

Presentation of Mr & Mrs Davis

During the presentation of evidence by Mr & Mrs Davis, a sample of the sound recorded within their daughter's bedroom with the window open was presented to the Inquiry. This was a recording undertaken by South Holland District Council environmental Health Department.

This recording was presented at the Inquiry over the sound re-enforcement system within the Inquiry venue. Mrs Davis indicated that "*it was not so much the level that she wished the Inquiry to note but the character.*"

The internal levels associated with the operation of the wind farm are 30 - 35 dB L_{Aeq} when the windows were open. This should be compared with an estimate of the replayed level of the recording within the Inquiry Room of between 50 – 65 dB L_{Aeq} depending upon where the listener was sitting during the demonstration.

The increased level removes the natural masking associated with the listening environment within the bedroom, i.e. if this were to be experienced within the bedroom, then the apparent loudness would not be as great as that experienced in the Inquiry Room.

It is very difficult, without being in a controlled acoustic environment, to provide a realistic experience of such a noise within an uncontrolled listening environment. This is because different persons will hear a different sound depending upon where they are sitting relative to the loudspeakers, relative to other persons etc.

Furthermore, the replay system through which the sounds were played was not calibrated. As such, there is a risk that specific frequencies may be emphasised or de-emphasised, which would also change the character of the sounds which are heard.

JD/0/6x: Submission by Mrs Davis, House of Lords Select Committee

Having received the above submission I wish to make a number of comments with respect to the submission.

The letter and e-mail from Mr Nichols indicates that the general noise situation at Far Old Park Wind Farm has improved when the NRMS system is operating. His letter seems to be a complaint that if the NRMS system fails, for whatever reason, that there are no easy means to get this rectified especially during long Bank Holiday weekends.

Appendix 2: JD/0/6x: Italian Wind Farm Diary

I know little concerning this wind farm, i.e. number of turbines, layout, turbine type, however, it should be noted that Italian Noise Criteria for such a development are as follows:

Italy – Noise Limits (LAeq), Outdoors		
Area	Max daytime limit (6 am 10 pm)	Max night-time limit (10 pm to 6 am)
Hospitals, schools, city parks	50 dB (A)	40 dB (A)
Residential	55 dB (A)	45 dB (A)
Mixed use (commercial and residential)	60 dB (A)	50 dB (A)
Intense activity (railways, harbours, motorways)	65 dB (A)	55 Db (A)
Industrial	70 dB (A)	

Source: *Decreto del Presidente del Consiglio dei Ministri del 14/11/1997, Table C, page 4; Milanese, 2004, pages 9. It is worth noting that every municipality has to classify its territory according to the areas in the table above, otherwise the maximum limits values are applicable*

These levels are significantly higher than those proposed within ETSU-R-97. If the area within which the Mairs lived was unclassified, then they might be expected to live with a level of 70 dB L_{Aeq}. This is a level which cannot be achieved even living under a wind turbine.

Appendix 2: JD/0/6x: Mars Hill Wind Farm

Evidence is also submitted with respect to noise complaints associated with the operation of the Mars Hill facility in Maine, USA. It is useful to note that the noise criterion for this development is 55 dB Daytime and 45 dB Night-time. Again, these are levels which are higher than those proposed within ETSU-R-97. Furthermore, having visited a number of wind farm sites on the eastern seaboard of the USA, I know that background noise levels can be very low at high wind speeds at some of these locations. These sites are generally built along ridge lines which are between 200 - 1000' higher than the neighbouring properties. This is not the case for the Steadings Wind Farm site which is much more open landscape.

Table 4-1 presents a summary of MEDEP sound level limits.

Location	Daytime Limit (Hourly L_{Aeq})	Nighttime Limit (Hourly L_{Aeq})	Tonal Sounds	Short Duration Repetitive Sounds (SDRS)
Facility Property Line	75 dBA	75 dBA	No 5 dBA assessment	No 5 dBA assessment or L_{Amax} limit
Protected Location zoned Commercial, Industrial or Transportation	70 dBA	60 dBA within 500 feet of sleeping quarters otherwise 70 dBA	5 dBA assessment applies to Tonal Sounds	5 dBA assessment and possible L_{Amax} limit for SDRS
Protected Location zoned Residential, Rural or Similar Land Use	60 dBA	50 dBA within 500 feet of sleeping quarters otherwise 60 dBA	5 dBA assessment applies to Tonal Sounds	5 dBA assessment and possible L_{Amax} limit for SDRS
Quiet Area - Protected Location where existing daytime sound level is 45 dBA and/or less and nighttime sound level is 35 dBA or less	55 dBA	45 dBA within 500 feet of sleeping quarters otherwise 55 dBA	5 dBA assessment applies to Tonal Sounds	5 dBA assessment and possible L_{Amax} limit for SDRS
Noisy Area - Protected Location where existing daytime or nighttime sound level exceeds standard daytime and/or nighttime limits	Pre-development daytime sound level minus 5 dBA (per election of applicant)	Pre-development nighttime sound level minus 5 dBA (per election of applicant)	5 dBA assessment applies to Tonal Sounds	5 dBA assessment and possible L_{Amax} limit for SDRS
Note: Department Order No. L-21635-26-A-N grants a variance to the Mars Hill Wind Farm from the MEDEP noise standards.				

MEDEP: Maine Department of Environmental Protection

JWS/0/26: Mr Short

Mr Short has submitted some noise predictions for Throckington Church. I attach my noise predictions for the same location for two wind shear profiles and for the measurement closest to Throckington Church, Quarry House which is located at a similar height and exposure to the south-westerly winds.

It is inappropriate to compare façade levels with the ETSU-R-97 Noise Limits as they are based upon free-field conditions. Furthermore, the noise criteria within ETSU-R-97 are intended for the protection of amenity to dwelling houses.

