

## Item No. 7

## SCHEDULE B

<b>APPLICATION NUMBER</b>	<b>CB/11/04077/FULL</b>
<b>LOCATION</b>	<b>The Marston Vale Millennium Country Park, Station Road, Marston Moretaine, Bedford, MK43 0PR</b>
<b>PROPOSAL</b>	<b>Erection of a wind turbine, up to 120.5 metres in height, and ancillary infrastructure in Marston Vale Millennium Country Park.</b>
<b>PARISH</b>	<b>Marston Moretaine</b>
<b>WARD</b>	<b>Cranfield &amp; Marston Moretaine</b>
<b>WARD COUNCILLORS</b>	<b>CIIs Bastable, Matthews &amp; Clark</b>
<b>CASE OFFICER</b>	<b>Lisa Newlands</b>
<b>DATE REGISTERED</b>	<b>11 November 2011</b>
<b>EXPIRY DATE</b>	<b>10 February 2012</b>
<b>APPLICANT</b>	<b>Marston Vale Trust</b>
<b>AGENT</b>	<b>AMEC E&amp;I UK LTD</b>
<b>REASON FOR COMMITTEE TO DETERMINE</b>	
<b>RECOMMENDED DECISION</b>	<b>Full Application - Granted</b>

### Recommendation

That Planning Permission be granted subject to the following:

- 1 The development hereby approved shall be commenced within three years of the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990 which is designed to ensure that a planning permission does not continue in existence indefinitely if the development to which it relates is not carried out.

- 2 The planning permission is for a period from the date of the installation until the date occurring 25 years after the date of Commissioning of the Development. Written confirmation of the date of commissioning of the development shall be provided to the Local Planning Authority no later than 1 calendar month after that event.

Reason: In the interests of visual amenity and landscape protection.

- 3 **No development shall take place until full details of the turbine, including make, model, design, power rating, sound power levels and tonal assessment have been submitted to and approved in writing by the Local Planning Authority.**

**Reason: To ensure that the turbine is in accordance with the details**

**submitted in the Environmental Statement and protect the amenities of the neighbouring residential properties.**

- 4 **No development shall take place until details of the external appearance and colour finishes of the turbine and details of the design, including samples of the external materials and the associated infrastructure hereby permitted have been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details and retained as such thereafter.**

**Reason: To protect the visual amenities of the area.**

- 5 The maximum height of the turbine hereby permitted, when measured from the turbine base to the blade tip in the vertical position, shall be no greater than 120.5 metres.

Reason: For the avoidance of doubt

- 6 Not later than 3 months from the date that the planning permission hereby granted expires, or if the turbine ceases to operate for a continuous period of 6 months then, unless otherwise agreed in writing with the Local Planning Authority, it shall be dismantled and removed from the site and the land reinstated to its former condition.

Reason: To ensure that the turbine is removed at the end of its operational life and to safeguard the character of the locality.

- 7 **No development shall take place until a Construction Traffic Management Plan (CTMP) has been submitted to and approved in writing by the Local Planning Authority. The CTMP shall include proposals for construction vehicle routes, site accesses, the management of junctions with, and crossings of, the public highway and other public rights of way, the scheduling and timing of movements, details of escorts for abnormal loads, temporary warning signs, temporary removal or replacement of highway infrastructure/street furniture, reinstatement of any signs, verges or other items displaced by construction traffic, and banksman/escort details. Development shall be carried out in accordance with the approved CTMP including any agreed mitigation measures and reinstatement/improvements of the highway works along the route.**

**Reason: To ensure the development is undertaken safely and without undue disturbance to the local community.**

- 8 The rating level of noise emissions from the wind turbine, (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes, shall not exceed 35dB LA90 at any dwelling for any relevant 10m height 10 minute mean above ground level measured integer wind speed between 1-12m/s and:

