

Environmental Statement

VOLUME I – Main Text

for

Hendy Wind Farm

on behalf of

Hendy Wind Farm Limited

27th June 2014

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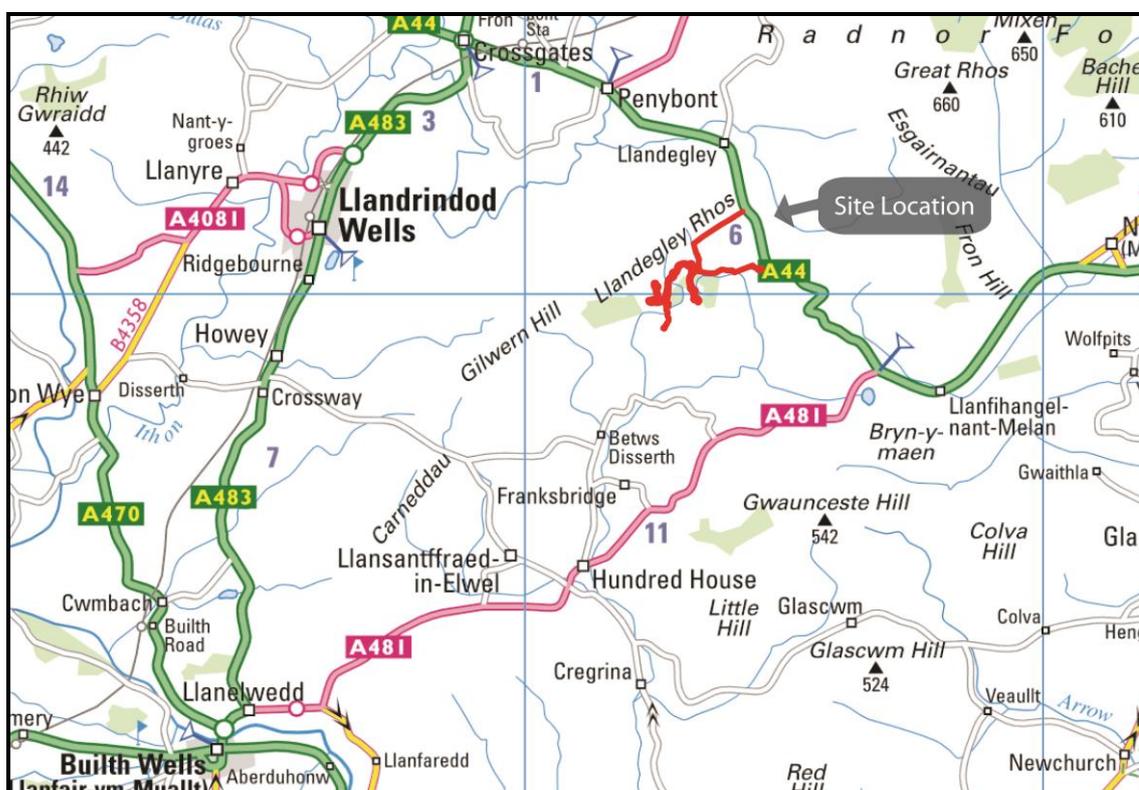
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NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

This Non-Technical Summary (NTS) forms part of the Environmental Statement (ES) to accompany an application for planning permission by Hendy Wind Farm Ltd. to develop a local onshore wind development located c. 6km east of the town of Llandrindod Wells, c. 2.8km south west of the Penybont village, and c. 2.5km north of the small rural settlement of Franksbridge in the County of Powys in central Wales. The site location is illustrated below.



The proposed wind farm will comprise of seven turbines and associated infrastructure. The wind farm will have a total installed capacity of up to 17.5 megawatts (MW) depending on the final turbine selection (up to 2.5MW per turbine).

Owing to the scale and nature of the Development, an Environmental Impact Assessment (EIA) has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 as amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) (Wales) Regulations

2008 to identify and consider the likely significant environmental effects of the Development on the environment.

The EIA process has been undertaken alongside the technical and design elements to inform the design of the scheme and decision making process undertaken by Powys County Council.

