APPENDIX 1

Dr Chris Woods

14/2/2016

Leanne Palmer
Case Officer
Room 3/26
Temple Quay House
2 The Square
Bristol
BS1 6PN

Dear Ms Palmer

Re:- Scout Moor Wind farm Expansion

Pins Appeal References:- APP/B2355/V/15/3139740 and APP/P4225/V/15/3139737

I am a GP and live near Ramsbottom. I have an interest in the health impact of wind turbines. I am a medical practitioner and not a noise expert, neither am I anti-wind farm but I am concerned about where turbines are placed and object to the current proposal.

On the 15th and 21st July 2015, I submitted detailed evidence to the Case Officer for Rossendale and this can be summarised as follows:-

1.1) Wind turbines can affect the health of those who live nearby. In particular they can cause annoyance and sleep disturbance. An editorial in the well-respected British Medical Journal states that *"a large body of evidence now exists to suggest that wind turbines disturb sleep and impair health at distances that are permitted in most jurisdictions, including the UK."* Those distances can be considerable. Although the editorial was predictably attacked, the attack was successfully rebutted. Please see attached BMJ documents.

1.2) The main cause of adverse health impacts is the amplitude modulation of wind turbine noise (AM) also called *"the blade swish or thump"*, the regular thud as a blade passes the tower. Please see The Scout Moor Wind Farm Expansion Environmental Assessment (2015). p296. Amplitude Modulation.

1.3) The more wind turbines there are the greater the adverse impact from AM. Please see the attached Van Den Berg Paper. Chapter 10 Impulsive Noise.

1.4) Current guidelines (ETSU) on measuring wind turbine noise date back to 1997 and although make mention of AM do not give guidance on measuring it. This is unhelpful. The current noise guidance does not measure the main cause of the adverse health impacts.

1.5) The problem is now recognised by the Government and wind turbine industry and working groups have been commissioned to look at AM. Please see 6.73 below.

1.6) The working groups will report very soon now and new noise guidance will be issued.

1.7) As part of my submission to Rossendale, I commissioned an expert noise opinion from MAS Environmental which strongly supported this evidence and the need for an effective control of AM. Please see the attached MAS report.

Although the Rossendale Case Officer in his report of the 1/9/2015 had recommended approval of the application he has taken the important step of adding a planning condition on AM.

6.73. This is highlighted by the Department of Energy and Climate Change (DECC) looking to commission a research contract titled 'Review of the evidence on the effects of and response to amplitude modulation (AM) from wind turbines, with a view to recommending how excessive AM might be controlled through the use of a planning condition'.

6.74. In the light of the advice from the Council's consultants it is considered therefore that a condition relating to AM should be attached to any permission.

Welcome as this is, it is unlikely that the AM condition will be policed effectively. The Government may well put forward minimum separation distances between turbines and houses. With respect to wind farm development, Scottish Planning Policy (Feb 2010) paragraph 190 states *"A separation distance of up to 2km between areas of search and the edge of cities, towns and villages is recommended to guide developments to the most appropriate sites and to reduce visual impact…"* The UK Government may well put this forward as a way of controlling AM. Will the problem turbines be taken down then? The development should not go ahead until the Government Guidance on AM is published and this is imminent.

The new turbines will be close to the villages of Edenfield, Turn, Cowpe and Boarsgreve and without proper protection and assessment these villages may well be vulnerable to negative health impacts if the new turbines are constructed.

I believe that the wind farm extension should not go ahead until a detailed environmental health assessment is carried out and at the very least any extension of the windfarm should be deferred until the new Governmental guidance is published. The precautionary principle should apply here and AM noise should be evaluated before turbines are erected and not after.

In addition to my objections on wind turbine noise I object to the proposed wind farm expansion for the following reasons.

2. I am in agreement with the Scottish Government who recommends a separation distance of 2km between houses and turbines to mitigate visual intrusion. In the case of The Scout Moor Extension I believe the visual intrusion will be considerable. Some of the turbines in the proposed Scout Moor extension will be close to houses. An example of this would be the proximity of turbine T11 to Turn Village.