A. Prior to the First Export Date the wind farm operator shall submit to the Local Planning Authority for written approval a list of

proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

- B. Within 21 days from receipt of a written request of the Local Planning Authority, following a complaint to it alleging noise disturbance at a dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority, to assess the level of noise emissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to. Within 14 days of receipt of the written request of the Local Planning Authority made under this paragraph (B), the wind farm operator shall provide the information logged in accordance with paragraph (G) to the Local Planning Authority in the format set out in Guidance Note 1(e).
- C. Prior to the commencement of any measurements by the independent consultant to be undertaken in accordance with these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken. Measurements to assess compliance with the noise limit of this condition shall be undertaken at the measurement location approved in writing by the Local Planning Authority.
- D. Prior to the submission of the independent consultants assessment of the rating level of noise emissions in accordance with paragraph (E), the wind farm operator shall submit to the Local Planning Authority for written approval a proposed assessment protocol setting out the following:
- (i) the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions; and
  - (ii) a reasoned assessment as to whether the noise giving rise to the complaint contains or is likely to contain a tonal component

The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (B), and such others as the independent consultant considers likely to result in a breach of the noise limits. The assessment of the rating level of noise emissions shall be undertaken in accordance with the assessment protocol approved in writing by the Local Planning Authority.

- E. The wind farm operator shall provide to the Local Planning Authority the independent consultants assessment of the rating level of noise emissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request

of the Local Planning Authority made under paragraph (B) unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultants assessment of the rating level of noise emissions.

- F. Where a further assessment of the rating level of noise emissions from the wind farm is required pursuant to paragraph 4(c) of the attached Guidance Notes, the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultants assessment pursuant to paragraph (E) above unless the time limit has been extended in writing by the Local Planning Authority.
- G. The wind farm operator shall continuously log power production, nacelle wind speed, nacelle wind direction and nacelle orientation at the wind turbine all in accordance with Guidance Note 1(d). 10m height wind speeds averaged over 10 minute periods shall be measured at a location approved by the local planning authority for comparison with noise levels, for the duration of the noise level compliance check survey. Rainfall shall also be measured during any measurement regime at a location approved by the local authority in writing. These data obtained shall be retained for the life of the planning permission. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
- H. Once the Local Planning Authority has received the independent consultants noise assessment required by this condition, including all noise measurements and audio recordings, where the Local Planning Authority is satisfied of an established breach of the noise limit, upon notification by the Local Planning Authority in writing to the wind farm operator of the said breach, the wind farm operator shall within 14 days propose a scheme for the approval of the Local Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence. This scheme shall specify the timescales for implementation. The scheme shall be implemented as reasonably approved by the Local Planning Authority and according to the timescales within it. The scheme as implemented shall be retained thereafter unless otherwise agreed with the Local Planning Authority.

For the purposes of this condition, a “dwelling” is a building which is lawfully used as a dwelling house and which exists or had planning permission at the date of this consent.

Reason: To ensure that the amenities of occupiers are not prejudiced by excessive noise.

- 9 The wind turbine shall not emit greater than expected amplitude modulation.

Amplitude modulation is the modulation of the level of broadband noise emitted by a turbine at blade passing frequency. These will be deemed greater than expected if the following characteristics apply:

- a) A change in the measured LAeq 125 milliseconds turbine noise level of more than 3dB (represented as a rise and fall in sound energy levels each of more than 3dB) occurring within a 2 second period.
- b) The change identified in (a) above shall not occur less than 5 times in any one minute period provided that the LAeq, 1 minute turbine sound energy level for that minute is not below 28dB.
- c) The changes identified in (a) and (b) above shall not occur for fewer than 6 minutes in any hour.

Noise emissions at the complainant's dwellings shall be measured not further than 35m from the relevant dwelling building, and not closer than 10m of any reflective building or surface other than the ground, or within 1.2m of the ground.

