 Pahiatua-Aokautere Road and Ridgeview Road measurement locations only).

Any WTGs that are not operating, or have been curtailed, as a noise reduction measure for particular wind conditions shall be considered to be online and available for generation for those conditions. However which WTGs are not operating and which are curtailed must be reported in the post compliance assessment under condition 10.6.

7.5 At least:

7.5.1 200 valid data points are to be collected for each WNW and NNW wind direction sectors; and

7.5.2 350 valid data points are to be collected cumulatively across the SSE and ESE wind direction sectors and at least 150 data points must come from across each of these sectors;

unless this is not reasonably practical, at the discretion of PNCC, due to the wind characteristics of the site's met mast.

8. The following procedure shall be assessed separately for each wind direction sector and only for the night time period (1 hour after sunset to 1 hour before sunrise).

8.1 If a tone that attracts a penalty in accordance with NZS 6808:2010 and is attributable to the wind farm is detected in any two-minute period at a residence, then the penalty shall be applied to the 10-minute data point in which that period occurs. If multiple tones that attract a penalty are detected for a 10-minute data point, then the highest penalty shall be applied;

8.2 If average amplitude modulation exceeding 3 dB is detected for any 10-minute period in accordance with the UK Institute of Acoustics amplitude modulation metric, then a penalty shall be applied to that 10-minute period in accordance with the penalty scheme detailed in the UK Department of Environment and Climate Change Wind Turbine AM Review – Phase 2 Report dated August 2016;

8.3 The total penalty for any 10-minute data point shall not exceed 6 dB in accordance with NZS 6808:2010;

~~8.4 If less than 10% of the data points within a 1 m/s wind speed bin attract a penalty, then the 10 minute data points, including penalty, shall be included in the data for the assessment of the overall noise level;~~

~~8.5 If 10% or more of the data points within a 1 m/s wide wind speed bin attract a penalty, then the arithmetic average penalty for those penalised data points shall be determined and applied to the overall measured wind farm noise level for that wind speed.~~

8.4 Where penalties apply for one or more data points at a residence, a separate assessment must be undertaken of the measured wind farm noise levels for the conditions under which the penalties occur. The separate assessment must reasonably consider and provide for the following in selecting the conditions for analysis:

a) The time of day under which the characteristics occur.

b) The wind directions under which the characteristics occur.

c) The wind speeds under which the characteristics occur.

Where different characteristics occur that attract penalties, separate assessments shall be conducted for each characteristic.

For any assessments required to fulfil Condition 8.4, the minimum data point requirements defined in Condition 7.5 do not apply.

Where characteristics that attract penalties occur for a limited wind speed range, then bin analysis should be considered and applied where it is reasonable to do so as described in C7.4.2 of NZS 6808:2010 having regard to reported levels of annoyance.

9. For the purposes of any background or operational noise monitoring, all noise data is to be referenced to 30 m height wind speeds, and 28 m height wind directions, as measured at the Te Rere Hau Wind Farm western meteorological mast.

10. A compliance noise monitoring report for the existing 65 Te Rere Hau WTG's must be submitted to PNCC within twelve months of the commencement of this condition under section 116(1) of the RMA to demonstrate compliance with those amended conditions. The report shall be prepared in accordance with NZS6808:2010 and may use existing monitoring data collected before PNCC's review, and any further monitoring data which has been collected following the review using the on/off method or any other method provided for in NZS6808:2010. The report must detail:

10.1 The results of the noise monitoring conducted at, as a minimum, the following 6 locations:

- 10.1.1 104 Harrison Hill Road;
- 10.1.2 428 Pahiatua-Aokautere Road;
- 10.1.3 48 Ridgeview Road;
- 10.1.4 38 Ridgeview Road;
- 10.1.5 367 Forest Hill Road;
- 10.1.6 662 Pahiatua-Aokautere Road.

Advice Note: For the purposes of condition 10 above, where further background sound measurement is required, this consent does not require that any other existing windfarms has to be turned off. Clause C5.6.3 in NZS6808:2010 provides an accepted method for calculating the background sound level excluding noise from other existing windfarms.

10.2 Alternative representative monitoring locations to those listed in 10.1.1 – 10.1.6 may be used if for any reasons unimpeded and safe access is not provided to one or more of the above locations and the alternative location is approved by PNCC. If an alternative representative monitoring location is to be used the consent holder shall provide the consent authority with written notice of the alternative representative location for approval in a technical certification capacity. The written notice shall contain:

10.2.1 the location of the alternative representative location;

10.2.2 the reason for using the alternative representative location;
and

- 10.2.3 a statement from a suitably qualified and experienced acoustic expert which outlines why the alternative representative location is a suitable replacement for the site(s) in condition 10.1 to which the consent holder is unable to obtain unimpeded and safe access.
- 10.3 Objective tonality and amplitude modulation assessments conducted over the range of wind speeds and wind directions defined in Condition 7.
- 10.4 Where near field tonality assessments are used to support the tonality assessment at the residence, the consent holder shall ensure that the relevant tones are considered at the residence.
- 10.5 A conclusion as to the compliance, or otherwise, of the wind farm.
- 10.6 The identification of any mitigation measures required to achieve compliance (including keeping turbines curtailed or off line) and:
- 10.6.1 Evidence that these measures have been implemented;
- 10.6.2 Demonstration to the satisfaction of the Council of the steps taken to ensure that these measures will continue to be implemented during operation of the windfarm; and
- 10.6.3 All other information as required by NZS 6808:2010.
- 10.7 If any mitigation measures are identified within the compliance noise monitoring report, then evidence shall be provided that these measures have been applied at all times of day, unless justification is provided within the compliance noise monitoring report as to why the mitigation measures should be limited to specific times of day. This is not intended to suggest that mitigation required in order to meet the high amenity noise limit should also be applied during hours when that does not apply.
11. The post-amendment noise compliance assessment is to be independently peer reviewed by an acoustic expert appointed by PNCC. The peer review must consider whether the report satisfactorily

demonstrates compliance with the consent conditions, including, but not limited to consideration of whether the assessment:

- 11.1 Adopts noise limits as required by Condition 4 and Condition 5;
- 11.2 Provides evidence that background noise levels used to set noise limits are not influenced by noise from other wind farms;
- 11.3 Is based on sufficient data to fulfil the requirements of Condition 7;
- 11.4 Includes an objective assessment of Special Audible Characteristics at the residences over the range of wind speeds and directions required and, where near field test results from the WTGs are used to support this, considers appropriate wind speeds and wind directions at the residence;
- ~~11.5 If Special Audible Characteristics occur at residences, separately considers the wind/time conditions under which these occur.~~
- 11.5 If Special Audible Characteristics occur at residences, separately considers the wind/time conditions under which these occur.
- 11.5A If required, provides evidence that appropriate curtailment measures have been implemented to comply with the noise limits in Condition 4 and Condition 5.

Unconstructed Turbine Sites

- 12. Prior to the installation of any WTG at a turbine site shown as Unbuilt (PNCC) in Schedule 1 to this consent:
 - 12.1 Compliance must have been demonstrated to have been achieved for the 65 installed WTGs at the site in accordance with Conditions 4 to 8;
 - 12.2 An acoustic assessment must be submitted to PNCC for approval prior to construction demonstrating that predicted noise levels for the revised windfarm layout, including the extension, will achieve compliance with the consent conditions;
 - 12.3 The acoustic assessment should, as a minimum:
 - 12.3.1 Provide predicted wind farm noise levels from all WTGs at the site, including the Extension WTGs. The predictions

should be validated on the basis of measurements taken from the currently installed WTG's on Te Rere Hau;

- 12.3.2 Provide evidence supporting the assumed sound power levels for the WTGs to be located on Unbuilt (PNCC) turbine sites. This should include sound power test data for the WTGs. Sound power levels are to be measured in accordance with IEC 61400-11:2012 and specify any uncertainty; and
- 12.3.3 Provide justification as to why the addition of WTGs on Unbuilt (PNCC) turbine sites would not result in Special Audible Characteristics at residences that would attract a penalty. This should have reference to measurement results from the currently installed WTGs at Te Rere Hau.
- 12.4 When installed, the new WTGs must not exceed (allowing for measurement uncertainty) the sound power levels stated in the acoustic assessment at 12.3.
- 12.5 Prior to commissioning any WTG on an unbuilt (PNCC) turbine site the consent holder must provide to PNCC a pre-commissioning compliance report prepared by a suitable qualified and experienced acoustic expert that:
 - 12.5.1 Includes test results for the sound power levels of a minimum of 2 representative WTGs installed on the unbuilt (PNCC) turbine sites measured in accordance with IEC 61400-11:2012, unless only 1 additional WTG has been installed in which case only that WTG need be tested. Where more than 2 WTGs are installed, PNCC must approve the WTGs selected for testing prior to the commencement of testing; and
 - 12.5.2 Identifies any further procedures necessary for ensuring compliance with the noise limits in conditions 4 to 8 should the sound power levels measured in accordance with condition 12.4.1 be greater than those predicted in condition 12.3.2.
- 12.6 Following the installation of the additional WTGs, compliance monitoring should be conducted again to demonstrate compliance of the whole site including TRH extension with

conditions 4 – 8.

- 12.7 A post commissioning compliance monitoring report shall be provided to PNCC within 12 months of installation of the additional WTGs on Unbuilt (PNCC) turbine sites. The post commissioning compliance monitoring report must:
- 12.7.1 Address all the matters required of the post review compliance monitoring report in Condition 10;
 - 12.7.2 Address any further procedures identified under condition 12.4.2 when fulfilling the requirements of conditions 10.6 and 10.7; and
 - 12.7.3 Be independently peer reviewed by an acoustic expert appointed by PNCC in accordance with the process set out in condition 11.
- 12.8 Should the additional WTGs be installed on Unbuilt (PNCC) turbine sites in multiple stages, then compliance monitoring must be undertaken following each stage.

Continuous Noise Monitoring

- 13.1 Within six months of the commencement of this condition under section 116(1) of the RMA, the consent holder must install a Noise Monitoring Terminal (NMT) at 38 Ridgeview Road, or at an appropriate alternative representative location approved by PNCC.
- 13.2 The NMT must operate for at least five years after the commencement of this condition under section 116(1) of the RMA and must make available to be stored:
- 13.2.1 Measured noise levels as required by NZS 6808:2010; and
 - 13.2.2 Sufficient data to enable a later assessment of SACs.

General Management and Reporting

14. The Consent Holder shall maintain the turbines in good condition at all times and shall undertake appropriate regular servicing in accordance with industry practice.