Although Mr Short suggests within his evidence that wind shear exponents of 0.57 might occur, such levels will be rare and, by his own analysis, occur generally during very low wind speed conditions when it is debateable whether the wind turbines may even be operating.

Finally, the predicted levels are only likely to occur when Throckington Church is directly downwind of the nearest wind turbines. When upwind of the wind turbines, a condition which is likely to be predominant at this location, wind turbine noise levels will be between 5 and 15 dB lower than those predicted

It should be noted that Mr Short analysis of the potential level difference between the wind turbine noise and the existing background noise, a suggested level of 10 – 14 dB, is not likely to occur.

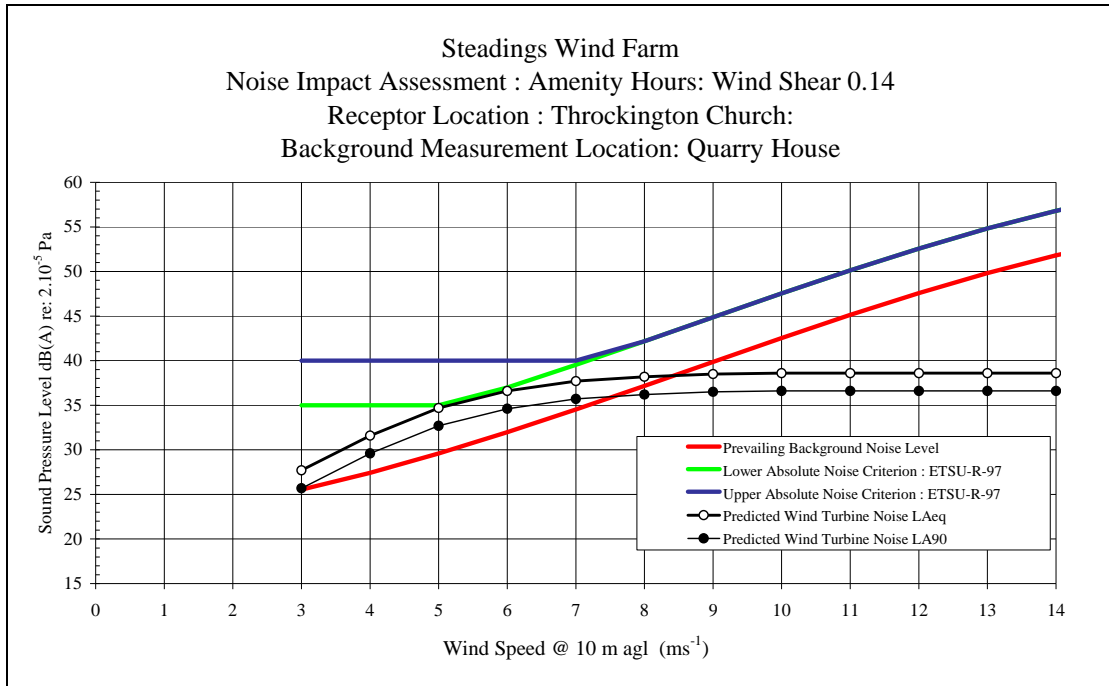


Figure 1

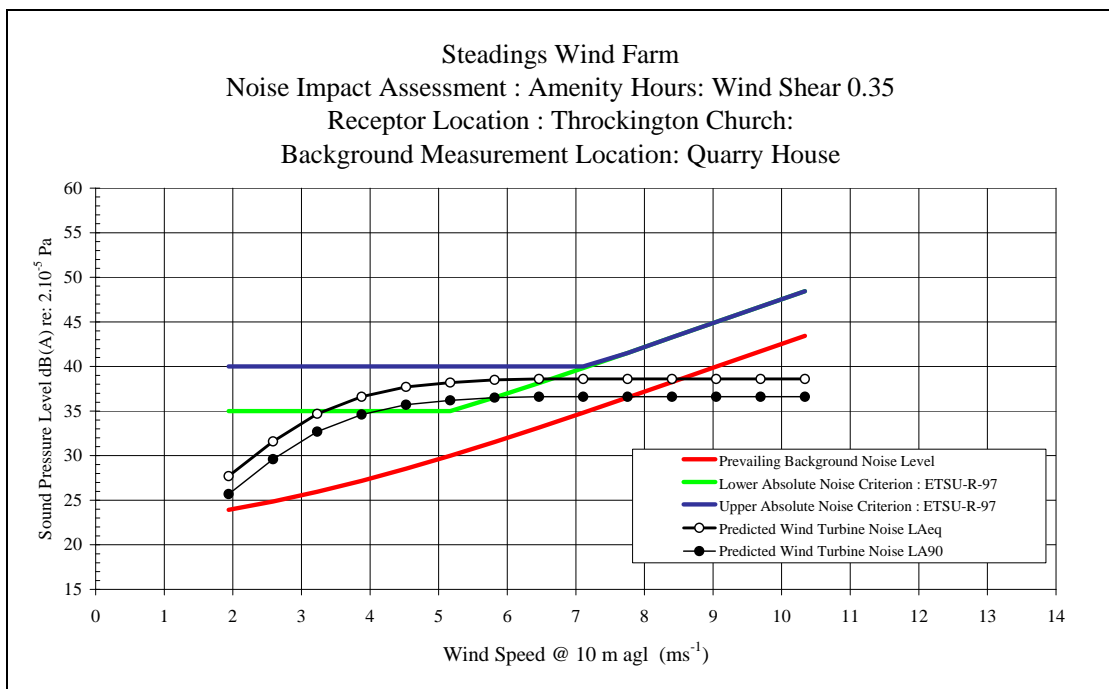


Figure 2