This ES describes the potential environmental effects during each phase of the Development, including:

- Site preparation and construction of the Development
- An anticipated 25 years of operation and
- Decommissioning of the Development.

This NTS presents a summary of the principle findings reported in the ES.

2.0 ENVIRONMENTAL IMPACT ASSESSMENT

The ES has been prepared to accompany the planning application, in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 [SI 1999 No. 293]. Environmental Impact Assessment (EIA) is a process intended to ensure that Development with potentially significant effects on the environment is granted permission only after full consideration of the likely significant environmental effects has been given consideration and suitable mitigation or management measures identified. This ES provides information to allow Powys County Council to fully consider the environmental effects of the Development prior to determining the planning application.

2.1 Consultation and Scoping

Following identification of the site for wind energy development, detailed feasibility and technical studies for the Development were commissioned to establish the environmental sensitivity of the site. This was followed by a consultation exercise, ‘Scoping’, where statutory and non-statutory consultees were consulted regarding the proposals. A Scoping Opinion was received from Powys County Council on 21st October 2013 (Ref: SC/2013/0012).

The scope of this ES was also guided by the direct consultations with various statutory and non-statutory consultees which represent key stakeholders in technical, environmental and socio-economic interests.

The aim of the Scoping process was to identify key environmental issues, to determine the elements of the proposal that are likely to cause significant environmental effects and to confirm the extent of survey and assessment required for the EIA.

Extensive public consultation has also been undertaken with the local community in Powys and a summary of this provided in the Statement of Community Involvement (SCI) which accompanies this application.

As a part of the wider consultation process, a public exhibition was undertaken to inform residents living in the area surrounding the site about the proposal to construct/operate a seven turbine wind farm near Llandrindod Wells and provide an opportunity for local residents to express their views, examine the initial proposals and provide input and explore issues of potential concern. A total of 312 letters were delivered to homes and businesses in the surrounding area to inform local people about the plans and invite them to a public exhibition and to take part in the consultation process. Those notified included all properties within a five kilometre radius of the site. The distribution area was chosen to include communities most likely to be affected by the wind farm who may therefore wish to contribute their views on the proposals as part of the consultation process.

The Public exhibition was held on 16th July 2013 at Penybont and District Community Centre and exhibited maps and visualisations demonstrating the primary environmental impacts and wind farm layouts. The applicants and members of their design team were also on hand to handle enquiries at the event. Approximately 120 people attended the exhibition, and as part of the exhibition, each visitor was asked to complete a questionnaire. A summary of the findings is provided in the SCI.

2.2 *Site Selection and Layout Design*

Njord Energy conducted an extensive site search for potential wind farm sites between 2010 and 2012, culminating in the identification of a long-list of potential areas based on a range of planning, environmental and technical criteria.

The selection of an appropriate site with the potential to support a wind farm development is a complex and lengthy process. It involves examining and balancing a number of technical, economic, environmental, planning, land ownership and commercial issues. Only when it has been determined that a site is not subject to major known technical, economic, environmental or planning restrictions is the decision made to invest further resources in developing the proposal and to undertake an Environmental Impact Assessment.

The site at Hendy was considered suitable for wind farm development for the following reasons:

- Wind resources (as measured by on site measurement and wind speed databases);
- Size of the site and current land uses;
- Planning policy;
- Grid connection analysis;
- Statutory designations;
- Land availability and legal issues;
- Access issues (both to site and on site);
- Proximity to dwellings;
- Initial ecological, hydro-geological, archaeological analysis; and
- Existing infrastructure.

The layout of the wind farm evolved in response to detailed site surveys and consultation with statutory and non-statutory bodies. The development underwent seven iterations before the final layout was reached, in order to ensure that the potential adverse environmental effects were minimised while maintaining the operational capacity of the wind farm.

