Item No. 13

APPLICATION NUMBER	**CB/12/00718/VOC**
LOCATION	**The Marston Vale Millennium Country Park, Station Road, Marston Moretaine, Bedford, MK43 0PR**
PROPOSAL	**Variation of Condition: removal of condition 9 (refers to noise levels) of planning permission CB/11/04077/FULL (Erection of a wind turbine, up to 120.5 metres in height, and ancillary infrastructure)**
PARISH	Marston Moretaine
WARD	**Cranfield & Marston Moretaine**
WARD COUNCILLORS	**Cllr A Bastable, Cllr S Clark, Cllr K Matthews**
CASE OFFICER	**Lisa Newlands**
DATE REGISTERED	**28 February 2012**
EXPIRY DATE	**29 May 2012**
APPLICANT	**Blue Energy Marston Vale Ltd**
AGENT	**AMEC Environment and Infrastructure**
REASON FOR COMMITTEE TO DETERMINE	**Major Application with an objection from the Parish Council.**
RECOMMENDED DECISION	**Variation of Condition - Granted**

Site Location:

The application site is situated at the Marston vale Millennium Country Park, Station Road, Marston Moretaine. The Forest Centre building sits within the country park and operates as a visitor centre, cafe and office/training facilities. The building is of a modern, almost contemporary design with weatherboarding and a rendered finish. The park has a circular cycle route, horse trail and a wetlands area.

The site lies within the Forest of Marston Vale which is one of 12 community forests established by central government in 1991.

Planning permission was granted on the 2nd February 2012 of this year, reference number CB/11/04077/FULL for the erection of a wind turbine, up to 120.5 metres in height, and ancillary infrastructure in Marston Vale Millennium Country Park.

The Application:

This application seeks to remove condition 9 of the planning permission which relates to Excess Amplitude Modulation (EAM).

In terms of the application the principle of development is acceptable and there have been no other changes to the application. It is therefore considered that the assessment made under application CB/11/04077/FULL is current and there have been no material changes that necessitate these issues being re-assessed.

Therefore the only issue for consideration in this application is whether condition 9 meets the test of conditions set out in the National Planning Policy Framework and given the evidence submitted whether the condition is still seen as necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects.

RELEVANT POLICIES:

National Policies

National Planning Policy Framework

Regional Spatial Strategy

East of England Plan (May 2008)

Core Strategy and Development Management Policies for Central Bedfordshire (North)

CS3: Healthy and Sustainable Communities
CS4: Linking Communities
CS11: Rural Economy and Tourism
CS13: Climate Change
CS15: Heritage
CS16: Landscape and Woodland
CS17: Green Infrastructure
CS18: Biodiversity
DM1: Renewable Energy
DM4: Development within and beyond settlement envelopes
DM14: Landscape and Woodland
DM15: Biodiversity
DM16: Green Infrastructure
DM17: Accessible Greenspaces

Supplementary Planning Guidance

Mid Bedfordshire District Landscape Character Assessment Final Report August 2007

Planning History

MB/97/00807/FULL	Full: Creation of a cycle path and horsetrail around perimeter of site. creation of wetland habitat. Proposed visitor centre (including one wardens flat) and associated car parking and access. Approved:
MB/98/01203/FULL	Full: Erection of visitor centre, construction of car park and pergola. (revision to planning permission ref. 29/97/807 dated 4.11.97). Approved: 03/11/1998
MB/03/01771/ADV	Advertisement Consent: Replacement main entrance sign, 3 no. access road signs (one double sided) and one wall mounted entrance sign on building. Approved: 15/12/2003
MB/04/00183/FULL	Full: Change of use of land for retention of existing shipping container for storage of country park machinery and tools.

	Approved: 09/04/2004
MB/04/02239/FULL	Full: Alterations to cycle, pedestrian and wheelchair access to Country Park. Approved: 11/02/2005
MB/05/01818/FULL	Full: Erection of temporary meteorological mast up to 30 metres in height. Approved: 12/01/2006
MB/06/02012/FULL	Full: Formation of secure store under existing observation deck. Approved: 23/01/2007
MB/07/00195/FULL	Full: Retention of an existing temporary 30m meteorological mast for a further period of up to two years. Approved: 21/03/2007
MB/07/01136/FULL	Full: Extension to kitchen. Approved: 10/08/2007
CB/09/06918/FULL	Full: Construction of surfaced footpath to the wetlands. Erection of 3 ground level bird hides, 1 tower hide with associated ramp. 3 wooden board walks across wetlands. Approved: 05/02/10
CB/10/01359/FULL	Erection of a 120.5m high wind turbine and ancillary infrastructure. Approved: 12/11/10
CB/11/04077/FULL	Erection of a wind turbine up to 120.5 metres in height and ancillary infrastructure. Approved:

