Longley Farm Wind Turbine Replacement

Appendix 5: Landscape and Visual Impact Assessment

December 2013

the energy workshop

PREFACE

This Landscape and Visual Impact Assessment has been prepared by The Energy Workshop Limited in respect of a proposal to replace an existing single wind turbine and associated infrastructure on land at Longley Farm, 2 km south of Holmfirth in West Yorkshire.

The application and the full ER are available for inspection at the Kirklees Metropolitan Borough Council, and are available online from Holmfirth Transition Town (HoTT)

Copies of the ER can be requested from The Energy Workshop Limited at the address given below (copies on CD-ROM will be provided for a charge of £5.00. Hard copies can also be made available at additional cost to cover printing and postage).

The cover photo is taken from Cinder Hills Road, east Holmfirth.

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1 Landscape and Visual Impact Assessment

1.1 Introduction

The purpose of this section of the Environmental Report is to provide information about the landscape context within which the proposed Longley Farm wind turbine will be located, the predicted visibility of the proposal from selected viewpoint locations, and an assessment of effects upon landscape character, landscape designations and the existing visual environment. This will inform the overall assessment of whether the proposal is acceptable. The proposed wind turbine has a maximum tip height of 46m.

The following assessment has been achieved using existing Landscape Character mapping and descriptions undertaken at national and regional level. Seven viewpoint locations were identified for this assessment (**Figure 5.1**), in consultation with Kirklees Council.

1.2 Scope of Appraisal

The scope of this appraisal has been limited to:

- The identification of the character of the landscape within which the wind turbine is located;
- The production of a Zone of Theoretical Visibility out to a 15km (ZTV) study area;
- The identification of seven representative viewpoint locations;
- The production of photomontages, together with a description of the predicted visual effects on the selected views.

An initial ZTV out to 20km was produced to assess the predicted visual footprint of the wind turbine as well as to aid in the identification of representative and potentially significant viewpoints. Following consideration of the visual footprint, a ZTV was produced out to a radius of 15km. The selected viewpoints all fall within a 10km radius of the proposed wind turbine location (**Figure 5.1**).

The assessment takes into account the site location and additional infrastructure elements of the project, as indicated in **Figures 1.2** and **1.3**. These include a transformer and site access to the wind turbine.

The wind turbine being proposed at this location would have a maximum tip height of 46m. The maximum blade diameter being proposed is 34m.

1.3 Methodology

The following guidance [1] has been referred to in the preparation of this assessment and production of supporting materials:

[1] Landscape Character Assessments and Capacity Studies are referred to below.

- Julie Martin Associates (2013) Landscape Guidance for Wind Turbines up to 60m high in the South and West Pennines

- Government Office for Yorkshire and Humber and the Yorkshire and Humber Assembly (2004) Planning for Renewable Energy Targets in Yorkshire and Humber, AEAT

- Kirklees Council (2001) Wind Energy Supplementary Planning Guidance

- Landscape Institute & Institute of Environmental Management & Assessment (LI-IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment

- DCLG (2013) Planning practice guidance for renewable and low carbon energy

- SNH (2012a) Assessing the Cumulative Impact of Onshore Wind Energy Developments

- SNH (2012b) Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height

- SNH (2009) Siting and Designing Windfarms in the Landscape

- SNH (2006) Visual Representation of Windfarms: Good Practice Guidance

- University of Newcastle (2002) Visual Assessment of Windfarms Best Practice, SNH Commissioned report F01AA303A

1.4 Overview

This report has been undertaken in a number of stages. The baseline conditions have been researched and presented. This includes the gathering of studies and assessments pertaining to the site, including landscape character assessments and planning policy. This led to the identification of the 7 viewpoints, which have been assessed.

The assessment considers the landscape within which the turbine is located, key receptors and the predicted visual effects of its construction and operation.

The ZTV aided in the identification of the 7 viewpoints, which form the basis of the VIA. The subsequent production of wirelines, photomontages and site visits enabled its completion.

1.5 Planning Policy

Detailed policy is described and assessed within **Chapter 4**. This includes national as well as local policies on renewable energy developments and environmental protection.

1.6 Landscape and Townscape Designations

Although the Longley Farm site does not fall within any designated landscapes, the following designated landscapes/townscapes lie within the 15km study area: Peak District National Park; 4 Registered Parks and Gardens; and, 14 Conservation Areas. Although not a landscape designation, a central purpose of

Green Belt policy (which applies to the Longley Farm site) is to preserve an area's open character.

Nationally important landscapes in England and Wales are designated[2] as National Parks or Areas of Outstanding Natural Beauty (AONB).

The NPPF[3] advises that where proposals lie outside the boundaries of a nationally designated landscape, the aim should be to avoid compromising the purposes of designation. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent. The NPS also states that local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development.

The Peak District National Park, lies 1.8km to the south of the proposed wind turbine. The Peak District forms the southern end of the Pennines and much of the area is uplands above 1,000 feet (300m), with a high point on Kinder Scout of 2,087 feet (636m). Despite its name, the landscape generally lacks sharp peaks, being characterised by rounded hills and gritstone escarpments. Geologically, the Peak District is formed almost exclusively from sedimentary rocks dating from the Carboniferous period. They comprise the Carboniferous Limestone, the overlying Gritstone and finally the Coal Measures, though the latter occur only on the extreme margins of the area. The central and southern section of the Peak District, where the Carboniferous Limestone is found at or near the surface, is known as the White Peak in contrast to the Dark Peak, which is characterised by Millstone Grit outcrops and broad swathes of moorland. The ZTV indicates that only northern parts of the National Park, will have some visibility of the proposed Longley Farm wind turbine. Viewpoints 5 and 6 are located within this area.

