

REFERENCE: P/20/423/RLX

APPLICANT: Newton Down Windfarm Limited
15 Golden Square, London, W1F 9JG

LOCATION: **Newton Down Windfarm, Stormy Lane, Porthcawl**

PROPOSAL: Vary condition 2 of appeal decision for P/12/368/FUL to extend the consent from 25 years to 40 years

RECEIVED: 16 June 2020

APPLICATION/SITE DESCRIPTION

This application seeks consent to vary condition 2 of a planning appeal decision for P/12/368/FUL for the erection of two wind turbines with a maximum height to blade tip of 125m together with vehicular access, site tracks, a substation and compound, an anemometer mast, a visitor facility and associated infrastructure, crane pads and external transformers at Newton Down, Stormy Lane, Porthcawl to extend the consent from 25 years to 40 years. The application for this scheme was submitted in 2012 and an appeal was made against non-determination although the Council subsequently resolved to refuse planning permission primarily on landscape and visual impact.

The current proposal seeks to vary Condition 2 which currently states:

The permission hereby granted shall endure for a period of 25 years from the date when electricity is first exported from a wind turbine within the site to the electricity grid network ('First Export Date'). Written confirmation of this shall be provided to the Local Planning Authority within 1 month of the First Export Date.

to read:

The permission hereby granted shall endure for a period of 40 years from the date when electricity is first exported from a wind turbine within the site to the electricity grid network ('First Export Date'). Written confirmation of this shall be provided to the Local Planning Authority within 1 month of the First Export Date.

The first export date is the date that electricity generated by the wind farm was initially exported to the National Grid. In this case it was confirmed in writing that the first export date was the 2 March 2017, and the proposal if approved would allow the wind farm to continue operating until 2057 rather than 2042 as currently permitted. In support of the application, the applicant has cited advances in technology and a general uptake in renewable energy projects that supports an increase in the life of wind farms.

The turbines have been operational for a number of years and the site occupies a sloping hillside that was one part of a former wartime airfield overlooking Porthcawl. The majority of the surrounding land is agricultural in nature although the neighbouring site is part of the Cenin renewable energy site and comprises a waste food recycling plant, low carbon concrete production facility as well as 2 wind turbines, a solar array and associated battery storage installation.

The site is also located within a mineral safeguarding area and the operational Cornelly group of quarries lie to the north.

RELEVANT HISTORY

See above

PUBLICITY

The application has been advertised on site.

The period allowed for response to consultations/publicity has expired.

CONSULTATION RESPONSES

Councillor Kenneth J Watts – Advised that the application can be dealt with by delegated officer

Merthyr Mawr Community Council - This Council has chosen to object with the following concerns to this planning application. Current permission is until 2037 so why reapply now. Developers asked for an extension for 40 years, but in their documents provided to the Council, it says other wind farm with 25 years have asked for 20, 25 or 30 years extension so why ask for 40 years for this development. This Council questions why the developers are applying for an extension so early when there is still 17 years left.

The Council understands that residents in Laleston and Porthcawl originally objected to the Wind Farm.

Porthcawl Town Council object to the proposal as the appeal decision agreed by the Planning Inspector was for 25 years therefore the planning committee object to the consent being extended to 40 years.

The comments received from the Community Council and Town Council are addressed in the appraisal section of the report.

The Minerals Officer (through a Service Level Agreement with Carmarthenshire CC) has no objection to the extension of time.

REPRESENTATIONS RECEIVED

None

Local Policies

The Development Plan for the area comprises the Bridgend Local Development Plan (LDP) 2006-2021 which was formally adopted by the Council in September 2013 and within which the following Policies are of relevance:

Strategic Policy SP4 – Conservation and enhancement of the natural environment

Strategic Policy SP8 – Renewable energy

Strategic Policy SP6 - Minerals

Strategic Policy SP5 – Conservation of the built and natural environment

Policy ENV1 – Development in the Countryside

Policy ENV7 – Natural resource protection and public health

Policy ENV9 – Development in mineral safeguarding areas

Policy ENV10 – Development within mineral buffer zones

Policy ENV17 – Renewable energy and low/zero carbon technology

Policy ENV18 – Renewable energy

Policy ENV4 – Development Sites in Retailing and Commercial Centres

National Planning Policy and Guidance

Future Wales – the National Plan 2040 (Feb. 2021)

National Planning guidance in the form of Planning Policy Wales (Edition 11, February 2021) (PPW)

Wellbeing of Future Generations (Wales) Act 2015

Section 3 of the Act imposes a duty on public bodies to carry out sustainable development

in accordance with sustainable development principles to act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs (Section 5).