Representations:

Town and Parish Councils

Marston Moretaine PC	Object on the following grounds: • third application in relation to this wind turbine, it is felt by the Parish Council that the original application was flawed in that it did not include provision for a substation, and as such had to be re-submitted along with an amendment for the height of the turbine; • the local planning authority include planning conditions when granting permission for good reasons and feel that businesses must be made to adhere to them in the same way that local residents are expected to; • the removal of condition 9 would enable the applicant to be unaccountable for its responsibilities to the local community should a noise issue occur.

Neighbours

Objection	There has been 1 letter of objection on the following grounds: • By seeking to remove the condition the applicant in our opinion is making a statement that noise will be a problem for residents; • Concern that habitats around the turbine site will be considerably more affected; • Will effectively take away any rights by residents regarding noise pollution.

Consultations/Publicity responses

Publicity

Site Notice posted
Application advertised

Internal

Public Protection	Object to the application to remove the excess amplitude modulation condition. Using a precautionary approach and based on the consultants advise it is considered that the condition should remain in place to protect residents against potential noise disturbance.

Aviation

National Air Traffic Services	No safeguarding objection to the proposal
Cranfield Airport	No comments received

Determining Issues

The main considerations of the application are;

1. Background - Policy and Principle
2. What is Excess Amplitude Modulation (EAM) to which condition 9 relates?
3. The tests of a condition as set out in the National Planning Policy Framework and Circular 11/95
4. Whether condition 9 meets the tests set out in the National Planning Policy Framework and Circular 11/95?

Considerations

1. Background - Policy and Principle

Background

Planning permission was granted in November 2010 for the erection of a 120.5m high turbine from base to tip, planning reference CB/10/01359/FULL. All the relevant planning issues and considerations were considered by the Development Management Committee and planning permission was granted in accordance with the Officers recommendation.

A subsequent application was submitted in November 2011 for the erection of a wind turbine up to 120.5 metres in height and ancillary infrastructure. This application allowed for a potentially smaller turbine to be erected. All the relevant planning issues and considerations were considered by the Development Management Committee and planning permission was granted in accordance with the Officers recommendation.

Policy

Sustainability and climate change, and the need to increase renewable energy generation and reduce carbon emissions, are key components of current planning policy. Therefore this must carry considerable weight in determining the application. The development will contribute towards the renewable energy and carbon reduction targets for Central Bedfordshire and should be encouraged in

accordance with the national, regional and local policies specified. Tackling climate change is a key Government priority. Accordingly, the planning policy context, at all levels, is supportive of renewable energy schemes.

The National Planning Policy Framework states in paragraph 97 that to help increase the use and supply of renewable energy and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. Paragraph 98 states that 'when determining planning applications, local planning authorities should: ...approve the application if its impacts are (or can be made) acceptable.'

Policy DM1 states that the Council will consider favourably proposals for renewable energy installations, provided that they fit the following criteria:

- Have good accessibility to the transport network;
- Not be harmful to residential amenity, including noise and visual amenity;
- Be located and designed so as not to compromise the landscape and scenic beauty of the Chilterns AONB;
- In other areas identified through the Landscape Character Assessment as having high sensitivity, be located and designed so as to respect the character of the landscape.

In terms of the above criteria:

- The site is close to the transport network;
- The impact on residential amenity shall be assessed later in the report;
- The site is not located so as to compromise the landscape and scenic beauty of the Chilterns AONB;
- The Mid Bedfordshire District Landscape Character Assessment (August, 2007) characterises the landscape as the North Marston Clay Vale (5d). The overall landscape character sensitivity is considered to be moderate. In visual terms, the report notes that the landscape is considered to be moderately sensitive to change. The impact on the character of the landscape shall be assessed later in the report.

The principle of development is therefore considered to be acceptable. The issues in terms of landscape character, aviation, cultural and archaeological considerations, ecology, hydrology, geology, flood risk, contamination, traffic generation, telecommunications and the impact on public rights of way have all been considered in detail within the previous two applications and there have been no material changes to these areas within this application.