15. The Consent Holder shall advise PNCC if there is any material change to the noise emissions from the WTGs from the emissions existing at the time these conditions were amended by a review under s 128(1)(c) as a result of wear and tear.

Contact and Complaints Procedure

16. At all times the Consent Holder must maintain a dedicated and up to date website which makes the following information available to the public:

16.1 a specified point of contact and local telephone number for the public to contact in respect of Te Rere Hau wind farm operations;

16.2 any compliance noise monitoring reports required under this consent which have been provided to the Council.

- 16A Within six weeks of the commencement of this condition under section 116(1) of the RMA, the Consent Holder shall publicise in the local newspaper, and via written notification to all occupiers and/or owners of the houses listed in Schedule 2 of this consent, details of the website established in accordance with condition 16, and a local telephone number and specified point of contact for the public to contact in respect of wind farm operations.

- 16AA The consent holder must maintain and implement a Complaint Management Plan (CMP), which must, as a minimum specify:

- a) A local telephone number and email contact for complaints and queries;
- b) Details of the appropriate PNCC contact telephone number and email address;
- c) A requirement that all complaints will be recorded in a complaints register;
- d) A process for recording the information required for each complaint under condition 17;
- e) Procedures for responding to complainants; and
- f) A procedure for refinement and improvement of the CMP through operation of the wind farm.

- 16.AA.1 The CMP must be submitted to PNCC within three months of the

commencement of this condition under section 116(1) of the RMA.

16AA.2 The CMP and any updates must be to a standard acceptable to PNCC acting in a technical certification capacity. In determining if the CMP and any updates are to an acceptable standard, PNCC is limited to an assessment of whether or not the CMP and any update adequately address the matters identified in the conditions of this consent.

16AA.3 The certified CMP must be made available on the website required by condition 16.

17. The Consent Holder shall maintain a Complaints Register to record complaints from the public in respect to adverse off-site environmental impact that may arise during construction, operation and maintenance of the wind farm. This Register is to include the name and address of the complainant (if provided), the date and time of the complaint, the nature of the complaint, wind and weather at the time, activity occurring on the site at the time, details of whether the complaint was or was not able to be verified, and any remedial measures undertaken by the Consent Holder.

18. A copy of the Complaints Register shall be made available within 5 working days to PNCC's Environmental Compliance Manager upon request.

Community Liaison Group

19 Within 3 months of the commencement of this condition under section 116(1) of the RMA, the Consent Holder shall establish a Community Liaison Group (Group) for the Te Rere Hau windfarm.

19.1 Membership of the Group shall include representatives of the Consent Holder, and shall be open to:

19.1.1 the occupiers and owners of the 6 properties noted as monitoring locations in condition 10.1;

19.1.2 the occupiers and owners of properties listed in Schedule 2 of this consent; and

19.1.3 a nominated staff member from PNCC.

19.2 The purpose of the Group shall be to:

19.2.1 provide a means for receiving regular updates on Te Rere

Hau windfarm activities;

- 19.2.2 provide a regular forum through which information and monitoring data about the windfarm can be provided to the neighbours; and
 - 19.2.3 enable opportunities for concerns and issues to be reported to and responded to by the Consent Holder.
- 19.3 The Consent Holder will use its best endeavours to ensure that the Group meets at least annually for the first five years following the review. After that five year period, the Consent Holder shall only be required to organise a meeting following a specific request by a Group member and provided it has been at least 12 months since the last Group meeting.
- 19.4 The Consent Holder shall, prior to submitting the annual monitoring report required by condition 19, provide the Community Liaison Group with a copy of the draft report and invite the Group to a meeting to discuss the report. Any such meeting must be at least five working days after supply of the draft report.

Advice note: The Consent Holder can opt to hold Group meetings more frequently but is not required by these conditions to do so.

- 19.5 The Consent Holder shall provide reasonable administrative support for the Group including organising meetings at a local venue, inviting all members of the Group as well as the taking and dissemination of meeting minutes.

Annual Noise Monitoring Report

20. The consent holder shall submit an annual noise monitoring report for the year ending 31 March to the PNCC Environmental Compliance Manager by 31 May each year which:
- 20.1 Provides technical operating data certified by a duly authorised representative of the consent holder to demonstrate compliance with condition 5C.
 - 20.2 Identifies all alterations made to turbines during the year which may have the potential to either increase the noise levels from any WTG, or change / introduce special audible characteristics from any WTG in an adverse way, including replacement of gearboxes and / or generators, replacement of blades, new blade profiles,

and changes to the isolation between gearboxes and / or generators and the turbine structure.

- 20.3 Includes a statement from a suitably qualified and experienced acoustic consultant that identifies, and characterises any of the changes identified in 19.2.
- 20.4. Includes an annual summary of the Complaints Register for the year ending 31 December.
- 20.5 Includes the minutes of any meeting of the Community Liaison Group under condition 16 during the calendar year.
- 20.6 Provides an analysis of the annual noise monitoring undertaken during the year, including:
 - 20.6.1 Provision of the following operational data:
 - a. The location of the NMT.
 - b. Confirmation that the NMT was operating with sufficient accuracy as required by NZS 6808:2010.
 - c. The total number of hours of data collected by the NMT during the calendar year.
 - d. A summary of times during which the NMT was not operating, an explanation of the reasons for this and any measures that have been implemented to prevent similar occurrences in the future.
 - 20.6.2 An analysis of the operational data for the calendar year by a suitably qualified and experienced acoustic consultant, including:
 - a) A comparison of the data with previously collected and reported results to identify and make comment on any emerging trends
 - b. An assessment of the potential causes for any complaints about noise and whether they are attributable to changes in noise emissions from the WTGs.
- 20.7 Includes any feedback received from the Community Liaison

Group to the Draft Annual Noise Monitoring Report provided to them in accordance with condition 16B.4.