Key factors taken into consideration during the design process included the following:

- Landscape and visual integration;
- Optimum installed capacity to ensure economic viability;
- Availability of wind turbines;
- Turbine separation of approximately 5 rotor diameters downwind and 4 rotor diameters crosswind to minimise wake losses¹;
- Ground conditions i.e. gradient and build-ability;
- 25m buffers around all watercourses;
- Avoidance of locating turbines and associated infrastructure on the steepest parts of the site to minimise soil instability;
- Ability to access the site;
- Avoidance of prime bog active peat areas; and
- Minimum separation of 800m around all residential properties to nearest turbines,

¹ The space behind a wind turbine that is marked by decreased wind power capacity due to the fact that the turbine itself used the energy in turning the blades. The wind behind the turbine, in its wake, is less effective at generating energy for a certain distance in the downwind direction due to turbulence created by the upwind machine.

For these reasons the proposed development has been progressed through an EIA, and submitted as a planning application.

3.0 PROJECT DESCRIPTION

The proposal is to construct and operate a wind farm of up to 17.5 MW comprising the following:

- 7 (110m tip height) wind turbines (2.5 MW each) and associated infrastructure including crane hard standing areas;
- 1 no. new site entrance to the east off the A44;
- Construction of c. 3.3 km of new access tracks;
- c. 1km of existing track to be upgraded;
- Construction of temporary site compound (20m x 30m) close to turbine T5;
- Construction of a new on-site substation (circa. 40m x 20m) which includes a control building (25m x 10m) south of turbine T3.

The proposed site location and layout of the Development is shown in Figures 1.1 and 1.2 of Volume II. This also shows the location of the existing and proposed access tracks, substation and temporary site compound area. More detailed drawings are also included within Volume II (Figures 1.2.1 – 1.2.9).

3.1 Construction

Construction would take place over a c. 12 month period after which the wind farm would then become operational and generate electricity for a 25 year period.

Each wind turbine would have a maximum tip height of circa 110m. The turbine towers would be of tapering tubular steel construction and the blades would be made from fibre-reinforced epoxy. The finish and colour of the turbines is likely to be a minimum reflective, semi-matt and pale-grey.

The turbines will be of a variable speed type of between 8.5 and 17.1 revolutions per minute, according to the energy available for harnessing from the wind. The turbines will generate power at wind speeds between 3.5 metres per second (ms^{-1}) and 25 ms^{-1} or gale force 3 (gentle breeze) to 9 (whole gale or storm force) on the Beaufort Scale. At wind speeds greater than 25

ms^{-1} , the turbines would shut down to prevent potential damage to internal bearings. Such high wind conditions occur for less than 1% of the year. In the latter instance the turbines will restart once the wind speed drops below 20 ms^{-1} .

A modern wind turbine produces electricity 70-85% of the time and generates different outputs dependant on the wind speed. On average over a year, it will generate about 30-32% of the theoretical maximum output power. This is known as the capacity factor.

The power generated from Hendy Wind Farm would be exported from the site via a new 66kV overhead line to be connected to the existing network to the west, near Llandrindod Wells as indicated on Figure 1.7 of Volume II.

3.2 Operation

Modern wind turbines have an expected operational availability of circa 85%, including shutdowns due to routine maintenance. Each turbine has a computer controller that regulates every aspect of the turbine's performance.

In the event of any unexpected events on site, such as tripping of safety features, replacement of sensors or failure of a gearbox, appropriate maintenance works would be carried out by the local engineers.

The operations will be overseen by suitably qualified local contractors who would visit the site regularly to carry out maintenance. It is anticipated that routine servicing would take place twice per year with a main service at twelve monthly intervals and a minor service at six months.

Ongoing track maintenance would generally be undertaken in the summer months when tracks are dry. Safe access would be maintained all year round.

3.3 Decommissioning

At the end of the estimated productive life time period of the Hendy Wind Farm, it will either be removed and the site reinstated or a new planning application may be submitted to retain or modify the wind farm.

If the site is decommissioned, the turbines and above ground infrastructure would be removed from site. The upper sections of the foundations would be covered by topsoil and left to re-

vegetate naturally. Underground cables would be cut back and left buried and tracks would be left for use by the farmer. This approach is considered to be less environmentally damaging than seeking to remove all foundations, cables and roads entirely. It is estimated that decommissioning of a wind farm of this size would take approximately six to eight months.