The main consideration for this application is whether condition 9 which relates to Excess Amplitude Modulation of the planning permission CB/11/04077/FULL meets the tests set out in the National Planning Policy Framework and Circular 11/95.

2. What is Excess Amplitude Modulation (EAM) to which condition 9 relates?

Noise is a sensitive subject and is discussed in detail during the determination of planning applications for wind turbines. It has also been debated at length

through the appeal process and there have been numerous appeal decisions which have discussed the issue of noise at length.

Excess Amplitude Modulation (EAM) and the need for a condition to control it has been one of the topics heavily debated through the appeal process. EAM is commonly referred to as blade swish. It would involve the control of noise that might occur over and above the normal level of blade swish noise. The appeal decision in relation to the Langford Wind Farm which was allowed on appeal states *'Amplitude Modulation (AM) or "blade swish" is an aspect of the aerodynamic noise from wind turbines that can be particularly noticeable or insistent but which is still not fully understood'.*

The companion guide to the former PPS22 states in paragraph 42 *' there are two quite distinct types of noise source within a wind turbine. The mechanical noise produced by the gearbox, generator and other parts of the drive train; and the aerodynamic noise produced by the passage of the blades through the air'*. The paragraph concludes by saying *' Aerodynamic noise from wind turbines is generally unobtrusive - it is broad-band in nature and in this respect is similar to, for example, the noise of wind in trees'.*

It is common knowledge that there have been instances at some wind farms of reported noise characteristics which could not be attributed to normal blade swish. The Government commissioned a study in to the phenomenon which was undertaken by the University of Salford, the findings were published in 2007. The research suggested a relatively low incidence of occurrences (evident in 4 and possibly another 8 sites out of a total of 133), however, these findings were based on descriptions of noise characteristics and later re-interpretation of the data suggested that the incidence might be as high as 25%.

Whilst several potential causes have been identified, despite the research undertaken by Salford University, there remains no consensus as to the trigger for excess amplitude modulation. The Appeal Decision in relation to Land at Cotton Farm, St Neots which was allowed on appeal states that 'Based on the findings of low incidence and the number of people affected being small, the Government's view is that there is not a compelling case for more work on AM and that the minimisation of increases in noise through the use of ETSU-R-97 remains appropriate.

Various factors are considered to be possible causes of excess AM these include - squat turbine designs, linear turbine arrangements, turbines too closely spaced together, high levels of wind shear, reflective surfaces close to the receiver, typography, distance from dwellings, wind direction and background noise levels.

It can be seen from the information above that there is little agreement over the causes of excess amplitude modulation and given the University of Salford's research it is considered that the incidence of it occuring is relatively low. Although after re-interpretation this increased to potentially 25% of the 133 sites that were examined.

3. The tests of a condition as set out in the National Planning Policy Framework and Circular 11/95

The National Planning Policy Framework states in paragraph 206 that planning conditions should only be imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects. This guidance reflects the advice set out in Circular 11/95.

Circular 11/95 sets out that there are six tests for conditions, as a matter of policy the Circular states that conditions should only be imposed where they satisfy all of the tests. The tests are discussed in detail within paragraphs 14-42 of the Circular. These explain that conditions should be:

i) necessary - the guidance is that Local Planning Authorities in considering whether a particular condition is necessary, should ask themselves whether planning permission would have to be refused if that condition were not to be imposed.

ii) relevant to planning - the guidance is that conditions should be relevant to planning, any condition which has no relevance to planning is ultra vires. Guidance also states in paragraph 22 that other matters are subject to control under separate legislation and a condition which duplicates the effect of other controls will normally be unnecessary.

iii) relevant to the development permitted - a condition must fairly and reasonably relate to the development permitted. If it is not considered to relate to the development permitted it is considered ultra vires.

iv) enforceable - the guidance states that a condition should not be imposed if it cannot be enforced. There are two aspects of this, the practicality of enforcement and whether compliance is reasonable. In terms of the practicality of enforcement, this relates to whether it is possible to detect a contravention and prove a breach of its requirements. In terms of whether compliance is reasonable, in applying a condition it is necessary to consider whether the person carrying out the development can reasonably be expected to comply with it.

v) precise - a condition must be worded so that it is precise in terms of being able to ensure that a condition is enforceable and also to ascertain what must be done to comply with it.

vi) reasonable - a condition may be unreasonable even though it may be precisely worded and apparently within the powers available. It may be unreasonable because it is unduly restrictive or so onerous that as a matter of policy it should be avoided.