- 20.8 The Annual Noise Compliance Report submitted on 31 May 2019 must be independently peer reviewed by an acoustic expert appointed by PNCC. The peer review must consider:

20.8.1 Whether the methodology used to conduct the analysis under condition 19.6, and presentation of the results of that analysis, is appropriate; and

20.8.2. The appropriateness of any conclusions drawn from that analysis.

- 20.9 PNCC may, if it considers there are reasonable grounds to do so, obtain an independent peer review of any subsequent Annual Noise Monitoring Report. Reasonable grounds could include, but are not limited to:

20.9.1 The consent holder using a different methodology to conduct the analysis under condition 19.6 relative to that used in the previous year's Annual Noise Monitoring Report.

20.9.2 A notable change in the number or nature of the noise complaints received relative to previous years.

20.9.3 A notable adverse trend in the noise recorded by the NMT.

- 20.10 The Consent Holder must keep all raw data collected by the NMT under condition 13.1 and 13.2 for the duration of this consent, and must make that data available to PNCC upon request, along with corresponding data on hub height wind speed and wind direction.

Review

21. PNCC may, in accordance with the Resource Management Act 1991, ss 128 and 129 serve notice of its intention to review the conditions of consent relating to noise emissions and effects of WTGs following receipt of a compliance noise monitoring report required by condition 10 or condition 12.5A, and at 5 yearly intervals thereafter (whichever occurs first)-in order to:

21.1 Address environmental effects relating to noise emissions not

anticipated by this consent; and

21.2 To better monitor and manage noise emissions and effects.

Roading and Traffic

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

Advice Note: The Plan is to be prepared in accordance with the PNCC Traffic Management Guidelines (2000) and should provide for safe and practical access to and from the site during the construction phase of the wind farm.

23. The Consent Holder shall submit engineering plans for approval by Council's Roothing Manager, for the required upgrading of North Range Road in accordance with ARRB Unsealed Roads Manual, Guidelines to Good Practices (August 2000) or similar standard. Such plans shall include a minimum carriageway width of 4 metres, appropriate passing opportunities and a sealed ingress/egress area at the intersection of Pahiatua-Aokautere Road for a length of no less than 30 metres to prevent gravel overspill onto the adjoining carriageway.

24. The Consent Holder shall complete the roading works required and specified in the approved engineering plans (condition 23) prior to the commencement of the construction works on the wind farm.

25. Following the completion of the required roading upgrade works (Condition 9) the Consent Holder shall regularly carry out sufficient roading maintenance works to maintain the length of North Range Road from Pahiatua-Aokautere Road to the wind farm site to the same standard (or better). The maintenance works are to be carried out until all construction works for the wind farm have been completed, at which time the maintenance liability will revert back to the Council.

Ecological

26. The Consent Holder shall record any birds found killed or injured resulting from the operation of the wind farm. This record shall include the time, location, date and species of any birds found dead on the site. This recording should include coverage of all turbine areas and shall be

undertaken as part of the regular duties of the staff. This recording shall be undertaken from the installation of the first turbine and continued for a period of five years. Once every 12 months for the duration of the specified period of recording, the information shall be forwarded to the Head of Planning, Customer Services Unit, Palmerston North City Council. A copy of the record is also to be forwarded to the Department of Conservation Area Office in Palmerston North.

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

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

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

Landscaping and Earthworks

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

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

29. The Consent Holder must ensure that all cut and fill earthworks and disposal of fill is undertaken in accordance with the approved landscape and contour plans required by Condition 28.
30. The horizons – Regional Council shall be notified prior to any on-site earthworks being undertaken to ensure compliance with the relevant regional plan provisions.
31. The consent holder shall ensure that the proposed development of the access tracks and rehabilitation of this system after construction is

completed (within the first planting season following each stage of the construction works) including topsoiling and appropriate hydro-seeding of the same areas around all concrete foundations flush to all outer edges of the concrete foundations, and the topsoiling and grassing of the secondary tracks, farm tracks and temporary tracks be undertaken in accordance with the detail outlined in the application.

32. The Consent Holder shall submit for approval to Council's Senior Landscape Architect a landscape plan detailing proposed landscaping around the site office buildings and associated outdoor yards to provide visual screening such that the works integrate the buildings with the site when viewed from the west and south west of the site.
33. The Consent Holder shall complete the landscaping works proposed in plans certified pursuant to Condition 32 within the first planting season after initial occupation and use of the buildings.