The well-being goals identified in the Act are:

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A Wales of vibrant culture and thriving Welsh language
- A globally responsible Wales

The duty has been considered in the assessment of this application. It is considered that there would be no significant or unacceptable impacts upon the achievement of wellbeing goals/objectives as a result of the proposed development.

APPRAISAL

This application is referred to Committee in view of the objections received from Porthcawl Town Council and Merthyr Mawr Community Council.

The application seeks to vary condition 2 of P/12/368/FUL to extend the period of operation for a further 15 years taking the consent up to 2057.

Welsh Government Circular 016/2014 : The Use of Planning Conditions for Development Management provides guidance on the renewal of planning permissions before the expiry of time limits and states that, as a general rule, such applications should only be refused where:-

- i. There has been some material change in Planning circumstances since the original permission was granted (e.g. a change of some relevant Planning policy for the area, or in relevant highway considerations, or the publication by the Government of new Planning policy guidance material to the renewal application)
- ii. Continued failure to begin the development will contribute unacceptably to uncertainty about the future pattern of development in the area; or
- iii. The application is premature because the permission still has a reasonable time to run.

In respect of this application i. and iii. are relevant and are considered below:-

An appeal made under Section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on application P/12/368/FUL for Planning permission was made by Renewable Energy Partnerships Ltd against Bridgend County Borough Council. Planning permission was subsequently granted by the Planning Inspectorate in May 2013 for the erection of two wind turbines with a maximum height to blade tip of 125m together with vehicular access, site tracks, a substation and compound, an anemometer mast, a visitor facility and associated infrastructure, crane pads and external transformers at Newton Down, Stormy Lane, Porthcawl.

On reaching his decision the Inspector opined:

Overall, I conclude that the proposal is very largely compliant with the development plan, and moreover is supported by the thrust of government policy. The development would not give rise to adverse effects sufficient to comprise significant substantive objections to the proposal; to the extent that there would be minor adverse visual effects, these are

outweighed to my mind by the contribution that would be made to meeting renewable energy targets and the time-limited and reversible nature of the development. Whilst I have found a very minor degree of conflict with the development plan in relation to policy EV42, I consider that the very large extent of accord with the development plan overall and the factors I have identified in favour of the development clearly point to the grant of planning permission.

The Inspector made an on-balance decision weighted on the benefits of renewable energy against any potential landscape and visual impact. In coming to this conclusion the Inspector allowed the appeal and accepted that level of landscape change that would occur. It could also be argued that the decision paved the way for the approval of a further two turbines on the adjoining site. Nevertheless the Inspector also indicated that the minor adverse impact would be time limited and reversible. The current proposal seeks to extend the time limit by an additional 15 years from the original consent.

The issues that must be addressed in this proposal as previously is to consider the landscape and visual impact of an extended life of the wind farm and weight this aspect against the benefit of providing renewable energy.

Since 2013 the landscape character of this area has changed with two operational wind power schemes, which from a distance appear as one wind farm. The landscape and visual change has been evident for some time and this has to be considered as part of the assessment of this application.

The turbines approved on the adjoining site have consent to operate until 2048. As such there will likely be a wind farm element in this area even if the Newton Down facility ceases to operate in 2042.

Also, of relevance is there has been a change of emphasis in national planning policy as well as a new Local Development Plan (LDP) adopted in 2013. In recent weeks Future Wales – the National Plan 2040 (FW204) has been published in conjunction with Planning Policy Wales (PPW 11) FW2040 is a national development framework setting the direction for development in Wales. It is a Development Plan with a strategy for addressing key national priorities through the Planning system including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.

Future Wales supports and helps deliver the aims of the Economic Action Plan and in this respect supports a low carbon economy and the decarbonisation of industry and the growth of sustainable and renewable energy.

In addition PPW 11 (February 2021) advises in Chapter 5:

Productive and Enterprising Places are those which promote our economic, social, environmental and cultural well-being by providing well-connected employment and sustainable economic development. These places are designed and sited to promote healthy lifestyles and tackle the climate emergency. This is done by making them: easy to walk and cycle to and around; accessible by public transport; minimising the use of non-renewable resources; and using renewable and low carbon energy sources.

and at Paragraph 5.9.14 states:

Planning authorities should support and guide renewable and low carbon energy development to ensure their area's potential is maximised. Planning authorities should

assess the opportunities for renewable and low carbon energy in the area, and use this evidence to establish spatial policies in their development plan which identify the most appropriate locations for development of energy developments below 10MW. There should be a presumption in favour of development in identified areas, including an acceptance of landscape change, with clear criteria-based policies setting out detailed locational issues to be considered at the planning application stage.