The NPPF encourages local planning authorities to give protection, commensurate with their status, to landscape areas designated as being of local importance. The South and West Pennines are important scenically and recreationally for the countryside experience that they offer to the large nearby urban populations. These interests have been recognised in the non-statutory designation of the South Pennines Heritage Area and the West Pennine Moors.

The UDP proposals map indicates Areas of High Landscape Value within the study area. However, the associated UDP Policy, NE8, was not saved in 2007, to reflect a change in national planning policy (then PPS7) away from landscape quality and towards landscape character.

There are 4 Registered Historic Parks and Gardens within 15km of Longley Farm, 1 of which lies within 10km, and none within 5km. The ZTV indicates that 2 have theoretical visibility of the proposed wind turbine.

Fourteen Conservation Areas fall within 5km of the Longley Farm site. Their character and appearance, and potential visibility and effects of the proposed wind turbine are described in **Appendix 4**.

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[2] National Parks and Access to the Countryside Act 1949, Countryside & Rights of Way Act 2000

[3] Paragraphs 113-114

1.7 Landscape Character

The Study area is covered by the following Landscape Character Assessments and Landscape Capacity Studies:

- Countryside Agency (1996) Character Assessment of England, Volume 3 Yorkshire and the Humber (with Character Area Profiles updated by Natural England in 2013)
- Julie Martin Associates (2010) Landscape Capacity Study for Wind Development in the South Pennines
- Peak District National Park Authority (2008) Landscape Character Assessment for the Peak District + Landscape Strategy and Action Plan (2009)

1.7.1 *National Landscape Character Assessment*

There are 4 National Character Areas within the 15km study area, as shown on **Figure 5.2**. The new NCA profiles [4] update the previously published Joint Character Area (JCAs) and Countryside Character Area descriptions for Yorkshire and Humber (1998-by the Countryside Agency). The ZTV indicates that potential visibility of the proposed wind turbine is largely restricted to the NCA Longley Farm is located in - the Yorkshire Southern Pennine Fringe (NCA number 37). The Yorkshire Southern Pennine Fringe NCA is a transitional landscape from the upland areas of the Southern Pennines NCA in the west through to the low-lying land of the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA to the east. Within the NCA there is a mingling of predominantly 'gritstone' industrial towns and villages with strong valley forms and the pastoral agriculture of the Pennine foothills.

Key characteristics of the Yorkshire Southern Pennine Fringe:

- A transitional landscape dissected by steep-sided valleys, dropping from the high gritstone hills in the west to lower land in the east, and thus creating an important backdrop to the many industrial towns and villages within and beyond the NCA.
- Sandstones and gritstone beds of Millstone Grit (Namurian) age underlying smooth hills and plateaux in the west. These are overlain in the east by beds of sandstone, siltstone and mudstone of Coal Measures age.
- Rivers creating a deeply dissected landscape, with high plateaux cut by steep-sided valleys, and fanning out in 'fingers' across valleys of the NCA.
- Treeless hill tops with tracts of rough grazing and extensive areas of enclosed pasture to the west, but with broadleaved woodland on steeper valley sides, giving the impression of a well-wooded landscape, especially to the north and west of Sheffield.
- Predominantly pastoral farming, especially in western areas, with a shift to more arable land in the drier eastern areas.

[4] www.naturalengland.org.uk - national Character Area profiles (2013)

- Boundary features that change from distinctive patterns of drystone walls on the upland hills, to hedgerows becoming the predominant field boundary in the east.

- Close conjunction between rural landscapes and the rich industrial heritage of the urban areas, including settlements associated with the textile industry, with large mills and tall chimneys, and large factories and forges associated with the iron, steel and manufacturing industries.

- Urban development constrained within valley floors and up side slopes, with location and layout strongly influenced by the landform.

- Industrial wealth revealed in magnificent civil architecture in town centres, notably Bradford, Halifax, Huddersfield and Sheffield, and several stately homes with designed parklands.

- Evidence of bronze-age and Roman habitation still present on uplands, and old pack-horse routes that once joined settlements across the Pennines still in place, or now forming modern major road routes.

- Extensive and dramatic views from higher land out over lower-lying land to the east, even from within urban areas.

- Several reservoirs contained within narrow valleys contributing a distinct character as well as providing popular places to visit.

- Small patches of fragmented priority habitats providing important refuges locally for wildlife. Grassland mosaics are particularly important in supporting waders and the twite that breeds on adjacent moorland areas; lowland woodland is also an important feature.

- In places a dense network of roads and urban development, with many road, rail and canal routes crossing the NCA, and a high density of footpaths throughout.

Given the limited theoretical visibility of the proposed turbine from the Southern Pennines NCA, and the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA, and their particular qualities, it is not considered that the proposal would significantly impact on their characters. There is also limited visibility of the proposed turbine from the Dark Peak NCA, which is mostly part of the National Park. However, given its proximity and sensitivity, it is assessed in more detail.

Key characteristics of the Dark Peak NCA:

- Sharply defined, elevated and vast plateau with gritstone ridges and edges and long, uninterrupted views.