Ballance Radar Station

34. The Consent Holder shall prepare a report which:
 - (a) Takes into account the experimental work done by New Zealand Windfarms Ltd and Airways Corporation of NZ Ltd (Airways) on 10 November 2004 and involves further experimental work following the installation and operation of the first turbine situated on the skyline in the line of site of the Ballance Radar Station.
 - (b) Identifies and assesses potential and actual adverse effects of the wind farm development on the operation of Airways' Ballance Radar Station and any other navigational sites and facilities which are deemed by Airways to be potentially affected by the wind farm, as defined at the time the report is prepared.
 - (c) Includes measures as necessary to avoid, remedy and/or mitigate any such adverse effects to ensure the safe and efficient operation of the air transport network other than remove or relocate any turbine which is 500m (or more) away from the Ballance Radar Station or not in direct line of sight of the flight path into Palmerston North Airport when viewed from the Ballance Radar Station.
35. The report required under Condition 19 shall be prepared by Airways or a company expert in radar systems and shall be provided to the Head of Planning, Customer Services Unit, Palmerston North City Council for approval within 6 months from the date of installation of the first turbine in line of sight of the Ballance Radar Station.
36. The Consent Holder shall as a precaution install the first six turbines in such a way that the towers are either clearly separate or completely aligned

radially (ie fully overlapping) as seen by the Ballance Radar Station.

37. The Consent Holder shall implement the mitigation measures detailed in the report prepared in accordance with Condition 34 within 1 month of the report being provided to the Head of Planning, Customer Services Unit, Palmerston North City Council. Turbine numbers 1 to 6 may have been installed prior to the completion of the report in which case the Consent Holder shall not be required to remove or relocate any of these 6 turbines, unless there is evidence to indicate that their operation is resulting in actual adverse effects to the safe and efficient operation of the air transport network and other mitigation measures have not proved to be affective.
38. Within 12 months of the date of commencement of this consent and within 3 months of the first, second, fifth and eighth anniversary of the commencement of this consent, the Palmerston North City Council may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice of its intention to review the conditions of consent if there is documented evidence that adverse effects on the safe and efficient operation of the air transport network beyond the limits contemplated by the granting of this consent have been generated by the activities on the site, or that the measures implemented to avoid, remedy and/or mitigate any such adverse effects have not been effective (see Note 1 below).

Note 1: The operation of this consent relies on the adoption of measures to ensure any adverse effects on the Ballance Radar Station and any other navigational sites and facilities which are deemed by Airways (as defined at the time the report required by Condition 34 is prepared) to be potentially affected by the wind farm are avoided, remedied, and/or mitigated. As the timing of the commissioning of the entire wind farm is to be progressive, actual effects may not be identified until some time after the granting of the consent.

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

Cultural

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

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

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

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

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

Lapse Date

41. This consent shall lapse eight years after the date of commencement, unless the consent is either given effect to before that lapsing date, or

unless the Palmerston North City Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