- i) Within 21 days from receipt of a written request of the Local Planning Authority, following a complaint to it alleging noise disturbance at a dwelling which relates to amplitude modulation, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority, to assess whether there is greater than expected amplitude modulation from the wind farm at the complainant's property. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to. Within 14 days of receipt of the written request of the Local Planning Authority made under this condition, the wind farm operator shall provide the information logged in accordance with this condition to the Local Planning Authority in the format set out in Guidance Note 1(e).
- ii) Prior to the commencement of any measurements by the independent consultant to be undertaken in accordance with this condition, the wind farm operator shall submit to the Local Planning Authority for written approval the proposed measurement location identified. Measurements to assess compliance with the noise limit of this condition shall be undertaken at the measurement location or locations approved in writing by the Local Planning Authority.
- iii) Prior to the submission of the independent consultant's assessment of the rating level of noise emissions in accordance with the requirements of this condition, the wind farm operator shall submit to the Local Planning Authority for written approval a proposed assessment protocol setting out the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions.
- iv) The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise,

or are identified as causing greater than expected amplitude modulation, having regard to the written request of the Local Planning Authority, and such other conditions as the independent consultant considers likely to result in a breach of the noise limits. The assessment of the noise emissions shall be undertaken in accordance with the assessment protocol approved in writing by the Local Planning Authority.

- v) The wind farm operator shall provide to the Local Planning Authority the independent consultant's assessment of greater than expected amplitude modulation within 2 months of the date of the written request of the Local Planning Authority unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise emissions.
- vi) The wind farm operator shall continuously log power production, nacelle wind speed, nacelle wind direction and nacelle orientation at the wind turbine all in accordance with Guidance Note 1(d). 10m height wind speeds averaged over 10 minute periods shall be measured at a location approved by the local planning authority for comparison with noise levels, for the duration of the noise level compliance check survey. Rainfall shall also be measured during any measurement regime at a location approved by the local authority in writing. These data obtained shall be retained for the life of the planning permission. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
- vii) Once the Local Planning Authority has received the independent consultant's noise assessment required by this condition, including all noise measurements and audio recordings, where the Local Planning Authority is satisfied of an established breach of the noise limit, upon notification by the Local Planning Authority in writing to the wind farm operator of the said breach, the wind farm operator shall within 14 days propose a scheme for the approval of the Local Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence. This scheme shall specify the timescales for implementation. The scheme shall be implemented as reasonably approved by the Local Planning Authority and according to the timescales within it. The scheme as implemented shall be retained thereafter unless otherwise agreed with the Local Planning Authority.

Reason: To ensure that the amenities of neighbouring occupiers are not prejudiced by excessive noise.

- 10 The turbine shall be fitted with 25 candela omni-directional red lighting at the highest practicable point and this shall be retained for the lifetime of the

turbine.

Reason: In the interests of air safety.

- 11 The Applicant shall provide written confirmation of the following details to the Ministry of Defence and Civil Aviation Authority within 3 months of the date of this permission and the erection of the wind turbines shall not occur until this confirmation has been given:

- i) the proposed date of commencement of the development
- ii) the maximum extension height of any construction equipment

Reason: In the interests of aviation safety.

- 12 Within 14 days of the commissioning of the final turbine, the Company shall provide written confirmation of the following details to the Ministry of Defence and the Civil Aviation Authority:

- i) date of completion of construction
- ii) the height above ground of the highest potential obstacle
- iii) the position of that structure in latitude and longitude
- iv) the lighting details of the site

Reason: In the interest of aviation safety

- 13 The turbines hereby consented shall be positioned within 10m of the co-ordinates stated in the application and the location of the turbine shall be approved in writing by the Local Planning Authority in advance of the turbine being constructed. No further movement of the location shall be undertaken without the written approval of the Local Planning Authority.

Reason: To ensure an acceptable siting of the turbine and the appropriate ground conditions.