- Wild and remote semi-natural character created by blanket bog, dwarf shrub heath and heather moorland which support internationally important habitats and assemblages of upland birds and breeding waders.

- Contrasting valley heads created by a combination of sheltered, deeply-incised cloughs with fast-flowing streams around the plateau margins, with their greater diversity of vegetation, including semi-natural broadleaved woodland.

- Pastoral character of margins created by in-bye land with dispersed farmsteads, gritstone wall boundaries (hedgerows in valley bottoms) and the small scale of enclosure.

- Major valleys, some of which are dominated by coniferous woodland and reservoirs; these supply drinking water to distant urban conurbations including Derby and Nottingham. The wider valleys also provide habitats for wintering and breeding birds and other important species such as fungi, as well as high-quality recreational experiences for visitors.

- Durable and stocky architectural style to dispersed buildings and settlements constructed from local gritstone with typical blackened appearance.

- Extensive prehistoric field systems and settlement behind the gritstone edges, with early post-glacial occupation beneath the higher, deeper peats.

- Historic routes traverse the moorland as well as more modern trails such as the Pennine Bridleway and Pennine Way. More recent road and rail routes are located along valley bottoms.

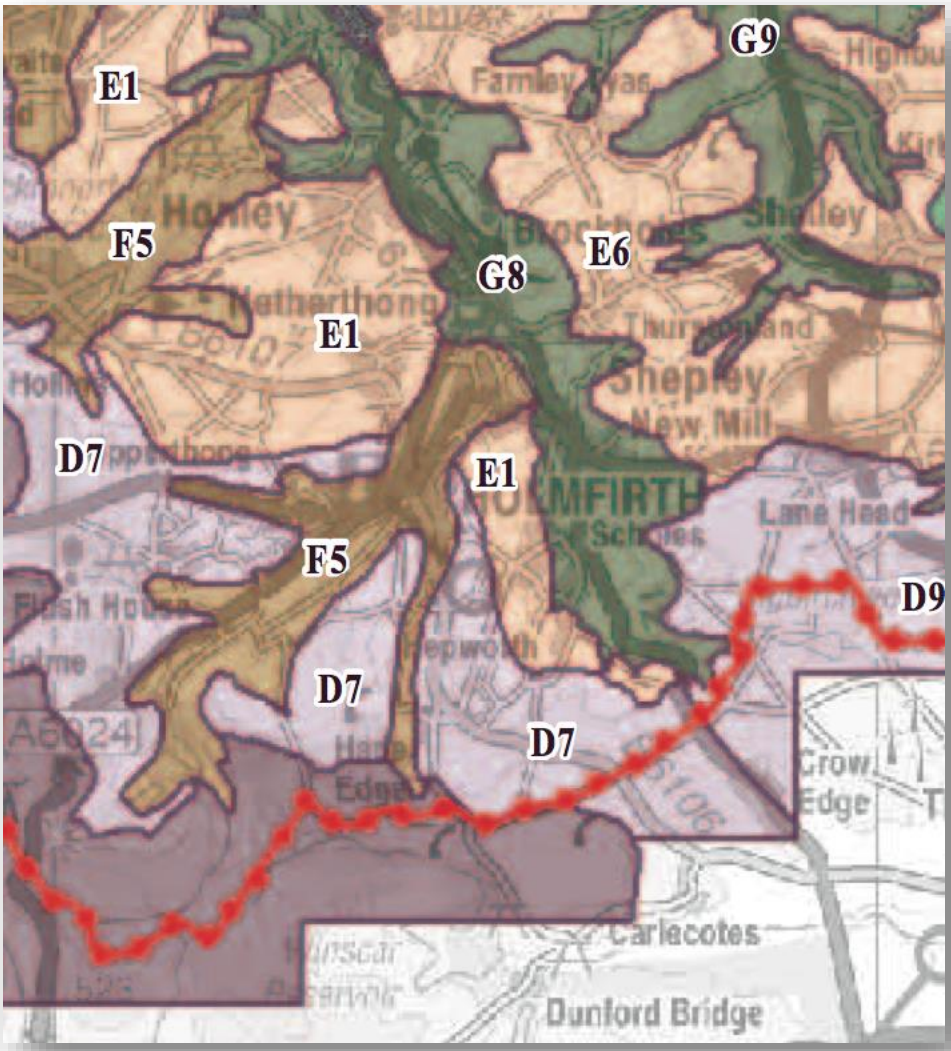
1.7.2 *Landscape Capacity Study for Wind Development in the South Pennines (2010)*

The 2010 capacity study was commissioned by six local planning authorities in the South Pennines: Burnley, Bury, Calderdale, Kirklees, Rochdale and Rossendale. The overall aim of the work was to provide a landscape capacity study for wind energy developments to inform and provide a sound evidence base for the production and monitoring of the Local Development Frameworks in the six districts. It provides:

- broad guidance on the relative sensitivity of each of the landscape character types that occurs within the study area, based on systematic assessment of their sensitivity using an explicit set of criteria that encompasses both landscape character and landscape values; and

- indicative advice on the landscape capacity of different parts of the study area (termed capacity areas) for different forms of wind energy development, under headings of constraints, opportunities, guidance, cumulative and cross-district issues and overall capacity (in terms of number of sites, turbine groupings and turbine heights).