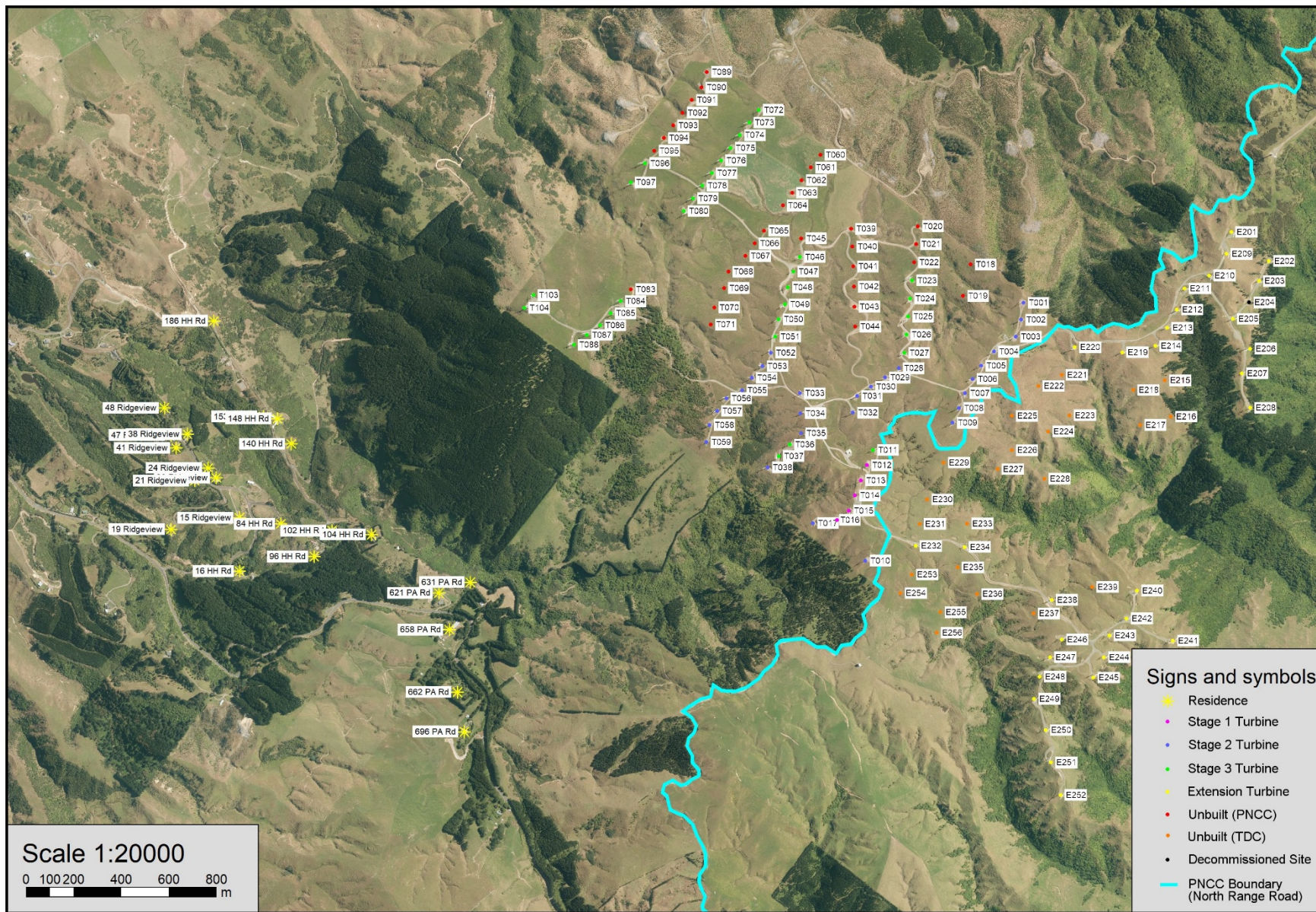
Wind Farm Decommissioning

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

Charges

43. A monitoring fee of \$430.00 (GST inclusive) shall be paid at the time the resource consent is granted to cover the cost of monitoring compliance with the above conditions. This fee covers four monitoring visits.
 - (i) A fee will be payable by the Consent Holder if any non-compliance with the conditions of this consent are discovered as a result of monitoring. This fee is set in accordance with Section 36(1)(c) of the Resource Management Act 1991.
44. The consent holder must pay PNCC all actual and reasonable costs pursuant to RMA, s 36, in relation to any administration, monitoring and inspection relating to these consents, and charges fixed by regulation, including the costs of peer reviewing where required.

Schedule 1 – Map showing Unbuilt (PNCC) Turbine Sites



Schedule 2– List of properties to which condition 16A and 16B apply.

<u>Address</u>	
<u>84 Harrison Hill Road</u>	<u>48 Ridgeview Road</u>
<u>19 Ridgeview Road</u>	<u>621 Pahiatua Aokautere Road</u>
<u>15 Ridgeview Road</u>	<u>631 Pahiatua Aokautere Road</u>
<u>208 Forest Hill Road</u>	<u>265 Forest Hill Road</u>
<u>96 Harrison Hill Road</u>	<u>102 Harrison Hill Road</u>
<u>24 Ridgeview Road</u>	<u>662 Pahiatua Aokautere Road</u>
<u>20 Ridgeview Road</u>	<u>319 Forest Hill Road</u>
<u>41 Ridgeview Road</u>	<u>696 Pahiatua Aokautere Road</u>
<u>47 Ridgeview Road</u>	<u>239 Forest Hill Road</u>
<u>38 Ridgeview Road</u>	<u>148 Harrison Hill Road</u>
<u>21 Ridgeview Road</u>	<u>140 Harrison Hill Road</u>
<u>153 Harrison Hill Road</u>	<u>276 Forest Hill Road</u>
<u>658 Pahiatua Aokautere</u>	<u>104 Harrison Hill Road</u>

<u>Road</u>	
<u>349 Forest Hill Road</u>	<u>186 Harrison Hill Road</u>
<u>16 Harrison Hill Road</u>	<u>428 Pahiataua-Aokautere Road</u>
<u>367 Forest Hill Road</u>	<u>406 Pahiataua-Aokautere Road</u>

APPENDIX 2A - TABLE SHOWING NZ WINDFARMS RESPONSE TO RC WALLACE AND NJ BANKS-WALLACE PROPOSED COMMENTS ON CONDITIONS

Note: The table below sets out a response to the comments provided by RC Wallace and NJ Banks-Wallace on 12 October 2017 and 27 October 2017. Changes the submitter proposes to conditions are indicated in **red text**.

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
Various	Wind speed and dB values should be referred to using one decimal place to give clarity regarding rounding.	Not consistent with the Standard.
4	<p>From the date 12 months after the commencement of this condition under section 116(1) of the RMA, the wind farm shall operate such that when measured within the notional boundary of any residential dwelling in existence at the time this consent was granted on 30 May 2005 that is within the Rural Residential Overlay mapped in the Palmerston North District Plan as notified in Plan Change 15, wind farm noise <u>measured at a residence</u> does not exceed the greater of:</p> <p>...</p> <p>This condition only applies from [4pm – 730am or at least 5pm to 7am] <u>7pm to 7am</u>, up to a hub height wind speed of [9m/s or 10m/s] <u>6</u>-m/s, otherwise condition 5 applies.</p>	<p>A date is necessary to make the condition sufficiently certain. PNCC and NZ Windfarms have agreed that the appropriate date is 30 May 2009 as that is when Stage 2 was completed and most complaints began.</p> <p>Measuring “at the notional boundary of a residential dwelling” – is in accordance with the NZS 6808.</p> <p>7pm – 7am is in accordance with the standard which defines evening as from 7-10pm and night time as from 10pm to 7am.</p> <p><i>Pickering</i> does not dictate the cut-in speed which should apply here. PNCC and NZ Windfarms have</p>

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
	<p>This condition does not apply to the dwellings on Lot 1 DP 20911 (130 Harrison Hill Rd), Lot 2 SP 85413 (629 Pahiatua Track) and Lot 1 DP 85413 (631 Pahiatua Track).</p>	<p>agreed that 6 m/s is appropriate but with additional conditions 5A to 5C.</p> <p>Accepted</p>
5	<p>Subject to condition 4, the wind farm shall operate such that when measured within the notional boundary of any residential dwelling in existence on or before 30 May 2009, the wind farm noise does not exceed the greater of:</p> <p>5.1 40 dB(A); OR</p> <p>5.2 The background noise level plus 5 dB(A).</p> <p>This condition does not apply to the dwellings on Lot 1 DP 20911 (130 Harrison Hill Rd), Lot 2 SP 85413 (629 Pahiatua Track) and Lot 1 DP 85413 (631 Pahiatua Track).</p>	<p>Accepted</p>