- 14 **No construction activity shall take place until a detailed Ecology Monitoring Programme has been submitted to and approved in writing by the Local Planning Authority, in consultation with Natural England. This will include details of automated data gathering for bats, and use of suitably experienced ecologists to carry out collision searches and monitor the activity of bats and birds in the vicinity of the turbine over the period beginning April to the end of October. Following two years of monitoring, the results shall be formally submitted to the Local Planning Authority, and used to modify turbine operating protocol if necessary.**

**Reason: To ensure that biodiversity interests are protected.**

- 15 **No construction activity shall take place until the mitigation measures outlined in the Ecological Assessment to minimise ecological impacts during the construction process have been gathered together into a single 'Construction Environment Management Plan' and have been submitted to and agreed in writing by the Local Planning Authority. This shall include a protocol for avoiding impacts to protected and**

notable species, such as timing constraints and procedure for undertaking construction activities in an ecologically sensitive manner, and a clear point of contact for ecological advice during the works. All contractors must be formally briefed on this document prior to their commencing work on site.

**Reason:** To ensure that biodiversity interests are protected.

- 16 No development shall take place until a scheme setting out measures for protecting all trees, shrubs and other natural features during construction work has been submitted to and approved in writing by the Local Planning Authority. No work shall commence on site until all trees, shrubs and features to be protected are fenced with 2.3 high weldmesh fencing securely mounted on standard scaffolding poles driven firmly in the ground in accordance with BS 5837:2005;

- for trees and shrubs the fencing shall follow a line 1.0m outside the furthest extent of the crown spread, unless otherwise agreed in writing by the Local Planning Authority;
- for upright growing trees at a radius from the trunk not less than 6.0m, or two thirds of the height of the tree whichever is the greater;
- for other natural features along a line to be approved in writing by the Local Planning Authority.

Such fencing shall be maintained during the course of the works on the site. No unauthorised access or placement of goods, fuels or chemicals, soil or other materials shall take place inside the fenced area.

**Reason:** To safeguard the existing trees on the site in the interests of visual amenity.

- 17 Prior to the commencement of development, a baseline television reception study in the Marston Moretaine area shall be undertaken by a qualified television engineer and submitted to the Local Planning Authority. Details of works necessary to mitigate any adverse effects to domestic television signals in the Marston Moretaine Area caused by the development shall also be submitted to and approved in writing by the Local Planning Authority. Any claim by any person for domestic television picture loss or interference at their household within 12 months of the final commissioning of the wind turbine, shall be investigated by a qualified television engineer and the results submitted to the Local Planning Authority. Should any impairment to the television reception be determined by the qualified engineer as attributable to the wind turbine on the basis of the baseline reception study, such impairment shall be mitigated within 3 months of this decision according to the mitigation scheme outlined.

**Reason:** To ensure that the impact of the turbine on broadcast systems are adequately mitigated.

- 18 The wind turbine hereby approved shall operate in accordance with a shadow flicker mitigation scheme which shall be submitted to and



**approved by the Local Planning Authority prior to the operation of any wind turbine unless a survey carried out on behalf of the developer in accordance with a methodology approved in advance by the local planning authority confirms that shadow flicker effects would not be experienced within habitable rooms within any dwelling.**

**Reason: To ensure shadow flicker is adequately mitigated.**

## **Reasons for Granting**

The proposal for the installation of a turbine up to 120.5m would not impact detrimentally upon the surrounding landscape character, or upon cultural heritage or archaeology, or local ecology, hydrology or geology, or upon the residential amenity of nearby residential properties. The proposal is also considered to be acceptable in terms of telecommunication and aviation considerations and traffic generation and access. The scheme therefore, by reason of its site, design and location, is in conformity with Planning Policy Statement 1 (2005), Supplement to Planning Policy Statement 1: Planning and Climate Change (2007), Planning Policy Statement 22 (2004), Planning Policy Statement: Consultation – Consultation on a Planning Policy Statement: Planning for a Low Carbon Future in a Changing Climate (2010), The UK Low Carbon Transition Plan (2009), The UK Renewable Energy Strategy (2009), Overarching National Policy Statement for Energy (EN-1) (2009), National Policy Statement for Renewable Energy Infrastructure (EN-3) (2009), Planning Policy Statement 5: Planning for the Historic Environment (2010), Planning Policy Statement 7: Sustainable Development in Rural Areas (2004), Planning Policy Statement 9: Biodiversity and Geological Conservation (2005), Planning Policy Guidance 24: Noise (1994). It is also in conformity with Policies CS13, CS16, DM1, DM14, DM15 and DM17 of the Central Bedfordshire Council's Core Strategy and Development Management Policies Development Plan Document 2009.

