PLANNING SUPPORT STATEMENT CUMULATIVE EFFECTS

Dated 23rd July 2012

Applicant:	Bulk Estates Limited
Proposed Development:	Installation of 1 No medium scale 50Kw Endurance wind turbine on a 25m monopole mast
Site Address:	Land at Broadstone Reservoir, Brown's Edge Road, Hepworth, Huddersfield HD9

Introduction

This statement has been produced to provide additional information about potential cumulative visual effects. It makes reference to the following maps, diagrams and drawings that should be studied and read in conjunction with this report.

- Cumulative Effects Plan (Drawing No. 111-PO3)
- Digital ZTV (Zone of Theoretical Visualisation) at 7km Radius (Drawing No. NG111-PO2)
- Additional Photomontages (Different field of view from The 'Viewing Point' at Receptor 7 and from Broadstone Lane on the Kirklees-Barnsley boundary at Receptor 6. Plus an a photo from the A628 Flouce roundabout)
- Cross Terrain Profiles

Cumulative Visual Impact

In terms of cumulative visual impact there are 2 main types of potential effects. Firstly ***'combined visibility'*** occurs where the observer is able to see two or more developments from the same viewpoint and this includes developments in the same arc of vision. When the observer needs to turn to view two or more developments from one viewpoint this is often referred to as ***'successive'*** impact.

Secondly, '***sequential effects'*** occur when the observer has to move from one viewpoint to another to see different developments i.e. whilst travelling along a major road or popular footpath. *'Frequent'* sequential impacts occur when a development appears intermittently

with short time lapses between points of visibility, depending on the variables of speed and distance. '*Occasional'* sequential impacts occur where long periods of time lapse between views of the development, due to lower speeds of travel and/ or longer distances between points of visibility.

Similar terminology and assessment techniques that are used to assess landscape and visual effect are used to assess cumulative impact. Sensitivity is judged in the same way as for basic landscape and visual assessment. However, when assessing magnitude of change other considerations are added to the standard approach. In particular we consider the arrangement of existing developments in the view and the relationship between these and the proposed development taking into account what can be seen in the same view, in the same arc of vision or can be seen when the viewer travels from one viewpoint to another. We also consider the relationship and differences between the design, height and scale of existing and proposed developments and take into account the distances between each development and the viewer.

The level of significance of cumulative impacts can be summarised as follows:

Level of Significance of cumulative landscape and visual effects	**Assessment Criteria**
Substantial	Additional changes due to the relationship with other developments, substantially affecting the character or views of the landscape or the elements within it. For example, a substantial effect is likely when a receptor of high sensitivity is affected by a high magnitude of additional change
Moderate	Additional change, due to the relationship with other developments, affecting, to a lesser degree, the character or views of the landscape or the elements within it. For example, a moderate effect is likely when a receptor of medium sensitivity is affected by a medium magnitude of additional change
Slight	Minor additional change, due to the relationship with other developments, affecting the character or views of the landscape or the elements within it. For example, a slight effect is likely when a receptor of low sensitivity is affected by a small magnitude of additional change
None/ Not significant	No or minimal perceptible additional change, due to the relationship with other developments, affecting the character or views of the landscape or the elements within it. This also includes locations where there will be no impacts.

Existing and Proposed Wind Turbines

The **Cumulative Effects Plan** (Drawing No. 111-PO3) shows both existing and proposed turbines in an area approximately 2.5km radius around the proposed site. The plan categorises turbines by size (in terms of height and power output) into 4 categories i.e. 'Very Small', 'Small', 'Medium' and 'Large'. It also identifies turbines which are proposed under current planning applications. The turbines can be summarised as follows: -

Turbine Category	Existing	Proposed	Total

Very Small Turbines (25m or less to blade tip)	7	2	9
Small Turbines (from 25m to 50m to blade tip)	2	2	4
Medium Turbines (from 50m to 90m to blade tip)	19	0	19
Large Turbines (from 90m to 130m to blade tip)	3	0	3
Total	31	4	35

The table above shows that 22 turbines (i.e. more than 70% of the existing turbines) are medium or large scale wind turbines – of a size and output associated with utility wind farms. 9 are very small or small scale wind turbines (less than 30%). These are located to the east and west of the proposed turbine (i.e. along the Kirklees-Barnsley boundary with the larger turbines occupying the higher ground on the edge of the escarpment to the south.

The **Zone of Theoretical Visualisation Plan** (Drawing No NG111-PO2 – the 'ZTV') Indicates where the proposed Endurance 50kw wind turbine may potentially be seen from the area around the site. It extends to a radius of 7km but realistically beyond 5km the proposed turbine will be barely visible in the landscape. More importantly, the plan indicates where the turbine will definitely not be seen. The photomontages show how visible the turbine will be taking into account distance, scale, localised changes in topography and other features in the landscape.

Three additional **Photomontages Montages** have been produced to help illustrate the relationship between existing turbines (particularly at Royd Moor and Spicer Hill) and show any additional cumulative visual effects. Two of these montages are taken from existing receptors 6 and 7 showing a slightly different field of view and the third at far distance, as requested from the A628 – 150m east of the Flouce roundabout.

Conclusions

1. Proposed turbine is categorised as a small turbine standing at approximately 34.5m to blade tip
2. It is located close to Broadstone reservoir where it sits in a bowl-shaped plateau
3. The visual envelope is limited to views from within the bowl-shaped plateau and some far distant views from west of Hoylandswaine and Tinker Hill/ Thurlstone Moor.
4. The medium-large turbines are sited close together at Royds Moor and Blackstone Edge wind farms which sit on high ground and dominate the view from many vantage points. In particular the 3 new turbines at Spicer Hill (currently under construction) are particularly prominent and stand out above the slightly subservient turbines at Royd Moor which are sited in regimented lines.
5. The very small turbines which are located to the east and west of the proposed turbine are only visible at close range and although some can be seen in combined visibility, the cumulative effect is marginal due to the terrain.
6. When the proposed turbine is viewed in combined visibility with Royd Moor and Spicer Hill wind farms (i.e. from the viewing point at receptor 7) the proposed Endurance will j

be partly visible as a diminutive vertical structure in the landscape due to the scale of the machine, distance and topography. Only its blades will be visible. Beyond this distance its visual effect is limited. Although it will be seen in combined visibility with Royd Moor/ Spicer Hill the cumulative effects are very slight and at this distance it will not affect or detract from the layout or symmetry of these wind farms.

7. From far distant along the A628 the turbine is not visible at any point from Thurlstone to 2km beyond the Flouce roundabout and the new photomontage illustrates this. Although potentially visible from Thurlstone Moor the proposed turbine will be barely perceptible at this distance - even in perfect weather conditions.
8. Although there will be some marginal increase in sequential visual effects when travelling along Broadstone Road and Lower Maythorn Lane in the northern part of the study area this is significantly overshadowed by the existing sequential visual effect in the south when travelling towards the three large wind farms (in a southerly direction) along Spicer House Lane/ Whitley Road. The proposed turbine will not affect this view.
9. **Overall cumulative visual effects are assessed to be slight.**