4.0 PLANNING & ENERGY POLICY CONTEXT

Renewable Energy proposals throughout the UK are guided primarily by National Policy Statements EN-1 (Overarching NPS for Energy) and EN-3 (NPS for Renewable Energy Infrastructure).

Planning Policy Wales (2014) was adopted in February 2014 and is the principal national planning policy for Wales. In relation to Renewable Energy guidelines, Technical Advice Note 8 (TAN 8) sets out the policy context on how predetermined national renewable energy targets can be achieved.

At local level the Powys Unitary Development Plan (UDP) was adopted on 1st March 2010 and is used to guide development within the County during its lifetime. In accordance with the Planning and Compulsory Purchase Act 2004, the Local Authority are currently preparing a Local Development Plan (LDP) to replace the UDP and evidence used in the formulation of the LDP has been considered in the design of the Development.

All relevant planning policies and guidelines have been referenced and followed in so much as is practicable in the preparation of this wind farm development proposal. A planning policy assessment of the Development has been undertaken and is set out in the Planning Statement that accompanies this planning application

5.0 LANDSCAPE AND VISUAL IMPACT

The landscape and visual impact assessment covers a study area that includes the proposed development site and the entire area within a 30km radius of the site centre and has considered the potential for significant landscape and visual effects to arise as a result of the Hendy Wind Farm.

Large parts of the study area comprise upland moorland and plateau landscapes, although these areas are generally at a distance from the proposed site, which is within and surrounded by rolling hill and valley landscapes.

The assessment has examined the effects of the proposed Hendy wind turbines in the context of the existing landscape and visual baseline which currently contains two operational wind farms within 30km of the proposed Hendy site, one consented scheme which has not yet been built and eight further wind farms at appeal or proposed within this 30km radius. In addition a number of single wind turbines have also been considered.

The LANDMAP survey has been used to identify the landscape character within the study area. In addition, the study area covers two landscape designations: Brecon Beacons National Park and the Shropshire Hills Area of Outstanding Natural Beauty (AONB).

There are a number of sensitive visual receptors within the study area, such as residents within settlements and in individual properties, motorists on the road network, rail passengers on rail routes, visitors to recreational and tourist attractions, walkers and horse riders on footpaths, bridleways and byways and cyclists on the road and off road networks. All of these receptors within the study area have been considered as part of this assessment and the views of the proposed development from these various receptor locations have been considered.

The significance of effects on landscape character and visual amenity has been assessed by combining the sensitivity of the landscape character unit or visual receptor with the magnitude of change resulting from the proposed development. Sensitivity relates to the value of a landscape character unit and its susceptibility to change resulting from the proposed development. In visual receptor terms, sensitivity is a function of the susceptibility of visual receptors to changes in the view and the value attached to these views. The magnitude of change expresses the degree of change on a landscape unit or view that would result from the proposed development.

In order to minimise landscape and visual effects, the layout and turbine size of the proposed development has been carefully considered in order to maximise the screening potential from nearby landform and to ensure that the turbine layout forms a coherent group when viewed from the surrounding landscape. In addition, the layout has taken into account consultee comments through amendments to the design. The result effectively contains the potential visibility of the proposed turbines within a limited area, thereby restricting potential significant effects on landscape character and visual amenity.

However, it is widely accepted that wind energy developments will inevitably result in some significant effects in landscape character and visual amenity terms. In reality, the prominence of the wind turbines and, therefore, the potential for significant effects will vary with the time

of day and year, different weather, lighting and visibility conditions and different wind directions. In addition, visual receptors tend to become accustomed to change over time.

In landscape character terms, the character of the site landscape and surrounding area encompassing the Upland Moor, north of Hundred House Aspect Area would be significantly affected by the proposed Hendy turbines. In addition there would be significant effects on the landscape character of limited parts of five further Aspect Areas (LANDMAP landscape character units) as a result of the proposal. Due to the confined potential visibility of the proposed development within the study area, these significant effects on landscape character would be contained and limited.