A consistent landscape character assessment was prepared across the area to inform the study. This includes the identification and description of Landscape Character Types (LCT) and Areas (LCA). Annex 2 of the study contains a map showing boundaries, an extract of which is reproduced below:



Extract from South Pennines Capacity Study landscape character assessment.

The Longley Farm site is located within the Moorland Fringes / Upland Pastures LCT (D), and, more specifically, within the Wessenden and Meltham Moor Fringe LCA (D7). The assessment describes these areas as a narrow band of moorland fringe connecting Wessenden and Meltham Moors with the lower settled farmland. The area includes improved moorland with a pattern of planned rectangular fields enclosed by stone walls and straight roads. The area is predominantly managed by sheep grazing, with some areas of in bye land still providing a hay crop although silaging is increasingly common as a means of grassland management. In contrast, some of the higher large enclosures are beginning to revert back to their former 'moorland' character with grass moorland and patches of heather. Settlement includes some scattered farms and dwellings on the exposed higher levels. Agriculture remains the dominant land use and there is little evidence of diversification into unsympathetic land uses. Overall, the area is said to retain an intact upland character with few of the urban influences that characterise some other moorland edges.

The upland pasture/ moorland fringe the Longley Farm site is located within typifies the 'fingers across valleys' described in the NCA, with deep valleys to east

and west. The valleys have different characteristics, with the Holme Valley (G8) to the east a dramatic and secluded wooded valley, and the Holme and Hall Dike to the west more settled.

The 2010 capacity study makes an assessment of landscape capacity for wind energy development across the 'capacity areas' it defines. It states:

> *The general assumption is that areas of lower sensitivity are more likely to be able to accommodate wind energy development than areas of higher sensitivity. However it is recognised that, ultimately, capacity will also be affected by other factors, including technical feasibility and perceptions of the need for development, which are not considered in this study.*

The Moorland Fringes / Upland Pastures LCT is accorded a High (locally Moderate-High) sensitivity rating, due to its close relationship to the adjoining open moorland plateaux, as well as its small scale, complex land cover, wide visibility, high scenic quality, natural and cultural heritage features, and nationally or regionally important recreational interests.

In terms of capacity, Longley Farm is located with Capacity Area 8 (Huddersfield and Dark Peak Fringes). The assessment notes that within this area:

> *The key constraints to wind energy development are the extensive areas of patterned, enclosed landscape, with settled valleys and wooded rural valleys in deeply incised valleys below, generally allowing little room for significant wind energy development. The fingers of higher ground that separate the valleys have steep, dramatic sides; development close to these edges would be extremely prominent viewed from below, where settlements such as Holmfirth contain many fine vernacular buildings, Conservation Areas and important early industrial heritage.*

The capacity study guides the design of proposals in this area to be of small or medium height at most – i.e. up to 60m[5]. The study did not consider cumulative issues to be significant when it was undertaken, noting the presence of only two small wind energy sites within the area:

- Dunford Road Holmfirth - one turbine 40m high [LONGLEY FARM]
- Scapegoat Hill - 2 consented turbines 25m high [12KM TO THE NORTHWEST OF LONGLEY FARM]

Outside the capacity area, the study notes the closest turbines are at Royd Moor, but are not considered widely visible within the area. The study indicates broad locations where additional wind turbines could be accommodated, and foresees the landscape changing from a 'landscape with no wind farms or infrequent wind farms' to a 'landscape with occasional wind farms'.

Additional guidance on siting and design is contained within the Landscape Guidance for Wind Turbines up to 60m high in the South and West Pennines, published in 2013. This guidance is specifically targeted at smaller turbines,

[5] Figure 2 and Table 4 of the Capacity Study include the following turbine typology: Very Small <25m; Small 25-60m; Medium 60-90m; Large 90-130m

which often raise different siting and design issues to large (>60m) turbines, especially when located in the farmed and settled landscapes of the moorland fringes, valleys and lowlands, and relatively close to settlements. The guidance follows the same typology as the 2010 capacity study.

The 2013 guidance provides the following advice for small turbine proposals in the 'Enclosed Uplands and Fringes':

- Key considerations are effects on:
    - Scenic quality
    - Approaches/settings to villages
    - Historic farmsteads
    - Tranquillity
    - Views to and from valleys
- Potential conflicts with:
    - Other turbines of differing appearance and/or height
- Choose sites that are:
    - Well away from larger turbines
    - Visually associated with settlements or farms
    - Evenly spread
- Avoid:
    - Disrupting field patterns
    - Conflict with horizontal form
- Most suited to: all turbine classes, but mainly micro [<12m] and very small [12-25m] turbines.

1.7.3 *Peak District Landscape Character Assessment (2008) and SPD for Climate Change and Sustainable Building (2013)*

The Peak District Landscape Character Assessment covers fringe areas to the north of the Park. Longley Farm is shown as lying within a 'Densely enclosed gritstone upland', with the farm itself within the 'Slopes and Valleys with woodland' LCT.

The recently adopted SPD includes an appendix 'Landscape Sensitivity Assessment and Guidance for Wind Turbine Applications'. The Sensitivity Assessment accords the Densely enclosed gritstone upland a high sensitivity to large and medium scale wind turbines. The landscape attributes considered particularly sensitive to wind turbine development are:

- Its open character with little tree cover.
- The strong sense of remoteness.

- Its historic settlement and field pattern.
- Longer views across the landscape and beyond.
- Important features relating to the landscape's industrial heritage.

