



Nant Mithil Energy Park, Powys.
PEDW DNS Application Ref: DNS CAS-01907-D7Q6Z1.

CPRW-ReThink Chapter 1 on

Noise

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Evidence by CPRW-ReThink on:
Noise

This short Chapter looks at the ES Noise Assessment and considers whether the amenity of surrounding properties will be protected, and whether other noise impacts are acceptable.

Prepared by: Dr Christine Hugh-Jones, CPRW

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1. INTRODUCTION

- 1.1. We are not professionals and have no expertise in noise assessment. Therein lies the problem: there is a large body of standards, guidance and professional literature on this subject, all of which require advanced mathematical skills and data and software to which we have no access. ETSU-R-97 is long outdated and was formulated when wind turbines were a fraction of the size. TAN11 is older still (1996). There were already complaints that ETSU-R-97 provided inadequate protection and did not address the range of different types of noise from wind turbines over 15 years ago.

2. WARREN PODS

- 2.1. Taking a naïve approach and applying the basic principle of “doth protest too much”, we are struck by the thirty-five mentions of the holiday pods at The Warren which are the closest receptors considered for turbine noise. This suggests that the pods are a sensitive, perhaps critical, issue for the Applicant who, according to the owners’ current submission to PEDW, attempted to buy them out, together with NDO. Because the pods are set away from the Warren Farmhouse where Water-Break-Its-Neck adds to background noise, the background noise assessment was based on that at Caebanal Farm. Powys argued that camping spaces could be given equal, or more stringent noise limits than housing but the ES gives these pods Medium sensitivity rather than High sensitivity afforded to all other residences. This is justified by the claim that they are “*basic overnight shelter*” “*closer in nature to shelters for temporary overnight use by travelers rather than campsites*”. This claim is belied by the Warren website which offers one to three night stays to enjoy the tranquillity and wildness of Radnor Forest and shows outdoor balcony spaces. The site is also a campsite. There is no suggestion that visitors are en route to anywhere.
- 2.2. ES 9.13 says “*Separate noise limits apply for the daytime and night-time which equate to a lower fixed limit or 5 dB above the prevailing background noise, whichever is greater. The lower fixed portion of the daytime noise limit is in the range of 35 dB(A) to 40 dB(A), the precise choice of:*

 - The number of noise-affected A90 properties;
 - The likely duration and level of exposure; and,
 - The consequences of the choice on the potential power generating capability of the wind farm.”

It is not clear to us whether this is official guidance or has been composed for this project.

- 2.3. ES 9.44 continues “*The use of the minimum noise limit of 43 dB(A) defined in ETSU-R-97 for residential properties at nighttime periods is therefore considered reasonable in this instance (rather than applying the more stringent noise limit of 38 or 40 dB(A))*” and then comes to the point — the energy loss in meeting the correct noise limits

would be disproportionate. However, according to ES 9.13, consequences on power-generating only come into play up between 35 and 40 dB(A).

- 2.4. The ES has chosen to apply a night-time limit to the daytime at the pods. ES 9.56 says *“an ETSU-R-97 limit of 43 dB, or 5 dB above prevailing background, whichever is greater, has been applied at the Pods, which is in line with the recommendations in ETSU-R-97 for a dwelling during the night-time period. Whilst these limits are aimed to protect noise levels at the Pods during the nighttime, these limits will apply 24 hours a day”*.
- 2.5. In the summary table 9.15, the Warren has a limit of 40dB LA90 and the Warren pods are not included. The 43 dB limit would stand out amongst all the other 40 dB or 45 dB limits. The application of a maximum night-time limit to the day is an illegitimate and unacceptable manoeuvre to maximise profit at whatever environmental cost.