As set out above conditions should only be imposed on the grant of planning permission if they meet all six of the tests set out. Therefore, in applying a condition and similarly in assessing whether a condition should be removed, it is necessary to consider whether it is necessary, relevant to planning, relevant to the development to be permitted, enforceable, precise and reasonable in all other aspects. The guidance is very clearly set out in Circular 11/95 in that in applying a condition or assessing whether it should be removed authorities should ask themselves whether planning permission would have to be refused if that condition were not imposed. The argument that a condition will do no harm

is no justification for its imposition; as a matter of policy a condition ought not to be imposed unless there is a definite need for it.

The following section will look at condition 9 in detail and assess whether it is considered appropriate to remove the condition. To conclude this section, paragraph 15 of Circular 11/95 states: ' The same principles, of course, must be applied in dealing with applications for the removal of a condition under section 73 or section 73A (of the Act): a condition should not be retained unless there are sound and clear-cut reasons for doing so.'

4. Whether condition 9 meets the tests set out in the National Planning Policy Framework and Circular 11/95?

Condition 9 of planning permission CB/11/04077/FULL the subject of this application states that:

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 consultants 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 consultants 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 consultants 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 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.

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

Applicants position

The applicant has stated that they believe the condition is unlawful and therefore should be removed. They have stated that they believe the condition is not necessary or reasonable and that it would struggle to be considered precise and enforceable, therefore not meeting the tests of a condition as set out in the National Planning Policy Framework and Circular 11/95. They also state that condition 8 of the planning permission ensures compliance with ETSU-R-97 derived noise limits in the interests of protecting the amenity of local residents.

Amplitude modulation is recognised within ETSU-R-97 'The Assessment and Rating of Noise from Wind Turbines' which is used throughout the UK to assess operational noise from wind turbines. However, the applicant acknowledges that the issue of EAM, a level of amplitude modulation of blade passing noise outside of the levels anticipated in ETSU, has been recognised as an isolated phenomenon.

They refer to the University of Salford commissioned research that has been discussed earlier, highlighting that on the basis of the research the Government concluded that although EAM cannot be fully predicted, the incidence of EAM resulting from wind farms is low. There was therefore no compelling case for any further research and the Government continued to support the approach set out in the former PPS22. This approach is for local planning authorities to ensure that renewable energy developments have been located and designed in such a way to minimise increases in ambient noise levels through the use of the 1997 report by ETSU to assess and rate noise from wind energy developments.

The applicant highlights further research in terms of the AECOM report commissioned by DEFRA to examine the use of statutory nuisance when dealing with wind farm noise complaints (released in April 2011). The AECOM report notes that the various risk factors which might give rise to EAM have been suggested, including linear layout of turbines, turbine spacing and high wind shear or a combination of these factors. The report concludes by stating that *"despite research by numerous investigators over the last 20 years, there is to date no universally accepted explanation as to the causes of AM or means to predict its occurrence".* It also states that whatever the actual number of occurrences of EAM, it only occurs at a minority of wind farm sites for some of the time.

The applicant states that there are isolated examples of Swinford and Denbrook where the EAM condition has been imposed, although these appear to be at odds with virtually every appeal decision since, namely, the Secretary of State's decisions at Wadlow, Barmoor, Sober Hill, Greenrigg/Ray and Crook Hill where no EAM condition has been imposed. The issue of an EAM condition was considered by the Inspector within the Spaldington decision. In this decision the Inspector stated that:

'Whilst both schemes would display some of the characteristics thought to be associated with EAM, the current situation can be summed as, there is no agreement over what the cause of the phenomenon is, there is no agreement over what the level of risk is in relation to any one particular wind farm and there is no agreement how to measure it. Here, the evidence does not suggest that these sites pose any greater risk of EAM so as to adopt an approach that differs from ETSU. Moreover, where such an approach has been taken, I am aware of the problems that have arisen in attempting to construct appropriate conditions'.

The applicant concludes by assessing the condition in relation to the tests set out in Circular 11/95. The applicant states that in light of the evidence before us, given the small number of sites where EAM has been identified and the absence of any proven risk factors, it is statistically highly unlikely that EAM would be an issue at the proposed development. The imposition of a condition cannot therefore be justified as necessary or reasonable.