The SPD provides the following guidance:

- This landscape would not be suitable for large-scale wind turbines because of its open character and long views.
- Single small-scale turbines are likely to be most appropriate. These should be located close to existing built elements or coniferous plantations to minimise visual impacts.
- The location of single turbines should take into account their potential inter-visibility with other turbine locations to minimise the impacts of cumulative development.
- Utilise the screening effects of the areas undulating topography to integrate development into the landscape.
- Ensure that the location of turbines and related infrastructure does not affect the character or setting of the historic settlements and buildings (particularly weavers' and coal miners' cottages).
- Ensure that features related to past coal mining are protected.
- Locate any wind energy development away from the most prominent rule skyline is and consider the impact of tracks and ancillary buildings.
- Maintain key views across the landscape and beyond.

1.8 Other wind turbines

A search for additional wind turbine schemes within the study area was carried out to inform the cumulative assessment. It became evident that substantially more micro and very small turbines have been erected than suggested in the 2010 capacity study, mostly in the north of the Council area. Following discussions with the Council regarding the scope of the cumulative assessment, it was decided to include all small wind turbines (above 15m) within 2km of Longley Farm, and large turbines (over 50m) out to around 5km. The cluster of large wind turbines around Royd Moor (in Barnsley) are around 5km to the southeast, and have all been included. Each scheme is shown on Figure 5.3 and described below:

Name	Number	Tip Height	Distance (km)
Over 15m in height and within 2km			
New Dunsley Poultry Farm	1	34m	1.5
Shaley Farm*	1	34m	1.7
Lower Whitegate Farm	1	25m	1.7

Upper Waterside Farm**	1	18m	2.0
Over 50m in height			
Hazlehead Wind Farm	3	100m	3.7
Blackstone Edge Wind Farm	3	101m	4.8
Royd Moor Wind Farm	13	54m	5.8
Spicer Hill Wind Farm	3	95m	5.8

* The Shaley Farm was consented in November 2012 and currently unbuilt (as of October 2013).

** The Upper Waterside turbine is currently unbuilt, and the permission is likely to have lapsed.

1.9 Visual Appraisal

1.9.1 *Area of Visibility*

As part of the desktop study, an initial ZTV out to 20km was produced to assess the visual footprint of the replacement wind turbine as well as to aid in the identification of representative and potentially significant viewpoints. Following consideration of the visual footprint, a ZTV was produced out to a radius of 15km. The selected viewpoints, agreed with the Council, fall within a 10km radius of the proposed wind turbine location (**Figure 5.1**).

1.9.2 *Receptors*

The viewpoints assessed have included and enabled the representation of a range of receptors. These included:

- Residents and settlements - These have a tendency towards greater sensitivity to change than those passing through. Most important are views from homes although views when travelling to work and to local destinations may also be included in that category. Most of the viewpoints identified cover views representative of these receptors.

- Workers - These are generally less sensitive to effects as they are focussed on the tasks being carried out. Indoor workers are seen as being less affected by change and views with in some cases more awareness to change being held by farmers who will spend much time outdoors.

- The travelling public - This group includes to some extent local residents, workers and those who come to visit the area. They include motorists using the main routes and motorways. Travelling at speed, these tend to be focussed in achieving their destination. As slower routes are used and local lanes, more awareness is placed on the landscape being travelled

through. This applies to cyclists and footpath users who are there to enjoy the outdoor experience rather than simply reaching their destination.

- Visitors - These include receptors holding a range of interests and therefore potentially holding a range of views with regards to changes in the landscape and views. Visitors can include those taking enjoyment from cultural and heritage sites, cyclists to walkers and riders. Again a number of the viewpoints identified cross over in covering the interests of these receptors.

Many of the selected viewpoints also represent the general landscape character of the area as well as the visual receptor.

1.9.3 *Potential visibility to 5km*

The ZTV (**5.1**) indicates topographical screening of the wind turbine to the south beyond 2km, and most visibility contained within 5km, with substantial screening within the valleys.

Major routes within this distance include the A616, A635, A6024, and the B6106 which runs past Longley Farm.

Viewpoints 1-4 have been identified within this distance.

1.9.4 *Potential visibility 5 to 15km*

The ZTVs show more substantial screening within this distance. Although theoretical visibility is indicated to the north, around Huddersfield, this does not take into account additional screening from trees and buildings. Other areas with visibility include higher ground to the north east and beside the Pennine Way at Black Hill, to the west. Two viewpoints (5 and 6) represent views from the west, and the third (VP6) is taken from Castle Hill. More distant visibility within the National Park, to the south, is very limited and only of blade tips.

The ZTV indicates that major routes within this distance will have very limited visibility of the proposed wind turbine.

Viewpoints 5-7 have been identified within this distance.

1.9.5 *Perception of wind turbines in an open landscape*

SNH guidance 'Visual Assessment of Windfarms: Best Practice' includes the following general guide to the effect that distance has on perception of a windfarm in an open landscape[6].

