From: Danny Trussler [DannyTrussler@rabbitgroup.co.uk]
Sent: 13 November 2013 13:45
To: Peter Devonport
Subject: FW: AWDM/0852/13: Installation of 6 kw wind turbine, 18.25 ms tall (including rotor blades) in forecourt of premises; Unit 1-2, 37 Chartwell Road, Lancing Business Park

Follow Up Flag: Follow up
Flag Status: Red

Attachments: Plan-Potential Fall Radius of Wind Turbine(Lancing).pdf; Plan-Potential Flicker Radius of Wind Turbine (Lancing).pdf

Peter,

Further to our email correspondence below and the potential issues you have raised regarding the latest Government Guidance, I forward the following comments and information in connection with the above application for your consideration.

Is safety an issue when wind turbine applications are assessed?

1) *Buildings* - With regard to how the potential risk of fall over or harm from the proposed turbine onto buildings will be addressed, it is recognised that safety may be an issue in certain circumstances. I attach, for your consideration, a plan which shows the potential fall radius of the proposed turbine in the event of a mast failure. You will see from the plan that the only building at risk from a potential mast failure is our own Waste Recycling Building. However, given the information provided in the manufacturer's technical specification details, it is considered that any fall or harm from the turbine on our building would be very unlikely. You will see from the manufacturer's technical specifications sheet (Appendix 3) that the proposed turbine would be constructed into a concrete cube measuring 3m x 3m x1.2m. Furthermore, you will also see that for this particular turbine it has a wind speed survival rate m/s of 70, ie. m/s = 2.24 miles per hour x 70 = 157 miles per hour approximately. Given this solid base construction proposed for the turbine and a survival rate for the proposed mast from wind speed up to 157mph, it is considered that any fall or harm from the turbine on our building would be very unlikely.

Is shadow flicker and reflected light an issue for wind turbine applications?

2) *Shadow Flicker* - With regard to how the potential risk of shadow flicker from the proposed turbine upon the residential areas to the north will be addressed, I attach, for your consideration, a plan/aerial photograph showing the potential shadow flicker arc from the proposed turbine. You will see from the plan that the nearest residential properties to the north lie approximately 280 metres away from the proposed turbine. Whilst the proposed turbine, to the tip of the blades, may be 18.25 metres high, in between these properties and the proposed turbine lie a number of industrial buildings including our Waste Recycling building measuring 11.2 metres height and our Energy from Waste Plant measuring 13.5 metres in height. Also, between these properties and the proposed turbine there are a number of other similar industrial buildings: including a Newspaper Distribution Depot; Viridor's Waste Transfer Station; Vehicle Testing Station; Parafix; Fuel Storage Tanks; Eschmann and Lancing Commercial all of which are the same height or higher than our waste buildings. In addition, on the southern side of these residential properties, on the northern side of the railway line, there are a number of substantial trees and bushes between the properties and the proposed turbine. Given the minor scale of the proposed turbine and its relatively low height just above the height of our Waste Buildings and its proximity close to the eastern side of the building (See Appendices 4 and 5) and, given that the residential properties to the north are around 300 metres away from the proposed turbine and, given that there are a number of large and high buildings,

trees and shrubs blocking the line of the proposed turbine to these residential properties, it is considered that any potential problem of shadow flicker from the turbine to these properties would be very unlikely.

3) *Reflected Light* – With regard to how the potential risk of flashes of reflected light from the proposed turbine will be addressed, you will see from the manufacturer's technical specification sheet (Appendix 3) that the mast would be made of galvanised steel, whilst the turbine blades and body would be Glassthermoplastic Composite ie. black plastic and epoxy. The mast would be coloured green (See Appendix 5 for a photographic impression of the materials and colours for the proposed turbine). Given these materials and colours to be used for the proposed turbine, it is considered that these would be unreflective and any potential problem of reflected light from the turbine would be very unlikely.

I hope this information assists in your assessments of this matter. Should you require any further information, please do not hesitate to contact me.

Regards

Danny Trussler
Head of Planning, Minerals and Waste
Rabbit Group

From: Danny Trussler
Sent: 04 November 2013 11:24
To: 'Peter Devonport'
Subject: RE: AWDM/0852/13: Installation of 6 kw wind turbine, 18.25 ms tall (including rotor blades) in forecourt of premises; Unit 1-2, 37 Chartwell Road, Lancing Business Park

Peter,

Thank you for your email regarding the above.

I shall gather some information, internally, on the potential issues you have raised and shall come back to you shortly with my comments on this matter.

Regards

Danny

From: Peter Devonport [mailto:Peter.Devonport@adur-worthing.gov.uk]
Sent: 01 November 2013 11:58
To: Danny Trussler
Subject: AWDM/0852/13: Installation of 6 kw wind turbine, 18.25 ms tall (including rotor blades) in forecourt of premises; Unit 1-2, 37 Chartwell Road, Lancing Business Park

Danny,

Some potential issues have arisen which I need to assess, following the issue of latest Government guidance . If you could assist this would be very helpful.

I have reproduced relevant extracts from this guidance in italics and would be grateful for your comments;

Is safety an issue when wind turbine applications are assessed?

31. Safety may be an issue in certain circumstances, but risks can often be mitigated through appropriate siting and consultation with affected bodies:

Buildings - Fall over distance (i.e. the height of the turbine to the tip of the blade) plus 10% is often used as a safe separation distance. This is often less than the minimum desirable distance between wind turbines and occupied buildings calculated on the basis of expected noise levels and due to visual impact

Please advise how the risk of fall over and risk of harm will be addressed.

Is shadow flicker and reflected light an issue for wind turbine applications?

35. *Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the impact is known as 'shadow flicker'. Only properties within 130 degrees either side of north, relative to the turbines can be affected at these latitudes in the UK – turbines do not cast long shadows on their southern side.*

36. *Modern wind turbines can be controlled so as to avoid shadow flicker when it has the potential to occur. Individual turbines can be controlled to avoid shadow flicker at a specific property or group of properties on sunny days, for specific times of the day and on specific days of the year. Where the possibility of shadow flicker exists, mitigation can be secured through the use of conditions.*

37 *though problems caused by shadow flicker are rare, where proposals for wind turbines could give rise to shadow flicker, applicants should provide an analysis which quantifies the impact. Turbines can also cause flashes of reflected light, which can be visible for some distance. It is possible to ameliorate the flashing but it is not possible to eliminate it.*

Please advise how the risk of flicker to the residential area to the north will be addressed.

Regards

Peter Devonport - Team Leader Development Control , Plan
Location: Portland House, 44 Richmond Road Worthing, West
Internal: 63473 | External: 01903 221345 | E-mail: Peter.Devonpo
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