In addition to this in light of the fact that there is no consensus on a robust assessment methodology for detecting EAM, it is not currently possible to draft a condition which includes a robust and tested means of determining the presence of EAM which would meet the tests of precision and enforceability.

The applicant concludes their evidence by stating that 'the imposition of a condition on the basis that it will do no harm is not sufficient justification. It would not be appropriate to apply the precautionary principle unless there is objective scientific evidence to demonstrate that there is a real risk of EAM occurring on the application site. Such evidence does not exist. It is therefore our firm view that condition 9 is unnecessary, unreasonable, imprecise and unenforceable; and therefore outside of Circular 11/95 and unlawful'.

Public Protection

Public Protection have objected to the removal of condition 9 on the following grounds; using a precautionary approach and based on the consultants (MAS Environmental) advice the condition should remain in place to protect residents against potential noise disturbance.

The condition was imposed on the original application on the advice of Public Protections' consultant. Public Protection have consulted the same consultant on this application and they have recommended that the condition remain in place, consistent with their original advice to the authority. The consultant used for both this application and the original application, was also used in terms of the Langford Wind Farm application and presented evidence to the Public Inquiry in relation to noise on behalf of the Council.

The consultants advice is that the advice given in relation to this condition is not based on a matter of routine but based on *'my expert opinion which in turn is informed by measurements at 6 sites where EAM has been directly identified and measured by me'*. Therefore, his recommendation at Marston is based on his findings of EAM in the field.

The consultant states that there has been significant progress on EAM since ETSU-R-97, including the work of Professor Frits van den Berg in 2003 onwards

to a series of papers and his own work which continues.

MAS Environmental are of the opinion that there is a foreseeable risk of EAM at this site due to the wind shear element, topography and turbine height. The consultant continues by stating that *'In more recent times I have been able to examine incidence's of EAM and correlate them with meteorology and actual wind speeds. In the case of Marston there is sufficient evidence the conditions and meteorology occurs that are likely to lead to EAM. The valley and the open expanses of water are exacerbating factors'.*

The consultant draws on the examples of Langford, where in their opinion the Inspector simply ignored the research put forward by them. MAS Environmental state that since that decision there has been further research published which strongly supports their findings. In paragraph 1.38 of the consultants advice it states *' If the condition is removed then there is no way back and the ability to control this foreseeable risk is lost. However, on the current performance and decisions of the Inspectorate, any Inspector is on balance likely to remove the EAM condition and leave communities unprotected, even with the expert experienced opinion there is a problem.'* .

MAS Environmental conclude by stating *'My expert opinion is that there is a significant risk of EAM that requires control in this case and that a 3dB peak to trough level allows adverse impact. It is not the cut off point but a point of significant intrusion. The likelihood however, of it occurring in this case is certainly less than 50% and probably about 15-25%'* . The consultant however, also notes in the closing paragraph that *'Equally I am aware that Inspectors are not supporting controls and the risk of them overturning a condition on appeal is quite high'.*

Conclusion

In reaching a recommendation, it is necessary to consider the evidence submitted with the application, the objection received from Public Protection and any relevant appeal decisions to reach a balanced view as to whether condition 9 is lawful and meets the tests as set out in the National Planning Policy Framework and Circular 11/95.

Since the original decision was made and this condition was imposed the Langford Wind Farm was allowed on appeal. During the Public Inquiry evidence was presented by MAS Environmental on a number of noise issues in relation to the application. One of these included the need for a EAM condition. MAS Environmental raised concerns at the Inquiry and during the application process that there is a particular risk of EAM at Langford and that if the appeal proposal were approved it should be controlled by condition. The Inspector's decision discussed this in detail in paragraph 56 of his decision stating that *'although the Council's acoustic witness contended that there was a general acceptance that EAM occurred at 10-16% of wind farms nationally, no cogent evidence was advanced to support that figure'.* The Inspector goes on to emphasis that there is not any real evident reason why the appeal site should be particularly prone to EAM. MAS Environmental suggested it was likely to be common in flat eastern

parts of the country and could be exacerbated by wind shear and linear layout or particularly spacing of turbines. The Inspector states that the assertions made by the Council's witness were not supported by evidence.