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
5A	<p>By 1 December 2017 T103 and T104 [<u>and 6 – 8 WTGs behind the ridge from Wallace property</u>] shall be operated such that when measured in accordance with IEC61400-11:2012:</p> <p>5A.1 The sound power level of each turbine does not exceed <u>103.6dB</u>104.2dBA; and</p> <p>...</p>	<p>The joint noise statement (6 October 2017) from Mr Halstead and Mr Evans agreed that there was no need to extend these conditions to other WTGs.</p> <p>The suggested level is to provide an allowance for measurement uncertainty which is standard practice.</p>
5C	<p>If the wind direction falls within the south easterly quadrant (i.e. 90 to 180 degrees in summer (i.e. between 1 December and 31 March inclusive) during the following times:</p> <p>5C.1 During weekends and public holidays from 6am until 10pm; and</p> <p>5C.2 On weekdays from <u>5pm</u> 6pm to 10pm;</p> <p>then the consent holder must curtail operation of the WTGs identified as T103 and T104 [<u>and 6 – 8 WTGs behind the ridge from Wallace property</u>] so that neither WTG operates until the one minute average windspeed exceeds 9m/s.</p>	<p>The standard sets 7pm as the time for high amenity. PNCC and NZ Windfarms have agreed that 6pm provides sufficient additional protection.</p>
5D	<p>Add "<u>commencing in 2018</u>" to clarify date of first</p>	<p>5D is now part of condition 20 in final set of conditions.</p>

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
	report	Change not necessary. The condition will apply every year post the consent commencing.
7.2	The operational and background noise levels are to be assessed for the period <u>4pm to 7:30am</u> 1-hour after sunset to 1-hour before sunrise only;	This conflicts with the standard which only requires measurement during evening and night time periods as background noise levels are normally lower at those times. Increasing the period to cover daytime hours would elevate background levels and therefore permissible levels of noise. PNCC and NZ Windfarms maintain that the evening and night time period is appropriate but have suggested amended to 7pm to 7am to be more consistent with the standard and condition 4.
7.3	<p>The operational and background noise levels are to be individually assessed for each of the following wind sectors:</p> <p>7.3.1 WNW – 270° to 315° relative to true north;</p> <p>7.3.2 NNW - 315° to <u>010360°</u> relative to true north;</p> <p>7.3.3 SSE - 135° to <u>200180°</u> relative to true north;</p> <p>7.3.4 ESE - <u>90° 70</u> to 135° relative to true north.</p>	Wind sectors are based on those agreed by the acoustic experts as being the most appropriate.
7.4	7.4.1 Less than 95% of the WTGs are <u>operating online</u> and available for generation . That is, more than 5%	PNCC and NZ Windfarms experts agreed through the s 128 process that conditions need to reflect normal

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
	<p>are offline for maintenance or due to failure;</p> <p>7.4.2 Less than 9 of the nearest 10 WTGs to a measurement location are operating online and available for generation;</p> <p>7.4.3 Either T103 or T104 (or both) are not operating online and available for generation (for Harrison Hill Road, 428 Pahiatua-Aokautere Road and Ridgeview Road measurement locations only).</p>	<p>operation which includes when WTGs are online and available for generation but not actually generating.</p> <p>However, clarification has been added after 7.4.3 that WTGs which are not operating must be reported in the post compliance assessment.</p>
10.2	<p>Alternative representative monitoring locations to those listed in 10.1.1 – 10.1.6 may be used if for any reasons unimpeded and safe access is not provided to one or more of the above locations and the alternative location is approved by PNCC. If an alternative representative monitoring location is to be used the consent holder shall provide the consent authority with written notice of the alternative representative location for approval in a technical certification capacity. The written notice shall contain:</p> <p>...</p> <p>10.5.1 None of 104 Harrison Hill Road, 130 Harrison Hill Road, 629 Pahiatua Track or 631 Pahiatua Tract can be</p>	<p>Not necessary as 104 Harrison Hill Road is already a primary location, and the other three are specifically excluded under conditions 4 and 5.</p>

CONDITION	RJ WALLACE AND NJ WALLACE-BANKS COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
	<u>one of the alternative monitoring locations.</u>	
11	PNCC to appoint peer reviewer	Accepted
12 – new condition	<u>12.X Prior to the installation stage, but preferably at the planning stage of any WTG on an unbuilt site, NZWL will inform all residents within 3 km of the windfarm boundary that this is their plan.</u>	Not necessary. The community liaison group provides the forum for reports and updates relating to the wind farm.
New proposed tonality condition	<u>All WTGs are to be assessed for tonality. The operation of WTGs that would receive a tonality penalty must be suspended until all the WTGs have been modified so that their tonalities fall within acceptable limits (<4dB tonal audibility).</u> <u>Tonal audibility assessment must be completed and reported back by [date].</u>	The conditions proposed by PNCC and NZ Windfarms include tonality tests that would bite if penalisable tonality was found at the residences.
New proposed infrasound condition	<u>Infrasound must be measured at 1-2 localities within the windfarm and also within the neighbourhood</u>	The acoustics experts for PNCC and NZ Windfarms agree that there is no need to measure infrasound and it is not required in the standard.