Taking the above into account and the LDP with a focus on the promotion of renewable energy, supported by Strategic Policy SP8 that supports development proposals which contribute to meeting national renewable energy and energy efficiency targets, there is a strong national and local presumption in favour of supporting the ongoing use of renewable energy schemes to achieve carbon reduction targets.

The Minerals Officer has considered the application and comments that there are no objections to the proposal as sufficient mineral reserves would still be available outside the buffer zone within the proposed lifetime of the wind turbines. As such it is not considered that there will be any impact on the safeguarding area.

CONCLUSION

Having regard to Welsh Government Circular 016/2014: The Use of Planning Conditions for Development Management, it is concluded that there has been some material change in Planning circumstances since the original permission was granted in that the weight of Future Wales 2040, PPW 11 and the objectives and Policies of the Bridgend Local Development Plan is to positively encourage the growth of sustainable and renewable energy and the contribution to a move to a low carbon economy.

The character of the area has also changed partly as a result of this proposal but also further afield the prevalence of wind turbines both locally and nationally has increased significantly over the last decade. It could be considered that the presence of wind turbines is now accepted as part of the landscape of much of South Wales. In any event, the principle of the benefits of the provision of renewable energy outweighing any landscape and visual impacts has already been established.

In view of this, the proposal to extend the life of the consent is acceptable in Planning terms however, the length of time applied for (40 years) must also be considered. In this case the consent still has over 20 years remaining. The case put forward by the applicant has been considered but does not fully justify the need to provide an additional 15 years of operational life. Nevertheless, it is noted that the adjoining wind energy scheme has a consent until the end of 2048. In landscape and visual terms both the Newton Down and Stormy Down schemes can be viewed as a combined facility. It is considered therefore that in order to ensure a consistent approach and to be able to assess the long term impacts of the development, an extension to the end of 2048 would be more appropriate.

This would provide an additional 6 and a half years operational life whilst still taking into account the 'time-limited' and reversible effects of the development as considered in the original decision.

The concerns raised by Porthcawl Town Council and Merthyr Mawr Community Council are acknowledged however, on balance and taking all material considerations into account, a claim of prematurity is not considered to outweigh the other material issues connected to the development.

RECOMMENDATION

(R53) That permission be GRANTED subject to the following condition(s):-

1. The development shall be carried out in accordance with the revised windfarm scheme layout plan Drawing No. NDWF_NMA_REV1 and the Parc Stormy Renewable Energy Visitor Facility Cooperation Proposal received on 9 March 2017.

Reason: To avoid doubt and confusion as to the nature and extent of the approved development.

2. The permission hereby granted shall endure for a period of 31 years and 9 months from 2 March 2017, the date when electricity was first exported from a wind turbine within the site to the electricity grid network ('First Export Date').

Reason: For the avoidance of doubt as to the extent of the permission granted.

3. No later than 12 months before the expiry of the permission, a decommissioning and site restoration scheme shall be submitted for the written approval of the Local Planning Authority. Such a scheme will include:
 - the removal of all surface elements, plus one metre of the turbine bases below ground level, of the wind farm;
 - confirmation of the management and timing of works;
 - a traffic management plan to fully address highway issues during the period of the decommissioning works;
 - an environmental management plan to cover the decommissioning process
 - providing details of the means of avoidance and mitigation of any impacts on the species and habitats recorded within the development site and pollution prevention measures;
 - any other works of restoration and aftercare, following consultation with other parties, as the Local Planning Authority in their reasonable opinion deem to be necessary.

The approved decommissioning schemes shall be implemented and completed within 24 months of the expiry date of this permission.

Reason: To secure the safe and efficient restoration of the site.

4. If any wind turbine fails to produce electricity to the grid for a continuous period of 12 months the Local Planning Authority shall be notified in writing and, if so instructed by the Local Planning Authority, the wind turbine and its associated ancillary equipment shall be removed from the site within a period of 6 months from the end of that 12 month period. Details of the proposed decommissioning shall first be agreed in writing with the Local Planning Authority.

Reason: To secure the safe and efficient restoration of the site.

5. All of the blades of the turbines hereby permitted shall rotate in the same direction.

Reason: In the interests of safety.

6. The overall height of the wind turbines shall not exceed 125 metres to the tips of the turbine blades and shall not exceed 85 metres to the centre line of the hub as measured from natural ground conditions immediately adjacent to the turbine base.

Reason: In the interests of safety.