The Inspector in this case concludes that *'as I am not convinced that there is a real possibility of EAM at the site I consider that the Council's suggested condition to control it does not pass the test of necessity in Circular 11/95. If there is no clear need for it, it cannot be justified on a precautionary basis or because to impose it would "cause no harm"...I also have doubts as to whether the condition would meet the Circular tests of enforceability and precision in that, despite what the Council's acoustic witness said about being able to identify EAM and distinguish it from other noise, this would appear to depend so heavily upon individual judgment as to render the approach unsafe'.*

The applicants provided a further appeal decision in which the issue of EAM being controlled by condition was discussed. The Woolley Hill decision was issued in March 2012. MAS Environmental point out in their response to the Council that there was no detailed discussion in relation to noise during the Inquiry and the issue only arose when noise conditions were discussed. The appeal was to consider the erection of 4 three bladed wind turbines, up to a height of 130.5m, at a site known as Land east of Whitleather Lodge, Woolley Hill, Ellington, Huntingdon. In the Inspectors decision it refers to the Salford University research and the re-interpretation of the data suggesting that the incidence might be as high as 25%.

The Inspector discussed the condition in detail and emphasises that the recognised guidance for wind farm noise assessment is ETSU-R-97 which accepts a certain level of increased noise at residential properties. It also anticipates an element of amplitude modulation which is widely claimed to be no longer adequate for modern, much larger turbines. However, it remains current guidance, endorsed by the Government, and there is nothing of material weight to supplement it or to replace it.

In terms of necessity, the Inspector emphasises that in line with Circular 11/95 a condition ought not to be imposed unless there is a definite need for it. The Inspector in this case rules that the likelihood of excess amplitude modulation manifesting itself cannot be predicted, and there is nothing to suggest that Woolley Hill would be particularly prone, or even likely, to such tendencies, the imposition of a condition cannot be claimed to be necessary in the sense of mitigating foreseeable impacts.

The Inspector continues by stating in paragraph 193 of the decision that *'none of these aspects, compounded by the lack of understanding on excess amplitude modulation, provide good reason for the imposition of a condition as a matter of routine or precaution. To my mind, on the basis of the evidence before me, the test of necessity has not been fully met'.* The Inspector also states that the condition would be unreasonable, as there is no agreed methodology for measuring excess amplitude modulation, based on convincing research and therefore it would be unreasonable to impose a condition on such an uncertain basis.

The Inspector concludes the discussion on EAM by stating:

'In conclusion, despite the findings of the Inspector in the Den Brook case, the evidence presented to me does not provide convincing justification that an excess amplitude modulation condition would be necessary. In addition, such a condition, if imposed, would be unreasonable given the current limited knowledge and understanding of excess amplitude modulation and a lack of consensus beyond the guidance of ETSU-R-97.'

The last appeal decision that is worthy of note is that of Land at Cotton Farm, St Neots. The appeal was to consider the refusal of planning permission for 8 wind turbines with a height to blade tip of 127m. On this occasion the Local Planning Authority did not refuse the application on noise grounds, however substantial objections to the noise impact of the development were made by the Cotton Farm Alliance (CFA) and many local residents. CFA were represented at the Inquiry by MAS Environmental in terms of the noise objections. This decision was released 14th December 2010.

The Inspector in this decision notes that much of the debate in relation to noise conditions was concerned with the need for a condition to control excess amplitude modulation. It is acknowledged that this appeal decision was sometime ago, however, the issues raised are similar. CFA argued at the Inquiry that the uncertainty, coupled with specific locational and design characteristics, point to a risk of excess AM at the appeal site, and that this warrants a precautionary condition which would require the problem to be addressed if it was to occur. In paragraph 88 of the decision the Inspector states *' In this particular case it seems to me that some (but not all) of the postulated risk factors are present, to some degree, in the design and layout of the Cotton Farm proposal. I was also advised, however, that such factors are exhibited at other wind farms where excess AM has not been identified. This apparent lack of a consistent or identifiable pattern exemplifies the problem – in short, based on the current knowledge it is simply not possible to predict in advance the likelihood that a particular proposal would give rise to excess AM'*.

In the majority of appeal decisions before us, the Inspectors have noted that whilst they have misgivings, the Statutory Nuisance route open to Local Authorities is at present the best means currently available for resolving the phenomenon of EAM and not through condition.

