

**Design & Access Statement**  
**Land North of High Thorneyburn Farm**  
**Falstone, Northumberland**  
**April 2013**

Northumberland National Park  
Authority  
Planning Department  
Received

25 APR 2013



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## **Design & Access Statement**

### **1. Siting and Access**

- 1.1 Mid-size (*Community*) type wind turbines are generally linked with a commercial farm steadings or are located in the context of a community linked renewable energy project and is not normally associated with significant environmental or physical constraints.
- 1.2 It is recognised that all forms of wind turbine provide renewable energy, make a contribution to greenhouse gas reduction, and have the potential to support in providing direct community benefits including mitigating fuel poverty for local communities.

### **Site Appraisal**

- 1.3 Site visits have been undertaken in order to gain comprehensive information on key factors including:
- Background noise;
  - Wind;
  - Aviation;
  - Telecommunications;
  - Ecology and nature conservation;
  - Heritage assets;
  - Highways;
  - Rights of way;
  - Landscape / visual impacts;
  - Residential amenity;
  - Hydrology and flood risk.
- 1.4 The selection of the site has been guided by the need to meet the requirements of the wind turbine locations and attention has been afforded to the siting in relation to exposure to noise (residential amenity) and the potential for visual impacts.
- 1.5 This application relates to land north of High Thorneyburn Farm, Falstone, Northumberland which comprises uncultivated agricultural grassland north of High Thorneyburn Farm.

- 1.6 Locational positioning of turbines T1 & T2: The location of the turbines is 550m (approx.) north of the nearest property (High Thorneyburn Farm; the applicant) and 3km west of the Greenhaugh and 4.2km east of Falstone. The site has existing vehicular access via the agricultural access to High Thorneyburn Farm. The local population is very low reflecting the level of potential impact (in terms of residential amenity, noise, shadow flicker and visual impact) and there are no designated sites of ecological importance or heritage assets in proximity to the site.

### **Access and Equipment Delivery**

#### Access to Site

- 1.7 Initial access is from the A69, exiting via Acomb and travelling on the A6079 and travelling north to Chollerford. Vehicles would exit the A6079 and travel northwest toward Bellingham on the B6320 and when approaching Bellingham travel west toward Charlton and exiting at Lanehead using unclassified roads onward to the application site. From exiting the A69 this is a total distance of approx. 30km.
- 1.8 The access from the A69 has to provide an increased swept path allowing access for larger vehicles. The access via the A69 and the use of A and B roads are established vehicular routes for commercial vehicles and the unclassified road from Lanehead to the application site is established for large agricultural vehicles and is able to accommodate the necessary vehicle access for the development. There are no unmanageable sharp corners and the site itself is accessible in terms of the ability to work in poor conditions if necessary.

#### Delivery Logistics

- 1.9 None of the proposed parts and/or equipment is delivered in abnormal lengths requiring specialist transport and this allows normal manoeuvrability at all stages of the delivery and installation. Equipment will be delivered in stages prior to installation and stored at the applicants premises. Any temporary works during installation will be remediated to their original state.
- 1.10 Access for plant equipment, concrete working, etc will be from the existing road to High Thorneyburn Farm then onto a temporary track to be laid north of the farm access onto the application. Components requiring mechanical handling will be delivered to site on vehicles with cranes and there is space for safe off-road unloading and temporary storage.

## 2. Design Evolution

- 2.1 This is a twin turbine installation for two Enercon E48 turbines with a capacity of 800kW per turbine. The turbines would have a rotor diameter of 48m and hub height of 50m (giving total height to tip of 74m).
- 2.2 The mast height has been chosen after taking into account the existing landscape characteristics, ability to accommodate turbines, as well as the generating capacity and efficient functioning of the chosen wind turbine. The turbines chosen at a total tip height of 74m are of the height and scale that would not adversely impact upon the visual amenity of the immediate or surrounding area. Views of the turbines would be gained by visual receptors (including limited residential receptors, public footpaths, and views from highways from the intervening linear valley).
- 2.3 The following coordinates provide geographic references to the turbine locations:  
T1: 376382; 587374  
T2: 376668; 587349

## 3. General Safety

- 3.1 Experience indicates that properly designed and maintained wind turbines are a safe technology. The wind turbines will be separated from overhead power cables in accordance with the Electricity Council Standard 44-8 Overhead Line Clearances. No overhead cables are proposed to the installation and all underground cables will be laid in accordance with manufacturer's recommendations.
- 3.2 The location and design of the wind turbines has been designed to reduce the risks associated with ice formation and potential release from the turbine blades, the incidence of shadow flicker and of reflected light.

## 4. DNO (Electricity company connections G59/G73/G85)

- 4.1 Northern Powergrid is the Distribution Network Operator (DNO) for the site and they will require a survey to establish the line stability for export generation. The survey will assess key factors including:
- Transformer and connection capacity
  - Abnormal feed conditions
  - Fault Levels / Loss of Mains
  - Voltage Rise
  - Voltage Step Change, Flicker and Harmonics (G5/4)
  - Protection and Earthing (G59)
- 4.2 The proposed installation of two wind turbines will require a G59/2 licence to connect. An application has been made to Northern Powergrid for this connection to  
Generation Connections  
Northern Powergrid  
Cargo Fleet Lane  
Middlesbrough  
TS3 8DG  
All electrical work will be carried out according to the appropriate electrical regulations.