## **Notes to Applicant**

1. The granting of this planning permission does not absolve the applicants from complying with the relevant law protecting species, including obtaining and complying with the terms of conditions of any licences required, as described in Part IV B of *Circular 06/2005*.
2. Marston Moretaine Public Footpath No. 72 lies adjacent to the proposed development. The footpath does not appear to be affected by the proposal, however the surface of the footpath must not be disturbed and no materials can be stored on the path at any time.  
The Applicant is advised that if the Public Footpath is to be temporarily closed a period of six weeks notice will be required to arrange the temporary closure.
3. The applicant is advised that in order to comply with Condition 5 of this permission it will be necessary for the developer of the site to enter into an agreement with Central Bedfordshire Council as Highway Authority under Section 278 of the Highways Act 1980 to ensure the satisfactory completion of the access and associated road improvements. Further details can be

obtained from the Development Control Group, Development Management Division, Central Bedfordshire Council, Priory House, Monks Walk, Chicksands, Shefford SG17 5TQ.

#### 4. **Guidance Notes for Noise Conditions**

These notes are to be read with and form part of the noise conditions 8 and 9. They further explain the conditions and specify the methods to be deployed in the assessment of complaints about noise emissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Note 3. References to assessment of rating levels does not apply to the assessment of greater than expected amplitude modulation. Reference to ETSU-R-97 refers to the publication entitled “The Assessment and Rating of Noise from Wind Farms” (1997) published by the Energy Technology Support unit (ETSU) for the Department of Trade and Industry (DTI).

#### **Note 1 applies to noise condition 8 on planning permission and Note 1(e) & 1(d) also applies to noise condition 9 on planning permission**

- (d) Values of the LA90,10-minute noise statistic required for condition 8 should be measured at the complainant’s property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.
- (e) The microphone should be mounted at 1.2 - 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved by the Local Planning Authority, and placed outside the complainant’s dwelling. Measurements should be made in “free field” conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the

approved alternative representative measurement location.

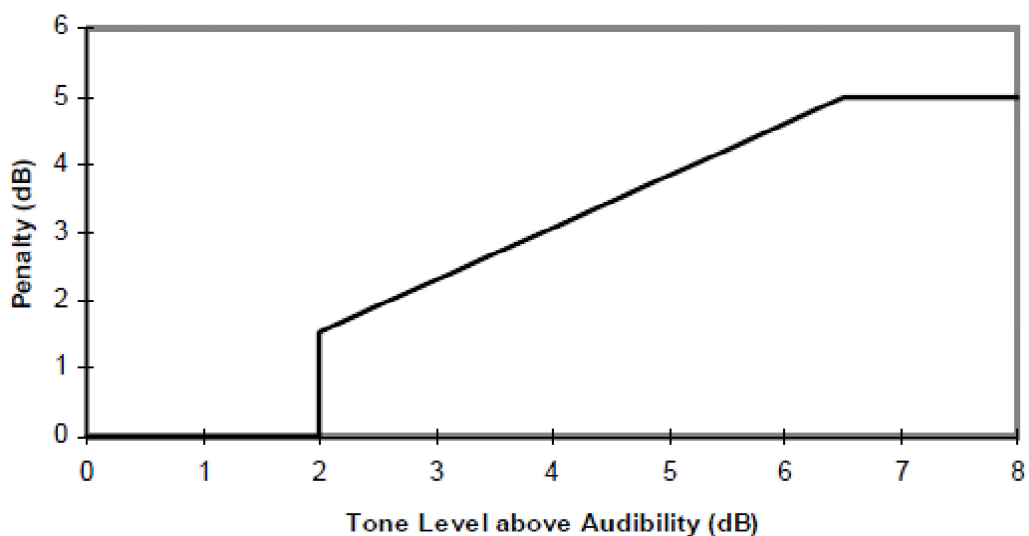
- (f) The LA90, 10-minute measurements should be synchronised with measurements of the 10-minute arithmetic average wind speed and with operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.
- (g) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second (m/s), arithmetic mean wind direction in degrees from north and rainfall data in each successive 10-minute periods by direct measurement at the meteorological monitoring location approved by the Local Planning Authority. In relation to noise condition 8 it is this procedure, which is determined as valid in accordance with Note 2(b), such correlation to be undertaken in the manner described in Note 2(c). The wind farm operator shall continuously log arithmetic mean nacelle anemometer wind speed, arithmetic mean nacelle orientation, arithmetic mean wind direction as measured at the nacelle and arithmetic mean power generated during each successive 10-minute period for each wind turbine on the wind farm. All 10-minute periods shall commence on the hour and in 10-minute increments thereafter synchronised with Greenwich Mean Time.
- (h) Data provided to the Local Planning Authority in accordance with paragraphs (E) (F) and (G) of noise condition 8 and as required under noise condition 9 shall be provided in comma separated values in electronic format.