Significant effects on the visual amenity of receptors would also be contained by the limited visual envelope of the proposal. Residents within properties up to 5.5km – 6.0km from the Hendy turbines with clear and open views of the proposed turbines would experience a significant effect on their visual amenity. In reality this would be limited to residents within a few properties in Nant and Hundred House, as well as a few individual residential properties in the surrounding landscape. Screening features at the properties themselves, within the local landscape and from local topography would mean that the vast majority of residents within this zone would not be significantly affected by the proposed Hendy turbines. Users of the local rights of way network within approximately 4.0km of the Hendy turbines would also have the potential to be significantly affected by the proposed turbines. However, at times the turbines would be screened from many of these routes by localised vegetation, particularly in the valley landscapes to the south and east of the site.

The visual amenity of cyclists along part of The Radnor Ring cycle route between Hundred House and Brynthomas would be significantly affected by the intermittent but recurrent partial visibility of the Hendy turbines, as would the visual amenity of visitors to The Pales, Quaker Meeting House and the visual amenity of motorists on a short section of the A44 between just beyond Llandegley and The Van, and local roads within 2.0 – 2.5km of the proposed turbines.

The assessment of cumulative effects indicates that there would be no significant cumulative effects with existing or permitted wind farms or wind turbines within the study area. However, limited significant cumulative effects on landscape character would occur as a result of the visibility of the proposed Hendy and Pentre Tump turbines. In visual amenity terms, sequential significant cumulative effects would occur on a limited number of visual receptors as a result of the visibility of the Hendy turbines in combination with other proposed wind farms.

Although the proposed Hendy turbines would give rise to some significant effects on landscape character and visual amenity, these effects have been minimised by the limited visual envelope of the development, its location and careful design.

6.0 SOCIO-ECONOMIC

The potential direct, indirect and wider socio-economic effects associated with the construction and operation of the Development have been assessed, primarily through a desk based assessment. The assessment has been made through a review of existing research and scientific papers and extrapolation to the Development.

The application site is located within Powys. Powys covers a quarter of Wales and is the most sparsely populated county in England and Wales. The main employment sectors in Powys are agriculture and fishing, manufacturing, distribution, tourism, public administration, education and health. Key socio-economic issues and challenges for Powys include an ageing population, retention of educated young people in the area and low productivity.

The total capital cost of the Development is estimated at £19.1 – 23.3 million (depending on which turbines are chosen). It is assessed that at the development stage, 8% of the direct economic benefits will be retained locally and 41% will be retained in the wider region. This indicates that the wind farm would bring in total £0.12 – 0.15 million to the local economy and £0.6 – 0.8 million to the Wales economy during development. At the construction stage, it is estimated that the Development would bring about £1.2 – 1.4 million to the local economy and £4.9 - 6 million to the Wales economy. During operation it is estimated that the Development would generate £0.2 - 0.3 million locally and £0.5 – 0.6 million in Wales per year during its life time.

Further indirect benefits would result due to the increased demand for local services including hotels, B&Bs, pubs, restaurants, taxi firms, fuel and repair garages and local shops.

In terms of employment it is estimated that the Development could generate 3 - 5 full-time equivalent local jobs and 9 - 24 full-time equivalent regional jobs.

Potential impacts on tourism were assessed with reference to published research for other wind farms elsewhere in the UK. This indicates that there is no evidence that wind farm development positively or negatively affect levels of tourism.

A review of published research indicated that there is no clear relationship between the proximity to a wind farm and property values. It is important to note in this context that the site is unusually remote (even by the standards of the Powys uplands) and that there are only four non-participating dwellings within 1.5km of the proposed wind farm boundary.

In conclusion, the Development is unlikely to have a detrimental socio-economic impact at the local or regional level. Instead, it is likely to have a small positive effect on the economy and employment.

7.0 ECOLOGY

The main ecological study was undertaken between autumn 2011 and winter 2012. A small amount of additional field survey was carried out in late summer 2013. Ecological baseline conditions were assessed through a combination of desk study and original field surveys. The scheme lies within 3km of one internationally-designated site, the River Wye SAC, and this raised the requirement to consider the proposal in terms of its effects on this site. Full consideration was given to this and it was concluded that there would be no effect. Likewise, effects on nationally-designated sites (five) within 3km were also considered and determined to be non-significant.

Potential impacts of the construction, operational and decommissioning phases have been assessed, with particular attention paid to species and habitats of high vulnerability to the proposed development.