APPENDIX 2B - TABLE SHOWING NZ WINDFARMS RESPONSE TO LAWRENCE HILL COMMENTS ON CONDITIONS

Note:

The table below sets out a response to the comments provided by Mr Lawrence Hill on 13 October 2017 and 20 October 2017. Other changes outlined in the 12 September 2017 supplementary submission from Mr Hill were discussed and responded to orally at the hearing. Changes the submitter proposes to conditions are indicated in **red text**.

CONDITION	LAWRENCE HILL COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
1	<p>The proposed Te Rere Hau Wind Farm must be constructed and operated generally in accordance with all the information, site plans and drawings accompanying the application or submitted as additional information, except the noise predictions accompanying the original application. The relevant noise standards for the Te Rere Hau windfarm are set out in conditions 4-12 of this consent. Each turbine shall be located within a 20m radius of its nominated coordinates as outlined in the Application (contained on File No: N21/PLN – Plans drawn by Connell Wagner drawing number 101E, 3A). <u>Each turbine will be of a type known as a Windflow 500-33 as described in the Lloyds Register under Design Appraisal Document No. O 16845 and Type Approval Certificate RE 1005 dated 17 September 2010.</u></p>	<p>The turbines currently installed on the site were all installed prior to 2010. As this is a condition review process not a new consent process there is no scope to require compliance with a design appraisal document which came into force after the wind farm was constructed.</p> <p>If NZ Windfarms wishes to use different turbines on the site then a new resource consent would be required to authorise that activity.</p>
4	<p>From the date 12 months after the commencement of this condition under section 116(1) of the RMA, the wind farm shall operate such that when measured within the notional boundary of any residential dwelling in existence on or</p>	<p>Condition 7 requires that turbines are measured using NZS6808:2010, i.e. LA90.</p> <p>60 dB (A) L_{max} is not part of the method of measuring</p>

CONDITION	LAWRENCE HILL COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
	<p>before 30 May 2009 that is within the Rural Residential Overlay mapped in the Palmerston North District Plan as notified in Plan Change 15, wind farm noise does not exceed the greater of:</p> <p>4.1 35 dB(A) <u>L90 and 60 dB(A) Lmax</u>; OR</p> <p>4.2 The background noise level plus 5 dB(A) <u>L90</u>.</p> <p>...</p>	<p>wind turbines. For any wind turbine to exceed this limit, it would have to be in extremely poor maintenance, like a blade falling off. This would contravene condition 14 – maintain turbines in good condition.</p>
5	<p>Subject to condition 4, the wind farm shall operate such that when measured within the notional boundary of any residential dwelling in existence on or before 30 May 2009, the wind farm noise does not exceed the greater of:</p> <p>5.1 40 dB(A) <u>L10 and 60dB(A) Lmax</u>; OR</p> <p>5.2 The background noise level plus 5 dB(A) <u>L10</u>.</p>	<p>L10 is not the correct or useful metric for wind turbine sound.</p>
5A – 5D	<p>Mr Hill considers that creating conditions for two turbines is unreasonable and that if the turbines are known to or anticipated to breach the conditions then NZ Windfarms should abate that.</p>	<p>There is no breach or anticipated breach.</p> <p>These conditions were drafted in consultation with near neighbours who have specifically identified those turbines as being audible during evenings and weekends. These conditions are intended to provide noise amenity above and beyond that required by the noise standard.</p> <p>The acoustic experts for PNCC and NZ Windfarms</p>

CONDITION	LAWRENCE HILL COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
		<p>have confirmed in their 6 October 2017 joint statement that these conditions provide an outcome which is broadly similar to an 8m/s high amenity limit but is <i>“more targeted to those times when potential amenity impacts seem greatest.”</i></p> <p>Note condition 5D now forms part of condition 20.</p>
7.2	Amend condition 7.2 to require continuous assessment of all operational and background noise levels and require breach notices – wording set out in Attachment C to 12 September 2017 Supplementary Submission	<p>Continuous monitoring condition provided for in condition 13 with reporting required in condition 20.</p> <p>The proposal for breach notices is inconsistent with the NZ Standard.</p>
8.2	<p>If average amplitude modulation exceeding 3 dB is detected for any 10-minute period in accordance with the UK Institute of Acoustics amplitude modulation metric, <u>using the Reference Method, or if any one sample is detected within any 10 minute period exceeding an amplitude modulation of 5 dB</u>, then a penalty shall be applied <u>in accordance with NZS 6808:2010 clause B.3.1</u> to that 10-minute period in accordance with the penalty scheme detailed in the UK Department of Environment and Climate Change Wind Turbine AM Review – Phase 2 Report dated August 2016;</p>	<p>Wind farm noise standards recognise that occasional AM is normal – the penalty is intended to capture prolonged or regular occurrences of AM.</p>

CONDITION	LAWRENCE HILL COMMENTS ON CONDITIONS	NZ WINDFARMS RESPONSE
16B	Mr Hill objects to the use of the term “occupiers and owners of properties” used in 16B.1.1 and 16B1.2 as it constrains the meaning of community.	The purpose of this condition is to invite those who live in close proximity to the windfarm and who thereby may be affected by the windfarm to be part of the group. The council is also invited given its role in monitoring and compliance. Opening the group up to the public or wider community serves no useful RMA purpose.