	Perception
Up to 2kms	Likely to be a prominent feature
2-5kms	Relatively prominent

[6] The table derives from Scottish Executive (2002) Planning Advice Note 45 (since superseded)

5-15kms	Only prominent in clear visibility – seen as part of the wider landscape
15-30kms	Only seen in very clear visibility – a minor element in the landscape

Perception of wind turbines in open landscape

Research by Bishop (cited in the above SNH guidance) used animated computer simulations in paired comparisons of scenes, with and without a wind turbine, to test the ability of respondents (students) to first detect, then recognise, and then judge the impact of the turbine in relation to distance, contrast and atmospheric conditions. The test turbine was 63m to tip. Key conclusions included:

- Recognition was only made by 5% of respondents at 30km distance.
- Recognition was only made by 10% of respondents at 20km distance.
- The most significant drop in recognition rates occurred at 8-12km in clear air.
- The most significant drop in recognition rates occurred at 7-9km in light haze.
- Visual impact drops rapidly at approximately 4km and is <10% at 6km in clear air.
- Visual impact in light haze is not greatly different. A rapid decrease in visual impact begins at under 4km and is <10% at 5km.
- Low contrast in light haze reduces the distance thresholds by 20%.
- High contrast can dramatically increase the potential impact of white towers.
- Ratings are highly sensitive to changing atmospheric conditions.[7]

The study identifies key factors, which significantly affect the identification and perception of wind turbines within the landscape.

In addition to distance, contrast and atmospheric conditions, the visual impact of a wind turbine is also determined by its size, the nature of the view (framed/open, backclothed/skyline) and its context[8].

The nature of the selected views is described below, and expands on the characterisation of the wider area in the landscape character assessments and capacity studies.

[7] University of Newcastle (2002)

[8] SNH (2009), paragraph 4.20

The 15km study area was considered appropriate for the scale of the turbine being proposed, given the above research and the landscape context (including wider initial ZTV assessment).

1.10 Viewpoint Location and Description

1.10.1 *Viewpoint1 - Footpath to the west of Longley Farm - SE 14386 06060*

This viewpoint, approximately 370m south west of the Longley Farm wind turbine location, was identified as being representative of potential visibility from the immediate surrounding area, from residents, workers, walkers and drivers on the local roads.

The viewpoint is located on a public footpath (Hol/169/10) between Greave Road and Longley Lane, to the south of the Longley Farm complex. The view contains in the foreground grassy plateau on which Longley Farm is situated. The land rises quickly to the south and east, with moorland fringe vegetation on the steep slopes. Yet all land here is enclosed with stone walls, crumbling in places. The Farm complex, which includes silos and a steel chimney are prominent existing vertical structures in the view, as is the existing wind turbine beyond the ridgeline to the east. Looking in the opposite direction, distant views are possible over the valley, with substantial commercial plantation to the southwest and deciduous woodland to the west closer to the valley floor. There are scattered farmsteads throughout the area surrounding the viewpoint, but in higher density to the west.

Both the New Dunsley Poultry Farm and Lower Whitegate tubines are visible to the west, as well as a sub 15m 'Proven' turbine between them, to the east of Cartworth Moor Road.

1.10.2 *Viewpoint 2 - B6106 (Penistone Road) at Hade Bridge - SE 14854 05561*

This viewpoint is located to the south of the Longley Farm wind turbine at around 630m, and represents views from nearby housing at Hade Edge, and users of the local road network.

Receptors at this location have views over Boshaw Whams reservoir to the northeast, and Meal Hill beyond. Between the viewpoint and the turbine there are several fields of pasture laid out in a regular grid enclosed by stone walls, which rise to a nearby ridgeline, along the west end of which a row of houses are laid out, partly backclothed by woodland. Above the row of houses the existing Longley Farm turbine is visible. Telegraph poles dotted throughout the area and lampposts along Penistone road are additional existing vertical features. There is also a communications mast beside Meal Hill.

1.10.3 *Viewpoint 3 - Cinder Hills Road, east Holmfirth - SE 14980 07738*

This viewpoint is located approximately 1.6km to the north of the Longley Farm wind turbine, to the east of Holmfirth, and provides a southerly view across an enclosed plateau above the River Ribble, and more distant westerly views over the Holme Valley. To the east and northeast the land rises quickly to a summit, enclosed to the east and settled to the northeast by a single terrace hugging the slopes. The enclosed fields of rough pasture are divided by stone walls. The Longley Farm complex are visible to the south, resting on an elevated terrace above the deep valley to the west, with the existing wind turbine on higher ground on the east side of Dunford Road.

Modern residential development has encroached onto this plateau from Holmfirth. Both the New Dunsley Poultry Farm turbine and the smaller Lower Whitegate

Farm turbine are visible within this view, to the west, although the latter is partially screened by a farm building.

1.10.4 *Viewpoint 4 - A616 at Victoria, Hepworth - SE 17712 40553*

This viewpoint lies approximately 3km east of the Longley Farm wind turbine, on the A616 (Sheffield Road). For northbound traffic, the view over the brow of this windswept hill is shallow towards the Longley Farm turbine, with an agricultural barn, wooden fencing and telegraph poles in the foreground.

The New Dunsley Poultry Farm and Lower Whitegate turbines are also visible, though not prominent due to distance and the nature of the view. To the rear of this view, 6 large turbines at the Blackstone Edge and Spicer Hill are visible, three with red lights on their nacelles.

1.10.5 *Viewpoint 5 - Holme Moss Car Park A6024 - SE 09794 039913*

This viewpoint is located approximately 5.5km southwest of the Longley Farm wind turbine, from within the Peak Park, on a windswept moorland summit beside Holme Moss transmitting station and mast (228m). To the northeast the land drops sharply to a wide valley with folds of hills in the distance and the Emley Moor transmitting station tower (330m) prominent on the central horizon. The Cooling Towers at Ferrybridge are also visible in this view. In the view down the valley sides, plantation separates the moorland fringes from the lower pastures, with reservoirs at the valley bottom and settlement lower still to the north.