A number of species and habitats that were recorded within the study area are subject to protection through legislation requirements. Habitats included small areas of dry and wet heath, wet woodland, rush-pasture and ponds. Species included a number of Bats (e.g. Pipistrelles, Natterer's, Noctule) and a small number of birds (e.g. Red Kite, Barn Owl, Kestrel). Great crested newt were recorded from several ponds, with a medium-sized population recorded in one pond.

Potential significant effects on these species and habitats have been assessed and mitigation measures are proposed. Significant effects considered included the potential for collision risk to birds and removal of sections of bat flightlines.

Following the implementation of the proposed mitigation measures, all identified significant effects were considered to be reduced to non-significant.

Appropriate site design, based on a variety of constraints mapping has meant that all areas of ecological interest have been avoided. The constraints identified included areas of semi-natural habitat and key bat flightline areas.

A programme of monitoring will be agreed with Natural Resources Wales prior to the development being commissioned.

No significant effects arising from the transport route or cumulative effects with other schemes are predicted.

8.0 ARCHAEOLOGY

In February 2012 ADAS UK Ltd was commissioned by Njord Energy Ltd to assess the potential impact that a proposed wind farm development near Llandrindod Wells, Powys, may have on the historic environment resource. The aim of the assessment was to identify the nature and extent of the recorded archaeological resource within the proposed development site (henceforth referred to as the 'Development site') and its immediate environs, and to undertake an assessment of the effect the proposed development may have upon designated heritage assets in the environs of the Development site.

The assessment has indicated that there may be a **direct adverse impact** upon the Hendy Ford IV and a Roman road, both undesignated heritage assets, as a result of the proposed development.

In addition the assessment has shown that the proposed wind farm development may have a **moderate adverse impact** upon the setting and heritage significance of Llandegley Rocks Hillfort, Nant Brook Enclosure and Graig Camp Scheduled Monuments. The proposed development may also effect **no change – negligible adverse impact** upon the settings and heritage significance of a number of additional Scheduled Monuments in the vicinity of the Development site.

The assessment has shown that the Development site has a **moderate - high potential** to contain buried archaeological deposits dating to the Post-Medieval Period, and a **low – moderate potential** for the Development site to contain deposits dating to the Bronze Age and Medieval Periods. There is a generally **low potential** for the Development site to contain previously undiscovered archaeological deposits of any other period. Any previously undiscovered archaeological remains of Bronze Age date would have a **high regional**

significance, and any remains of medieval and post-medieval date would have a **high local significance**. Should such remains exist, they may be subject to a **direct adverse impact** as a result of the proposed development.

The desk-based assessment has also shown that the Scheduled Monument Nant Brook Enclosure is situated approximately 500m from the nearest proposed turbine and approximately 70m east of an existing access route to the Development site. The Scheduled Monument Llandegley Rocks Hillfort is also situated within proximity to the Development site, at a distance of approximately 1.3km north of the nearest proposed turbine. In addition, Graig Camp Hillfort (**9 / 102**) is situated approximately 1.3km south-east of the nearest proposed turbine.

The ASIDOHL2 assessment concluded that there would be a ‘Moderate’ overall significance of impact upon one HCA. This equates to a moderate adverse significance of effect. The ASIDOHL2 assessment concluded that there would be a ‘Slight’ significance of impact upon the other two HCAs. This equates to a minor adverse significance of effect.

9.0 CULTURAL HERITAGE

An assessment of the potential indirect impacts on designated heritage assets was undertaken through a desk study and associated detailed fieldwork and analysis. A study area of 10km radius for all Grade I and II* Listed Buildings and Parks and Gardens of Special Historic Interest, and of 5km for all Grade II Listed buildings and Conservation Areas was considered. However, no Conservation Areas are located within 5km of the proposed Hendy turbines, and no Parks and Gardens of Special Historic Interest would gain visibility of the proposed turbines due to the screening effects of topography. Therefore, through agreement with Powys County Council, this assessment focused on the potential indirect effects on Listed Buildings.