In terms of condition 9 meeting the tests of a condition, the following can be seen:

i) necessity – there has been no actual evidence provided in terms of EAM actually occurring at the site, MAS Environmental have stated that in their opinion there is foreseeable risk due to the wind shear element, typography, and height of the turbine. They also state that the valley and open expanses of water are exacerbating factors. However, there is no agreement over what causes EAM and as the Inspector stated in the Cotton Farm decision such factors are also exhibited at other wind farms where excess AM has not been identified. MAS Environmental state that in their opinion there is a 15-25% of EAM occurring at the site. The same concern was expressed at Langford and Cotton Farm, and both Inspectors ruled that there is no evident reason why the appeal sites should be particularly prone to EAM. The assertions were not supported by evidence and the same could be said for the site the subject of this application.

It is therefore considered that in the absence of any real possibility of EAM at the site, it is not considered that the condition to control it would not be justified in terms of necessity.

ii) relevant to planning – condition 9 could be seen as being unnecessary as the guidance states in Circular 11/95 that if matters can be controlled under separate legislation then a condition which duplicates this control would not be necessary. Whilst the consultant acting on behalf of Public Protection has their misgivings regarding Statutory Nuisance, appeal decisions have stated that the Statutory Nuisance route is the best means currently available for resolving the phenomenon of EAM. Therefore, whilst condition 9 would not necessarily duplicate the control under the Statutory Nuisance route, it would impose a condition for which there are controls outside of the planning system.

iii) relevant to the development permitted – condition 9 would meet this test in terms of being relevant to the development permitted.

iv) enforceable – Concerns have been expressed by the applicant that there is no consensus on a robust assessment methodology for detecting EAM, and therefore it is not possible to draft a condition which includes a robust and tested means of determining the presence of EAM. The consultant acting on behalf of Public Protection has stated that in his opinion there is no subjectivity in the wording of the condition and that EAM can be identified and measured as the condition states. This has not been supported at appeal, with the appeal decisions referred to in this report all concluding that if the condition was imposed it would be unreasonable given the current limited knowledge and understanding of excess amplitude modulation. The Inspector in the Langford appeal decision stated *'I also have doubts as to whether the condition would meet the Circular tests of enforceability and precision in that, despite what the Council's acoustic witness said about being able to identify EAM and distinguish it from other noise, this would appear to depend so heavily upon individual judgment as to render the approach unsafe'*. It is therefore considered that given the appeal decisions and the lack of agreement regarding a robust assessment methodology for detecting EAM that the proposed condition would not meet the test of enforceability as it is uncertain that the detection of EAM is possible and therefore there are issues over the practicality of enforcement.

v) precise – the wording of condition 9 is said by the consultant on behalf of Public Protection to be precise and that there is no subjectivity. The applicant argues that as there is currently no agreed robust assessment methodology for detecting EAM, the condition would not meet the test of precision as it would not be clear as to how to proceed in identifying EAM and measuring it. Given the recent appeal decisions and in particular that stated within the Langford appeal decision, it is considered that the condition would struggle to meet the tests of precision given the uncertainty over the methodology for identifying and measuring EAM and the subjectivity this introduces.

vi) unreasonable – the appeal decisions that have been discussed in this report clearly emphasise that an EAM condition would be unreasonable due to the uncertainty in methodology for measuring EAM and the lack of agreement over the causes of EAM and therefore the predictability of it occurring at any given site. Given the recent appeal decisions and the evidence presented within this application by both the applicant and the consultant on behalf of Public

Protection it is considered that to continue to impose condition 9 would be unreasonable.

In light of the above assessment it is considered that condition 9 fails to meet all the tests set out in Circular 11/95. Given the evidence discussed in the application; from the applicant, the consultant on behalf of Public Protection and the appeal decisions it is considered on balance that the condition would not meet the tests of necessity, enforceability, precision and reasonableness. It can also be seen that appeal Inspectors consider that Government guidance does not go beyond that of ETSU-R-97 and that should EAM occur it can be dealt with outside of the planning system through the Statutory Nuisance route.

Condition 8 which relates to noise levels in particular, would remain and afford adequate protection in terms of the overall impact of noise on residential properties. The removal of Condition 9 only relates to Excess Amplitude Modulation and would not remove the more specific noise condition which offers protection for residential properties in terms of noise levels.

Given that the condition does not meet all the tests set out in Circular 11/95, it is considered that it may be unlawful and therefore the application should be approved and the condition removed.

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 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.

10 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.

11 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.

12 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.

13 **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.

14 **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.

15 **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.

16 **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.

17 **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.