3. NUMBER OF AFFECTED PROPERTIES

- 3.1. ES 9.2 says *“A value for the fixed portion of the daytime noise limit of 40 dB L A90 has been applied as appropriate due to the small number of affected properties (particularly to the east), the duration and level of exposure and the large generation capacity of the Proposed Development (nationally significant)”*. Fig 9.1 shows the position of NSRs in relation to the layout. The named “affected properties” have been chosen as representative of other nearby properties, for instance near Llanfihangel Rhydithon, so that a quick count of orange dots is misleading. While there are many properties to the East and few to the West, a significant number of properties to the East (of a longitudinal mid-line) are actually North or north-east of a number of turbines.
- 3.2. The “duration and level of exposure” is assumed to be low because of the prevailing south westerlies but in this Radnorshire area we have had winds from all directions this year and there are frequent spells of changing wind direction, including from the north and north-east.
- 3.3. Although outdated, ETSU makes a relevant general point: *“The UK is relatively densely populated. Intensive and extensive developments in and adjoining towns and cities have over the years produced ambient noise levels much higher than might be desirable by any objective standard. At the same time, perhaps because of noise-generating development in towns and cities, those able to do so have sought the peace and quiet of the countryside for their leisure time”.....” It is to be expected that such persons will be exceptionally sensitive to any intrusions on the peace and quiet which they have obtained by moving to live in the countryside, whatever the reasons for the noise-generating activity which may prove to be such an intrusion”*.

3.4. Dick Bowdler, who has reported to Powys County Council on this Application has pointed out that even though ETSU-R-97 is endorsed by Government, there could still be changes in noise level which, he concludes, may be highly annoying and "significant" at some properties with no financial involvement. The problem with high levels of annoyance is that even if they are reported, there is rarely any satisfactory investigation. It can be difficult for an LPA to set up recording during similar conditions to those when the complaint originated. We do not know if Powys has the facilities for this. In any case, once turbines are erected, they do not come down.

3.5. In view of the 2000 WHO Guidelines for Community Noise benchmark values for environmental noise levels in specific environments, we remain concerned about the impacts on residents, particularly for the community hall close to NSR31 (figure 1).

Figure 1: Table A1

Table A1 Relevant extracts from 'Table 4.1 – Guideline Values for Community Noise in Specific Environments'

Specific Environment	Critical Health Effects	$L_{Aeq,T}$	Time base (hrs)	L_{Amax} (dB)
Outdoor living area	Serious annoyance, day time and evening	55	16	-
	Moderate annoyance, day time and evening	50	16	-
Dwelling, indoors	Speech intelligibility and moderate annoyance, day time and evening	35	16	-
	Sleep disturbance, night time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoors)	45	8	60
School class rooms (included for potential effects on concentration)	Speech intelligibility, disturbance of information extraction, message communication	35	-	-

4. CONSTRUCTION NOISE

4.1. There are many references to construction of typical projects of the same type e.g. *"At this stage of a project it is not feasible to accurately specify exact construction techniques or locations where construction activity is likely to take place. Therefore, various assumptions have been made based on best practice and typical wind farm construction projects"* Given that the only UK known example of a built-out site with turbines of 220m is Kype Muir, Scotland, and that none of the Nant Mithil development has gone to advertised plan so far, we consider that the estimation of the noise level and duration for construction noise, including from traffic approaching the site, is likely to be a significant underestimate. We need to know the basis for the assumptions made.

5. CAN WE TRUST THE FIGURES?

5.1. We note that the background noise investigations done from October to November 2022 would not be representative of all seasons. There would have been background

noise from watercourses which are absent in dry summers. In some years, by early summer there has been no flow at all at Water-Break-Its-Neck. We do not know whether the adjustments claimed by Hoare Lea in Appendix 9.01 account for the difference between a constant high water fall flow at some times of year compared with absent flow at others. This is relevant for the Warren Farmhouse.

5.2. The figures in Table 9.15 Site-specific noise limits for specific properties differ in the Final Written Statement and the PAC Written Statement (figure 2). Why? If the numbers are derived from background noise assessments done in 2022, turbine specifications, and removal of atypical noise events, what manipulation has made them different? The only factor we are aware of is the change of Old Hall which is apparently no longer a financially involved property and so now has a 40dB limit.