**Note 2 applies to noise condition 8 on planning permission**

- (a) The noise measurements should be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b).
- (b) Valid data points are those measured in the conditions set out in the assessment protocol approved by the Local Planning Authority under paragraph (E) of the noise condition but excluding any periods of rainfall measured at the approved meteorological measurement location provided in accordance with the planning permission on the wind farm site.
- (c) Values of the LA90,10-minute noise measurements and corresponding values of the 10-minute ten metre height wind speed for those data points considered valid in accordance with Note 2 paragraph (b) shall be plotted on an XY chart with noise level on the Y-axis and wind speed on the X-axis. A least squares, “best fit” curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

### Note 3

- (a) Where in accordance with the approved assessment protocol under paragraph (D) of noise condition 8, noise emissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.
- (b) For each 10-minute interval for which  $L_{A90,10\text{-minute}}$  data have been determined as valid in accordance with Note 2 a tonal assessment shall be performed on noise emissions during 2 minutes of each 10-minute period. The 2-minute periods should be spaced at 10-minute intervals provided that uninterrupted uncorrupted data are available (“the standard procedure”). Where uncorrupted data are not available, the first available uninterrupted clean 2-minute period out of the affected overall 10-minute period shall be selected. Any such deviations from standard procedure shall be reported.
- (c) For each of the 2-minute samples the tone level above audibility ( $L_{ta}$ ), shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104 -109 of ETSU-R-97.
- (d) The tone level above audibility ( $L_{ta}$ ) shall be plotted against wind speed for each of the 2-minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be substituted.
- (e) A least squares “best fit” linear regression shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line fitted to values within  $\pm 0.5\text{m/s}$  of each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Note 2.
- (f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



#### Note 4

- (a) If a tonal penalty is to be applied in accordance with Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Note 2 and the penalty for tonal noise as derived in accordance with Note 3 above at each integer wind speed within the range set out in the approved assessment protocol under paragraph (E) of the noise condition.
- (b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Note 2.
- (c) In the event that the rating level is above the limit in the noise condition the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rated level relates to wind turbine noise emission only.
- (d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant or the Local Planning Authority requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:
- i. Repeating the steps in Note 2, with the wind farm switched off, and determining the background noise ( $L_3$ ) at each integer wind speed within the range set out in the approved assessment protocol under paragraph (E) of the noise condition.
  - ii. The wind farm noise ( $L_1$ ) at this speed shall then be calculated as follows where  $L_2$  is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[ 10^{L_2/10} - 10^{L_3/10} \right]$$

- iii. The rating level shall be re-calculated by adding the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise  $L_1$  at that integer wind speed.
- iv. If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note (iii) above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (C) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (C) of the noise condition then the development fails to comply with the conditions.

## NOTES

- (1) In advance of the consideration of the application the Committee were advised of the additional consultation/publicity responses received from Cranfield Airport.
- (2) In advance of the consideration of the application the Committee received representations made under the Public Participation Scheme.