7. Other than any aviation requirements the turbines shall not be illuminated and there shall be no permanent illumination on the site.

Reason: In the interests of safety.

8. All cabling within the site shall be installed underground except where it exits the substation.

Reason: In the interests of safety.

9. The turbines shall operate in accordance with the protocol relating to the assessment and mitigation of shadow flicker at any affected dwelling agreed by Bridgend County Borough Council on 6 October 2015. The protocol included the identification of relevant dwellings and potential measures to be employed as mitigation in response to any established occurrence of shadow flicker. In the event of a complaint to the Local Planning Authority which the authority considers to be valid and made by the owner or occupier of a dwelling which lawfully exists or had planning permission at the date of this permission, the turbines shall operate in accordance with the protocol.

Reason: In the interests of safety and local amenities.

10. The rating level of noise emissions from the combined effects of the wind turbines (including the application of any tonal penalty), when determined in accordance with the attached Guidance Notes, shall not exceed the values for the relevant integer wind speed set out in, or derived from, Tables 1 and 2 attached to this condition at any dwelling which is lawfully existing or has planning permission at the date of this permission.

Table 1 - Between 07:00 and 23:00 - Noise limits expressed in dB L_{A90,10-minute} as a function of the measured wind speed (m/s) at 10 meter height as determined within the site averaged over 10 minute periods										
Location	Measured wind speed at 10 m height, m/s									
	3	4	5	6	7	8	9	10	11	12
H8	40.6	41.3	42.0	42.7	43.6	44.5	45.5	46.5	47.7	48.8
H13	43.0	43.0	43.2	43.7	44.3	45.1	45.7	46.1	46.1	46.1
H19	45.5	45.5	45.7	46.3	47.2	48.3	49.6	50.0	50.0	50.0
H25	44.3	44.5	44.9	45.3	46.0	46.7	47.6	48.6	49.8	50.0

Table 2 - Between 23:00 and 07:00 - Noise limits expressed in dB L_{A90,10-minute} as a function of the measured wind speed (m/s) at 10 meter height as determined within the site averaged over 10 minute periods										
Location	Measured wind speed at 10 m height, m/s									
	3	4	5	6	7	8	9	10	11	12
H8	39.0	39.0	39.0	39.0	39.7	41.1	42.5	44.0	45.6	47.2
H13	41.0	41.0	41.0	41.0	41.0	41.6	43.3	45.1	46.9	48.8
H19	41.0	41.0	41.0	41.0	42.9	46.2	49.1	50.0	50.0	50.0
H25	41.7	41.8	42.2	42.8	43.6	44.7	45.9	47.3	49.0	50.0

Table 3: Coordinate locations of the properties listed in Tables 1 and 2		
Location	Easting	Northing
H8	284938	179963
H13	283515	178484
H19	284144	178377
H25	285181	179140

Note to Table 3: The geographical coordinate references are provided for the purpose of identifying the general location of dwellings to which a given set of noise limits applies.

Reason: In the interests of safety and local amenities.

- The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. 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.

Reason: In the interests of safety and local amenities.

- 12.No amendments shall be made to the list of proposed independent consultants who may undertake compliance measurements in accordance with these conditions agreed by Bridgend County Borough Council on 29 June 2015.

Reason: For the avoidance of doubt as to the approved independent consultants.

- 13.Within 21 days from receipt of a written and reasonable request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise immissions 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 and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

Reason: In the interests of safety and local amenities.

- 14.The independent consultant's assessment of the rating level of noise emissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also 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. 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 condition 27, and such others as the independent consultant considers likely to result in a breach of the noise limits.

Reason: In the interests of safety and local amenities.

- 15.Where a dwelling to which a complaint is related is not listed in Table 3 attached to these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval proposed noise limits selected from those listed in Tables 1 and 2 to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables specified for a listed location which the independent consultant considers as being likely to experience the most similar background noise environment to that experienced at the complainant's dwelling. The rating level of noise emissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

Reason: In the interests of safety and local amenities.

16. The wind farm operator shall provide to the Local Planning Authority the independent consultant's 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 for compliance measurements to be made under condition 16, 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.

Reason: In the interests of safety and local amenities.

17. Where a further assessment of the rating level of noise emissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to conditions 28-30 above unless the time limit has been extended in writing by the Local Planning Authority.

Reason: In the interests of safety and local amenities.

18. Once the Local Planning Authority has received the independent consultant's noise assessment required by these conditions, including all noise measurements and any audio recordings, where the Local Planning Authority is satisfied of an established breach of the noise limits set out in Tables 1 & 2 attached to condition 10, upon notification by the Local Planning Authority in writing to the wind farm operator of the said breach the wind farm operator shall within 21 days propose a scheme of remediation for the approval of the Local Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence, and 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 until the expiry of this permission.