The assessment identified two Grade I listed buildings within 10km of the proposed Hendy turbines, although no visibility of the turbines would be available from their vicinity due to the screening effects of intervening topography. The assessment also identified eleven Grade II* Listed Buildings within 10km of the proposed Hendy wind turbines, where visibility of the turbines would potentially be available from the vicinity of four of these assets. However, fieldwork indicated that due to the combination of intervening vegetation and topography, the proposed development would only be visible from one, The Pales. The assessment found that

whilst visibility of one Hendy turbine would be available in views from this Listed Building, no significant indirect (visual) effect on the significance of this Listed Building would occur.

Fifty-six Grade II Listed Buildings were identified within 5km of the proposed Hendy turbines, where visibility of the turbines would potentially be available from the vicinity of thirty-four of these assets. However, fieldwork indicated that due to the combination of intervening vegetation and topography, the proposed development would not be visible from the majority of these. Two of these Listed Buildings were assessed in detail and the assessment found that whilst visibility of one Hendy turbine would be available in views from one of these Listed Buildings, no significant indirect (visual) effect on the significance of this Listed Building would occur.

Therefore, the assessment found that there would be no significant indirect (visual) effects on the significance of any Listed Buildings, Conservation Areas or Parks and Gardens of Special Historic Interest within the locality as a result of the proposed Hendy turbines.

10.0 HYDROLOGY & HYDROGEOLOGY

The assessment has looked into potential impacts to controlled waters, including surface waters, aquifers and groundwater abstractions, in the vicinity of the proposed wind farm. A number of potential development risks have been identified associated with the development, including from access track construction, quarrying of material and turbine foundation construction, where silt laden run-off or other materials may enter surface watercourses.

These risks are considered to be significantly reduced from the mitigation measures included within the wind farm design, including avoidance of key hydrological features, the use of sustainable drainage measures and minimisation of disturbance to the soil profile. These measures have been detailed for each element of construction, operation and decommissioning of the wind farm and will be undertaken using best practice. Following implementation of these measures it is concluded that construction and operation impacts are of minor significance and decommissioning impacts are not significant.

11.0 NOISE

Following consultation with the local authority's Environmental Health Department, the main noise study was undertaken in the winter of 2012/2013. Background noise levels at

representative properties were assessed by direct measurement following recognised procedures. The impact of the proposed turbines was predicted again by means of the recognised prediction methodology.

Potential noise impacts of the operational have been assessed by comparing the predicted noise from the turbines against the measured background levels, and the noise impact in terms of the appropriate assessment methodology at all the assessment locations conforms with standard noise conditions based on the recognised guidance for wind farms.

No significant effects arising from the construction, transport route or cumulative effects with other schemes are envisaged.

12.0 EXISTING INFRASTRUCTURE AND AVIATION

A structure of any size can interfere with electromagnetic transmissions. The nature of the interference depends on the size of the structure. Wind Turbines can potentially cause electromagnetic interference in two ways; by blocking or deflecting line of sight radio or microwave links, or by the scattering of transmission links (OPDM, 2004). However, wind turbines do not in themselves cause electromagnetic interference.

Consultation has been undertaken with the Office for Communications (Ofcom) and a number of links were identified in the vicinity of the Development site. All the relevant operators were then consulted in order to obtain as much information as possible on any potentially affected links as possible.

Further research established that links 0459784/1 and 0463232/2 are in excess of 150m from the turbines to ensure that the Development will not have an adverse impact on communication links during the operation phase.

In terms of the potential effects on television signals in the area, the applicants propose the following mitigation measures to ensure that television signals are not affected:

- Replacement of receiving aerial with a more directional or higher gain, aerial;
- Repositioning the receiving aerial so that the received signal is stronger;
- Directing the receiving aerial to an alternative transmitter that covers the area and retuning the television accordingly;
- Upgrading antenna cabling and connections;

- Installation of signal amplifiers;
- Development of a bespoke local solution using a receiving aerial some distance from the dwelling;
- A combination of the above; and/or
- Replacing terrestrial reception equipment with satellite reception equipment.

Following implementation of the mitigation measures(s) set out above, there would be no impact on any affected properties.