3. It would appear that we have enough onshore wind turbines already.
A Ministerial statement from the Department of Energy and Climate Change in June 2015 stated the following:-
"In 2014, onshore wind made up around 5% of electricity generation, supported by around £800m of subsidies. At the end of April 2015, there were 490 operational onshore wind farms in the UK, comprising 4751 turbines in total. These wind farms have an installed capacity of 8.3GW enough to power the equivalent of over 4.5 million homes. The Electricity Market Reform Delivery Plan (2013) projects that we require between 11-13 GW of electricity to be provided by onshore wind by 2020 to meet our 2020 renewable electricity generation objective while remaining within the limits of what is affordable. We now have enough onshore wind in the pipeline, including projects that have planning permission, to meet this requirement comfortably."

4. There is a general feeling among local communities that although they do not want the Scout Moor Wind Farm Expansion they feel that it is pointless to object as their concerns will not be listened to. This was the case with the original Scout Moor Wind Farm Inquiry where there was considerable local opposition to the scheme including from all three Councils. As the scheme was so large, decision making was taken away from local government and given to Central Government. I would like to object on behalf of those who do not want the wind farm extension but feel disillusioned with the whole process and feel it is pointless to protest again.

5. In the Design and Access Statement for the Scout Moor Wind Farm Expansion (2015) in chapter 6 in consideration of the foundations for each turbine we have:-

Foundations
6.7 The type and design of the turbine foundations will be informed by specific ground conditions, site analysis and investigations.

So we do not know how the turbine foundations will be constructed.

In the original Scout Moor Wind Farm Environmental Statement (2003) Vol 1 at 4.6.1 we *have "Each foundation would require approximately 225 cubic metres of concrete and 32 tonnes of steel reinforcing".* So the original 26x100m turbines required 5850 cubic metres of concrete and 832 tonnes of steel to be put into the moor. The new turbines are bigger at 115m and presumably will require more concrete and steel. However if we use the above figures for the 100m turbines we get a conservative estimate of an additional 3600 cubic metres of concrete and 512 tonnes of steel from the proposed 16x115m turbines. This will give a total of 9450 cubic metres of concrete and 1344 tonnes of steel.

In the Design and Access Statement for the Scout Moor Wind Farm Expansion (2015) in chapter 6 in consideration of vehicular access to the turbines we have :-

Vehicular Access
6.18 The existing access track serving the existing turbines at SMWF will form the vehicular site access for the proposals. This access will be used in the construction phase and the period of operation and maintenance.
6.19 Once within the application site, vehicular access will be provided to individual turbine locations, and other compound areas via the existing access network, and a network of up to 6.6km of additional access tracks.
6.20 Existing tracks to be retained on site between 2034 and c.2042 will enable continued access to the proposed development, after the existing wind farm is decommissioned.
6.21 Proposed tracks will have a maximum width of 5m, with a 1m batter either side. Where passing places are required, track widths will increase to 10 metres with a 1 metre buffer on either side (12 metres in total). The additional tracks will either be 'cut road' or 'floating road' construction depending upon peat depth and the hydrological regime in individual locations.

In the original Scout Moor Wind Farm Environmental Statement (2003) Vol 1 at 4.12.1 we have *"Over 11 km of site track would be required to give access to all turbine locations"* So if the proposed wind farm expansion goes ahead there will be 11 + 6.6 = 17.6km of access tracks on the moor. Assuming a width of 5 metres this would give a surface area of 88,000 square metres for the tracks.

If the proposed Wind farm expansion goes ahead there will be a total of 9450 cubic metres of concrete and 1344 tonnes of steel in the moor and a surface area of 88,000 square metres of tracks on of the moor. I am no engineer but I would have thought that all this must impact on the ability of the moor to retain water as well as increase the runoff of rain water from the moor. The recent major flooding of towns and villages around Scout Moor such as Rochdale, Ramsbottom and Summerseat might relate to this and the proposed expansion of the windfarm would only exacerbate it.

Finally the huge amounts of concrete and steel together with the infill under the tracks introduces a significant change to the moorland environment and could pose significant risk in unpredictable ways such as contamination to water supplies etc.

For all the above reasons I object to the proposed expansion of the Scout Moor Windfarm and hope you take this evidence into account in reaching your decision.

Yours sincerely

Chris Woods

Dr C.J.Woods MBChB MRCGP