Reason: In the interests of safety and local amenities.

19. In the event that the proposed turbine model for installation differs from the machine utilised in the ES, a revised noise impact assessment report shall be submitted, demonstrating that predicted noise levels indicate likely compliance with the noise condition levels stated in Tables 1 and 2.

Reason: In the interests of safety and local amenities.

Guidance Notes for Noise Conditions

These notes are to be read with and form part of the noise conditions. They further explain the condition and specify the methods to be employed 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 Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. 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).

Guidance Note 1

- (a) Values of the LA90,10-minute noise statistic 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.
- (b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing 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.
- (c) The LA90,10-minute measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.
- (d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed and wind direction at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods, unless otherwise agreed in writing with the Local Planning Authority. During any noise compliance test, the mean wind speed and wind direction shall also be measured on-site at a height of 10m above ground level. The wind speed measurement shall not be unduly affected by any turbine wake. It is this measured 10 metre height wind speed data which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10-minute increments thereafter. In the event that it is not possible to undertake wind speed measurements at 10m, the wind speed can be measured at another height and converted to a height of 10m according to a method to be agreed with the Local Planning Authority.
- (e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

Guidance Note 2

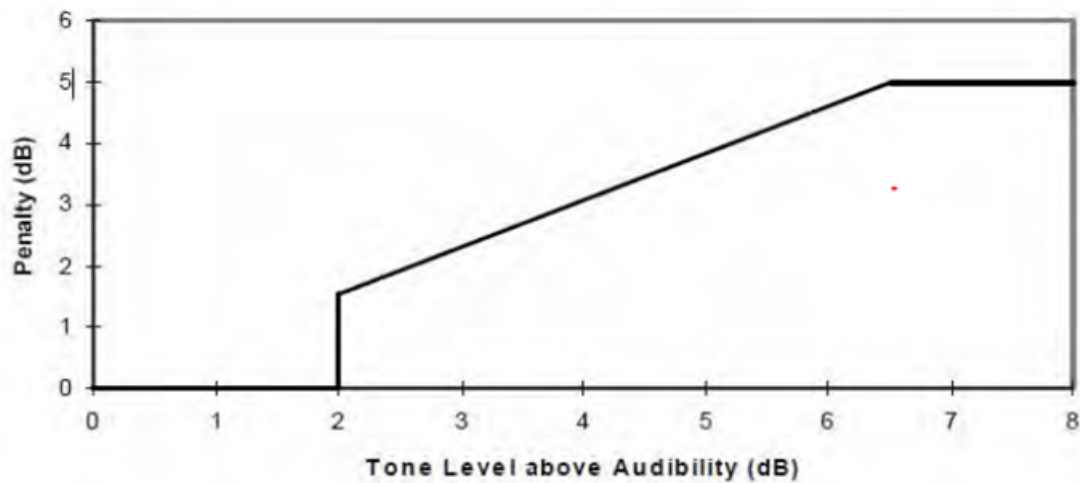
- (a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2.
- (b) Valid data points are those measured in the conditions specified in the agreed written protocol under condition 28 of the noise conditions, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurements periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.
- (c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90,10-minute noise measurements and corresponding values of the 10-minute wind speed, as measured at a ten metre height wind speed using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the measured 10m mean 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.

Guidance Note 3

- (a) Where, in accordance with the approved assessment protocol under condition 28 of the noise conditions, 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 LA90,10-minute data have been determined as valid in accordance with Guidance 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 the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.
- (c) For each of the 2-minute samples the tone level above or below audibility 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 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 line 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 at 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 Guidance Note 2.

- (f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



Guidance Note 4

- (a) If a tonal penalty is to be applied in accordance with Guidance 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 Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under condition 28 of the noise conditions.
- (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 Guidance Note 2.
- (c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with condition 29 of the noise conditions, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating 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 reasonably requires to undertake the further assessment or any other assessment to determine compliance with Tables 1 and 2 as attached. The further assessment shall be undertaken in accordance with the following steps:
- (i) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L_3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under condition 14 and the approved protocol under condition 15 of the noise conditions.
 - (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 Guidance Note 3) to the derived wind farm noise L1 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 condition 16 of the noise conditions 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 condition 16 of the noise conditions then the development fails to comply with the conditions.

Janine Nightingale
CORPORATE DIRECTOR COMMUNITIES

Background Papers
None