All of the large wind turbines around Royd Moor are visible in this view, as are the New Dunsley Poultry Farm and Lower Whitegate turbines, and the existing Longley Farm turbine.

1.10.6 *Viewpoint 6 - A635 Greenfield Road - SE 09422 07837*

This viewpoint is approximately 5.6km northwest of the Longley Farm wind turbine, also within the Peak Park. The viewpoint is located on the A635, which emerges from the South Pennine Moors and sweeps down the valley sides towards Holmfirth. To the east is a deep valley through which the Kirklees Way runs, and which contains the Digley Reservoir. The valley sides are made up of a patchwork of small fields bounded by often crumbling stone walls, with sheep grazing and a few farmsteads hugging the valley sides. Fringes of moorland encroach into the valley. Shelterbelts and woodlands emphasise field boundaries.

All of the large wind turbines around Royd Moor are visible in this view, as are the New Dunsley Poultry Farm and Lower Whitegate turbines, and the existing Longley Farm turbine.

1.10.7 *Viewpoint 7 - Castle Hill, south of Huddersfield - SE 15150 13985*

This viewpoint is approximately 7.8km north of the Longley Farm wind turbine, and was selected as representative of views from this popular recreational destination, as well as being representative of potential distant views from Huddersfield. Castle Hill is a Scheduled Monument, and one of Yorkshire's most important early Iron Age hill forts. It is also the location of the Grade II listed Victorian Jubilee Tower. The hill owes its shape to an outlying cap of hard Grenoside sandstone, which has protected the softer stone beneath from erosion. The slopes below Castle Hill are formed from alternating deposits of shale and harder sandstones and form a series of slopes and benches. The view south contains a diversity of landscapes. Immediately below the hill, mid sized regular stone walled meadows stretch out across a plateau, with land falling away on

each side. Built up areas occupy lower ground to the east and along the Holme valley, which is framed by the moorland fringes.

The Blackstone Edge, Spicer Hill and Hazlehead turbines are visible in this view, as are the New Dunsley Poultry Farm, Lower Whitegate, and existing Longley Farm turbines. The Longley Farm complex is also visible on the lower ground beside the existing turbine.

1.11 Visual Effects

The photomontages included within this application were taken from 7 viewpoints using a 35mm digital SLR camera with a 50mm lens (1.6m above ground level). The location of the viewpoint was recorded using a GPS satellite navigation system in accordance with the Landscape Institute Advice Note 01/11.

For each viewpoint the following have been produced:

- Detailed Location plan
- 50mm 70 degree photomontage

Ordnance Survey Data Terrain Model 50-metre Contour Data has been used to create the 3D computer-generated terrain model.

The resultant photomontages show the turbine to the same scale as the photograph. These have been constructed in accordance with the dimensions stated in the ER, with the dimensions of the turbine tower, nacelle and blades conforming with the manufacturer's specification related to the turbine output and nacelle height.

1.11.1 *Proposed View: Viewpoint 1 - Footpath to the west of Longley Farm - Figure 5.4a*

The photomontage provides an indicative view with the wind turbine in position.

The proposed wind turbine is fully visible in the view. The base of the turbine is partly screened by the crest of the hill, with the rest set against the sky. There may be some additional screening of views from nearby receptors by vegetation in summer months, but the turbine will continue to be a prominent feature at this distance and a focal point for local receptors. The existing vertical features at the farm complex (such as the chimney and silos) continue to provide scale references in this view for the wind turbine, and do not appear dwarfed by the proposed turbine.

The associated components (access track, crane pad, transformer) would not be visible from this location.

1.11.2 *Proposed View: Viewpoint 2 - B6106 (Penistone Road) at Hade Bridge - Figure 5.4b*

The photomontage shows that the wind turbine would be visible from this location, with the exception of the lower part of the tower, which would be screened by housing on Longley Edge Road. The remainder is set against the sky. The proposed turbine appears slightly larger than the exiting turbine, but of a more slender design, both in terms of the tower and the blades. The visual relationship to the housing on Longley Edge Road is similar to the existing situation, though slightly more pronounced given the increased scale (notwithstanding the more slender design).

At this distance, the wind turbine will continue to be a prominent feature and a focal point in the view. However, the view is fairly open and the turbine does not dominate it.

No other elements of the proposal are visible from this location.

1.11.3 ***Proposed View: Viewpoint 3 - Cinder Hills Road, east Holmfirth - Figure 5.4c***

It is difficult to discern a difference in scale between the existing and proposed wind turbines at this distance, although it is evident that the blades are longer on the proposed model. Both existing and proposed appear as silhouettes on the horizon. But, the effect of the proposed turbine is by comparison fairly neutral in this view. The Ribble Valley separates the Longley Farm turbine from the New Dunsley Poultry Farm turbine to the west. The continued location of wind turbines on the upland 'fingers' reinforces the pattern of siting them where the wind resource is best.

No other elements of the proposal would be visible from this location.

