Westfield Farm, Thurlstone

Ecological Appraisal

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QUANTS environmental Ltd

Tel: 01765 600799

Email: info@quantsenvironmental.com

Web: www.quantsenvironmental.com

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1 Introduction

This report presents the results of an ecological assessment in relation to a planning application for 1 x 50kw Endurance wind turbine on a 25m monopole mast (rotor diameter 19m) connected directly to the grid on land on Westfield Farm, Royd Moor Road, Thurlstone, South Yorkshire, S36 7RD. The location of the proposed turbine (approximate grid ref. SE 22789 03848) is shown in Figures 1 and 2 below.

Figure 1: Proposed turbine location



Figure 2: Proposed turbine location



2 Survey Methodology

2.1 Desk Study

A full ecological data search was commissioned from Barnsley Biological Records Centre (BBRC) in order to identify any existing records of protected / notable species and protected sites within 1.5 km of the site.

As part of the study, Geoff Carr of Barnsley Bird Study Group (BBSG) was contacted (November 2012) with regard to the identification of bird interests within the area, particularly at Scout Dike Reservoir.

In addition, Ordnance Survey 1:25,000 mapping and aerial photographs were searched for additional ecological information of relevance to the site and the Multi Agency Geographic Information for the Countryside (MAGIC) website was searched for notable habitats such as ancient woodlands within a 2 km radius of the proposed turbine.

2.2 Field Survey

An ecological assessment was undertaken on the site on 04th December 2012 by Ryan Knight AIEEM and Ben McLean Grad IEEM of Quants Environmental in accordance with the standard habitat classification methodology[1]. The weather conditions at the time of the survey were overcast, with rain and snow showers, moderate breeze (Bft 3-4), 1°C with moderate visibility. The site was also searched for evidence of protected/notable species and the habitats present were assessed in terms of their potential to support protected/notable species.

The survey was undertaken outside the optimum botanical season for phase 1 habitat survey (May to September) although it was possible to identify the habitat types present at this time of the year.

[1] JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.[1]

3 Survey Results

3.1 Desk Study

Statutory sites

MAGIC revealed that there are no statutorily protected sites within 2km. One Ancient Woodland is located within 2km; an Ancient Replanted Woodland is located approximately 1.9km south-east of the site.

The nearest statutorily protected site is the **South Pennine Moors SPA / SAC / SSSI**[2] (which incorporates The Dark Peak SSSI) is located 5km to the south-west of the site. Due to the distance, the area in which the turbine will be positioned is considered not be functionally connected to the SPA.

Non-statutory sites

The following four Natural Heritage Sites were identified by BBRC within a 1.5km radius of the proposed turbine site:

Small Shaw and High Bank – consists of three small pockets of heathland and is situated 480m south-west from the site at its nearest point.

Royd Moor Reservoir – is situated approximately 910m north-west of the proposed turbine.

Scout Dike Reservoir – is situated approximately 980m north-east of the proposed turbine

Hartcliffe Hill – a mosaic of heathland and broadleaved trees is situated approximately 1.4km south of the proposed turbine.

Species Records

BBRC provided over 1700 species records; these are too extensive for inclusion within this report but are available on request. The key records are summarised as follows:

- Common pipistrelle, Noctule and Daubenton's bats have been recorded approximately 240m north-east.
- Great crested newt at Royd Moor Reservoir approximately 910m north-west. Common toad was also recorded at Royd Moor Reservoir and smooth newt was recorded at Scout Dike Reservoir.
- Numerous bird records were provided within a 1.5km radius of the site; the majority of these records being made at Royd Moor Reservoir and Scout Dike Reservoir. The most notable records of UK BAP birds within the area are: yellowhammer approximately 300m north-east / sky lark 460m north-east and 870m west / house sparrow 540m south / grey partridge 610m north-east / starling 700m north / linnet 760m west / curlew 800m north-east and at Scour Dike and Royd Moor Reservoir / greater white-fronted goose and lesser redpoll at Royd Moor Reservoir / common scoter, yellow wagtail and grasshopper warbler at Scout Dike Reservoir / and red bunting, tree sparrow, willow tit, bullfinch, song thrush and lapwing at both Royd Moor and Scout Dike Reservoir.
- There are numerous records for brown hare within the area with the closest being approximately 400m east.
- Hedgehogs have been recorded within the search area with the closest being 450m east.
- Badgers have been recorded within the search area with the closest record being approximately 680m west.
- Water vole approximately 1km north-west.