Figure 2: Table 9.15 :Chapter 9 Noise PAC Written Statement (left) compared with Final Written Statement (right)

NSR ID	NSR Name	Standardised Wind Speed (m/s), Site Noise Limit (dB L _{A90})							
		≤6	7	8	9	10	11	12	
NSR02	Gwernarglwydd	45	45	45	45	45	49	49	
NSR03	Cwm Farm	45	45	45	45	48	54	54	
NSR06	Upper Trewern	45	45	45	45	47	54	54	
NSR07	New Trewern	40	40	40	42	47	54	54	
NSR08	Llanevan	45	45	45	45	47	54	54	
NSR09	The Warren	40	42	45	46	46	46	46	
NSR10	Old Hall	45	45	45	45	45	45	45	
NSR13	Grylliss	40	40	40	40	43	50	50	
NSR15	Wern Fach	40	40	41	44	48	54	54	
NSR18	Penllanias	40	40	40	43	48	54	54	
NSR27	Pye Corner	36	36	36	36	40	46	46	
NSR28	Corn Hill	38	38	38	38	41	47	47	

NSR ID	NSR Name	Standardised Wind Speed (m/s), Site Noise Limit (dB L _{A90})							
		≤6	7	8	9	10	11	12	
NSR02	Gwernarglwydd	45	45	45	45	45	45	45	
NSR03	Cwm Farm	45	45	45	45	45	49	49	
NSR06	Upper Trewern	45	45	45	45	45	45	47	
NSR07	New Trewern	40	40	40	40	43	47	47	

NSR ID	NSR Name	Standardised Wind Speed (m/s), Site Noise Limit (dB L _{A90})							
		≤6	7	8	9	10	11	12	
NSR33	1 and 2 Cwmygerwyn	40	40	40	42	43	45	45	
NSR36	Graig	40	40	40	43	46	48	48	
NSR40	Upper Penrhiew	40	40	40	43	47	51	51	
NSR42	Caebanal Farm	40	40	40	42	45	47	47	
NSR43	The Old Mill	40	40	40	41	43	45	45	

NSR ID	NSR Name	Standardised Wind Speed (m/s), Site Noise Limit (dB L _{A90})							
		≤6	7	8	9	10	11	12	
NSR08	Llanevan	45	45	45	45	45	47	47	
NSR09	The Warren	40	42	45	46	46	46	46	
NSR10	Old Hall	40	40	40	40	42	44	44	
NSR13	Grylliss	40	40	40	40	40	44	44	
NSR15	Wern Fach	40	40	40	42	45	49	49	
NSR18	Penllanias	40	40	40	40	43	47	47	
NSR27	Pye Corner	36	36	36	36	36	40	40	
NSR28	Corn Hill	38	38	38	38	38	41	41	
NSR33	1 and 2 Cwmygerwyn	40	40	40	40	42	46	46	
NSR36	Graig	40	40	40	41	45	49	49	
NSR40	Upper Penrhiew	40	40	40	42	46	50	50	
NSR42	Caebanal Farm	40	40	40	40	40	40	40	
NSR43	The Old Mill	40	40	40	40	42	44	44	

6. HENDY WIND FARM

- 6.1. App. 9.01 says "*Power warranty noise emission data in 2014 for the MM82 turbine running unconstrained are also presented in Table B8 of Annex B. In addition, a representative sound spectrum for the turbine has been derived from the reported one-third octave band spectrum and converted to octave bands, presented in Table B9 of Annex B. Based on the modelling undertaken, it is unlikely that noise emissions from the Hendy Wind Farm site could be higher without resulting in potential excess of its individual consent noise limits (as agreed in consultation with PCC, see section 3.5).*"
- 6.2. We understand that the Hendy turbines were already second hand when installed over five years ago and, after 5 years without operating, they are likely to be noisier. We have little faith in the LPA's ability to impose individual consent limits and fear that properties between Nant Mithil and Hendy, such as Pye Corner, will suffer accordingly with neither wind-farm operator admitting responsibility.

7. CONCLUSION

- 7.1. The Warren camping pods have been assigned an unfairly high noise limit because the developer is unwilling to sacrifice any generating power to meet reasonable environmental standards. It seems highly likely that many residents will experience annoying noise levels, which will be additional to the visual amenity impacts and prolonged impacts of construction. If noise is a significant problem for residents, including if Hendy comes into operation, we need clear assurance that remedy will be available.

For CPRW-ReThink
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