1.11.4 ***Proposed View: Viewpoint 4 - A616 at Victoria, Hepworth - Figure 5.4d***

From this location, as shown in the photomontage, the wind turbine is visible, but backclothed against the South Pennine Moors. The New Dunsley Poultry Farm turbine is visible almost in line with the proposed Longley Farm turbine, though both are less prominent features than the telegraph poles in the foreground.

No other elements of the proposal would be visible from this location.

1.11.5 ***Proposed View: Viewpoint 5 - Holme Moss Car Park A6024 - Figure 5.4e***

Although visible on the photomontage, at this distance, the proposed turbine would only be prominent in clear visibility. From this elevated view, both the proposed turbine and the New Dunsley Poultry Farm and Lower Whitegate turbines are backclothed by land to the north.

No other elements of the proposal would be visible from this location.

1.11.6 ***Proposed View: Viewpoint 6 - A635 Greenfield Road - Figure 5.4f***

Much like the above viewpoint, at this distance, the proposed turbine would only be prominent in clear visibility. The photomontage shows that the proposed turbine would be entirely backclothed by rising ground to the south east, in common with the New Dunsley Poultry Farm and Lower Whitegate turbines, which are also visible on this route. The Lower Whitegate turbine is barely visible at this distance, as its lattice tower blends into the background. Of more prominence in this view are the large wind turbines around Royd Moor and Hazelhead, which break the skyline, and the Holme Moss mast to the right of the frame.

No other features of the proposal would be visible from this location.

1.11.7 ***Proposed View: Viewpoint 7 - Castle Hill, south of Huddersfield - Figure 5.4g***

The photomontage shows that the proposed turbine would be fully visible from this viewpoint, and seen backclothed by pasture to the south, in common with the New Dunsley Poultry Farm turbine. Both these turbines would be minor elements in this panoramic view. Noticeably larger scale structures breaking the skyline are the Holme Moss mast and the large wind turbines around Royd Moor and

Hazelhead, though the turbines' towers are largely screened by topography in this view.

No other elements of the proposal would be visible from this location.

1.12 Landscape Effects

The 2010 Capacity Study and Peak District SPD highlight the particular sensitivities of the local landscape, and, together with the 2013 Guidance for sub 60m turbines, provide guidance on siting and design within this landscape.

The fingers of higher ground that separate the valleys are highlighted as areas where development could be extremely prominent when viewed from below. At the same time, the screening effects of the areas undulating topography can be utilised to integrate development into the landscape. The guidance recommends the use of single small-scale turbines, located away from larger turbines, and visually associated with settlements or farms.

The existing wind turbine at Longley Farm has become an established and prominent feature in the local landscape. Both the Hade Edge Village association and the Hade Edge Amateur Football Club have incorporated an image of the Longley Farm wind turbine in their logos, which suggests the local community attaches some positive value to it as a local landscape feature, and a desire for its retention.

The proposal results in the loss of two landscape features: the existing (non-operational) wind turbine, and part of a stone wall within the application site. At the same time, new features are proposed: a replacement wind turbine (with a taller tower and longer blades, and coloured a non-reflective semi-matt pale grey, instead of white), a new access and gate inserted into the existing stone wall, and a transformer.

The proposed replacement wind turbine, at a maximum tip height of 46m, is still within the typology recommended for the local landscape, and not significantly larger than the existing (non-operational) wind turbine. It is visually and functionally associated with the Longley Farm dairy operation, and contained with the landscape. It is sufficiently distant from the large turbine clusters within Barnsley to create visual conflict, and the local landscape has to capacity to absorb the proposed wind turbine without seriously harming its character.

Regarding the mitigation of effects, the pale grey colour of the proposed turbine will appear less starkly against the horizon that the current white. Also, the longer blades will rotate at a slower pace than the blades on the current model used to. The existing wind turbine is not operating, and therefore its functional link with the dairy has been broken. The planning permission for the current turbine, does not require its removal, at any point in the future. If planning consent for the proposed wind turbine were granted, conditions could be attached to the permission requiring its removal after not operating for a set length of time, and requiring restoration of the site after the proposed 30 year consent expires. This has the benefit of ensuring that the duration of landscape effects are temporary, and fully reversible.

1.13 Conclusion

The site of the proposed wind turbine is not covered by any national or regional designations. It is located in an enclosed upland location identified in local

landscape capacity assessments as suitable for this scale of wind energy development.

The visualisations indicate that the nature of the proposal, a single turbine with a (max) 46m tip height, although prominent from a number of locations would not be a dominant feature unless viewed from its immediate proximity. This is, in large part, due to the topography of the local area, which affords the site significant screening.

The existing wind turbine contextualises the proposal, and is an established feature in the local landscape, supported by many.

The landscape within which the wind turbine is located enables it to be absorbed and contained within a clear visual envelope. This allows the landscape to assimilate the proposal without significantly detracting from its overall character, and those landscape character types surrounding it, including those within the Peak Park.

With regard to the visual amenity of nearby residents, the separation distance and scale of the proposed turbine does much to mitigate effects. Regarding general visual amenity, the ZTV demonstrates that potential visibility is mainly contained within 5km, with potential visibility becoming increasingly constrained with distance, and substantial screening along key routes.

Wind turbines normally appear as new features within the landscape. The current proposal is unusual in the sense that the existing wind turbine is an established feature in the landscape. The modest scale of the proposed replacement turbine will allow it to be absorbed into the landscape and views and avoid unacceptable effects, either singly or cumulatively.

1.14 References

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