[2] Abbreviations; SPA -Special Protection Area / SAC – Special Area of Conservation / SSSI – Site of Special Scientific Interest.

Barnsley Bird Study Group

Geoff Carr of Barnsley Bird Study Group (BBSG) stated that the nearby Scout Dike Reservoir (located approximately 980 metres north-east of the proposed turbine) has limited bird interest and that the bird interest on this reservoir has declined in recent years since it has become popular with anglers. Mr Carr stated that the reservoir supports mallard, gadwall, Canada goose and possible teal. Reed bunting, yellowhammer and possibly grasshopper warbler occur in the area (all are UK Biodiversity Action Plan priority species). Little owl and dipper are also known from the area. Mr Carr also stated that skylark, curlew and snipe are all likely to occur in the general area.

3.2 Habitats

The proposed turbine location lies within a field of improved grassland dominated by perennial rye-grass *Lolium perenne* with white clover *Trifolium repens*, common chickweed *Stellaria media* and spear thistle *Cirsium vulgare*; occasional foxgloves *Digitalis purpurea* were evident along the field boundary. The field boundaries comprise of dry stone walls and timber / wire fences.

The proposed cabling route runs through the filed directly south of the proposed turbine. The field is of a similar land use and species composition. There is a similar land use and species composition within all adjacent fields. West Field farm is situated approximately 80m south-east of the proposed turbine at their nearest point.

A small isolated area of heathland which is the remnants of an old stone quarry is located approximately 140m south-west of the proposed turbine. Species include heather *Calluna vulgaris* and bilberry *Vaccinium myrtillus* with occasional silver birch *Betula pendula*. A single horse chestnut *Aesculus hippocastanum* tree and stand of rhododendron *Rhododendron ponticum* was also observed within the heathland habitat.

The wider area is dominated by pastoral and arable land and areas of residential properties. Residential areas of Thurlstone village are situated approximately 250m east and 390m south of the proposed turbine at their nearest point.

A small pond is situated approximately 770m north-west of the proposed turbine, Royd Moor Reservoir is situated approximately 910m north-west of the proposed turbine and Scout Dike Reservoir is situated approximately 980m north-east of the proposed turbine.

Small broad-leaved woodlands are located 390m south and 500m north-west from the proposed turbine to their nearest point.

3.3 Birds

No bird observations were made during the survey. However, species such as skylark and meadow pipit could potentially nest within the open grass habitats in the vicinity of the proposed turbine. Depending on the grass management regime and disturbance, additional species such as lapwing and curlew could potentially nest in the area.

Skylark, lapwing and curlew are UK BAP (Biodiversity Action Plan) priority species.

3.4 Bats

The location of the proposed turbine and surrounding land use is dominated by exposed arable / pastoral land with stonewall and timber / wire fenced boundaries; habitats considered of low value to bats.

The nearest typical foraging feature is the farm outbuilding located approximately 80m from the proposed turbine location.

Stonewalls can provide acoustic markers for bats when commuting, however, the proposed turbine does not appear to be on a flyway between bat feeding/roosting areas.

In accordance with Natural England guidance[3] buffer zones of at least 50 metres between the proposed turbine blade tips and any typical habitats likely to be used by bats is achieved.

In conclusion, no significant impacts on bats are predicted.

3.5 Great crested newts

No ponds were identified within 250m of the site. The closest pond is situated approximately 770m north-west of the site.

Due to the distance and fragmentation between the site and the nearest waterbody as well as the low suitability of the terrestrial habitat on the site, great crested newts are not considered to use/inhabit the area of the proposed development.

3.6 Other protected / notable species

No evidence of badger was observed during the field survey. The likelihood of reptiles occurring within the immediate area is low due to the nature of the habitats and land use.

Two brown hares where observed on the site during the field survey. The area of the proposed turbine supports brown hare which is a UK Biodiversity Action Plan (UK BAP) priority species. No further protected / notable species are considered likely to be affected by the proposed turbine.

[3] Natural England Technical Information Note TIN051, Bats and onshore wind turbines Interim guidance. First edition 11 February 2009.

3.7 Photos

Photo 1. Overview of site (taken from south-west)



Photo 2. View north from proposed turbine position



Photo 3. View east from proposed turbine position



Photo 4. View south-west from proposed turbine position



4 Conclusion and Recommendations

4.1 Habitats

The turbine is proposed to be located within a species poor, improved pasture field which is considered to be of low ecological value in its own right. The majority of the habitats immediately surrounding the site are of a similar species composition.

4.2 Birds

The pasture fields within the area provide potential nesting habitat for open-ground nesting birds including meadow pipit, skylark and lapwing. Curlew do nest in improved pasture when the sward is grown (for use as silage) and therefore prevalence of nesting curlew is highly dependent on the field management regime in any given season. Birds could also nest in the dry stone wall along the field boundary. In order to minimise disturbance to open-ground nesting birds, it is recommended that all turbine installation activities take place outside the main bird nesting period of March-August inclusive. If this is not possible, the installation process should be preceded by a check for nesting birds by a suitably qualified ecologist. If active nests are present, these should be retained in situ and undisturbed until the nests are no longer active.

4.3 Bats

Standard guidance in relation to wind turbines in England is to provide a buffer zone of at least 50 metres between turbine blade-tip and the nearest feature likely to be used by bats, e.g. treelines, hedgerow and buildings. At this site, the nearest such feature is approximately 80m from the proposed turbine blade tips. Therefore no significant impacts on bats are predicted and no further surveys are recommended.

4.4 Great crested newts

Given the location of the proposed turbine and grid connection, the nature of the nearest waterbody and the nature/extent of the affected habitats, the potential for significant effects on great crested newts is considered to be negligible.

4.5 Other fauna

No significant impacts on other protected/notable species such as badger or brown hare are predicted.

Appendix 1: Legislation and Conservation Context

Nesting birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Bird species listed in Schedule 1 of the 1981 Act, e.g. barn owl, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

Great crested newts

Great crested newts are fully protected through The Conservation of Habitats and Species Regulations 2010 as a European Protected Species (EPS). They also receive some protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Under the legislation, it is an offence to deliberately capture, injure or kill a great crested newt. It is an offence to damage or destroy a breeding site or resting place of a great crested newt. It is also an offence to intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for shelter or protection; or obstruct access to any structure or place which it uses for that purpose.

It is also an offence to deliberately disturb a great crested newt; in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or (b) to affect significantly the local distribution or abundance of the species to which they belong.

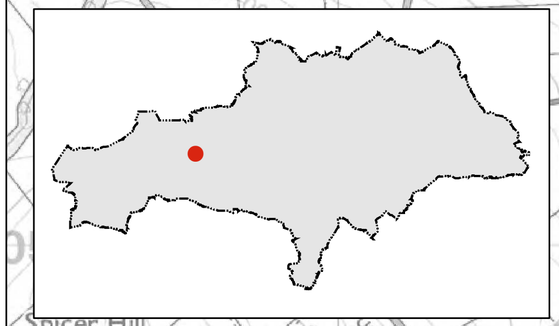
The 'appropriate authority' (Natural England in England) has powers to issue licences for various purposes including - (a) scientific or educational purposes… and (e) preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment. The appropriate authority shall not grant a licence under this regulation unless they are satisfied - (a) that there is no satisfactory alternative, and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range. It is an offence for any person authorised by virtue of a licence to which this paragraph applies to contravene or fail to comply with any condition which the licence requires him to comply with.

The great crested newt is identified as UK Biodiversity Action Plan (BAP) priority species and are also listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as a Species of Principal Importance for the purpose of conserving biodiversity.

Appendix 2: Map of local designated provided by BBRC

Nature Conservation Sites - 1.5km Buffer - Land at Westfield Farm, Royd Moor Road, Thurlstone

Date: 05/12/2012



GUNTHWAITE AND INGBIRCHWORTH CP

PENISTONE CP

Royd Moor Reservoir 617

Scout Dike Reservoir 618

Small Shaw and High Bank 619

Hartcliff Hill 620

Land at Westfield Farm, Royd Moor Road, Thurlstone

1.5 km Buffer of Land at Westfield Farm

Natural Heritage Sites (Barnsley)

Barnsley District Boundary

Sheffield Biological Records Centre

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