Aviation and Radar interference was assessed by Page Power and concluded that for the majority of radars and other associated aviation equipment, there would be no interference as a result of the Development.

The Development therefore will not interfere with the telecommunication or aviation infrastructure in the surrounding area. In the unlikely event that interference could potentially occur as a result of the Development, suitable mitigation measures are proposed to ensure that it is avoided.

13.0 TRANSPORT ASSESSMENT

Access Strategy

Access to the Development would be taken from two points:

- The first will be a new priority junction located to the south of the junction of the A44 with the U1574 (Pye Corner) and will provide for all vehicles approaching from the south to turn left from the A44 and all vehicles leaving the site to turn left and head north on the A44. The left in left out arrangement will be enforced through central coloured surfacing, white lining and reflective bollards on the A44. Abnormal Indivisible Loads, which will approach the site from the north under civilian escort and police control, will be permitted to turn right into the site; this will require the temporary removal of the central bollards. The new access will connect to the U1574 approximately 80m southwest of the existing junction of the U1574 with the A44.
- The second access will use an existing lane off the A44 to the north of Pye Corner which will be modified to permit all inbound movements by general construction traffic. The

access will be used by inbound vehicles only; the access track leading from the junction to the site will operate as one way only and no egress will be permitted onto the A44.

With the exception of the turbine elements, the vast majority of traffic will be normal construction plant. The turbine elements will arrive on specialist transport vehicles. A large scale self-propelled crane and supporting ballast vehicles would be used to erect the turbines.

The RenewableUK Cymru's Strategic Traffic Management Plan (sTMP) sets out the general principles for managing the delivery of turbine components as abnormal loads from Ellesmere Port to the proposed Mid Wales wind farms. Abnormal loads associated with the Hendy development will follow the sTMP route to the SSA C on the A483 to the south of Newtown. As the components for Hendy are smaller than those which have been included within the sTMP, no additional work would be required on the route to SSA C to accommodate the proposed loads.

The Traffic Management Plan for the Hendy site has assessed abnormal load movements from SSA C in Mid Wales (the Llanbadarn Fynydd Wind Farm site) on the A483 to the proposed site access on the A44 using the same principles detailed within the approved sTMP.

Traffic Generation

The highest level of traffic generation will be associated with the construction phase. The highest flow of traffic would occur during month 6 of the construction programme. This equates to approximately 78 movements per day by car/ light vehicle and HGV (i.e. 39 inbound and 39 outbound trips).

Traffic generated during operation will be limited to around 1 vehicle per fortnight for planned maintenance and inspections. At the end of the operational lifetime of the wind turbines, they may be decommissioned and the site reinstated. This would involve similar access requirements as the construction phase though the number of HGV movements would be reduced

Potential Impacts

An assessment was made of the likely impacts of construction traffic on the route between the A44 between Penybont and its junction with the A481 and the A481 west of its junction with the A44. On these links the number of heavy goods vehicles is predicted to increase by between 87% and 112% over a 24 hour period.

The actual number of additional HGV movements per day associated with the peak of construction for the scheme (64) is considered low and the impact is not considered significant.

Mitigation

Remedial works to the public road to accommodate predicted abnormal load movements identified through swept path assessments for the potential route from Ellesmere Port would be implemented.

During the construction period:

- The Applicant would update the Development website containing the latest information relating to traffic movements associated with the site.
- All delivery lorries (dry materials) would be sheeted to reduce dust and stop spillage on public roads.
- Specific training and disciplinary measures and wheel wash facilities established at the site entrance would ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway.
- Site working hours would be limited to between 7am to 7pm Monday to Friday.
- Method statements covering the construction (CMS) and decommissioning (DMS) phases would be prepared to set out measures to be put in place to reduce the impact of noise, dust and excessive speed from vehicles associated with the development.
- Drivers would be required to pass through sensitive areas, to be agreed with Powys County Council, at low speed.
- Appropriate traffic management measures would be put in place at the site access junction to avoid conflict with general traffic, subject to the agreement of the highway authority. .
- A detailed Traffic Management Plan (TMP) would be developed to ensure road safety for all road users during transit of abnormal loads.

14.0 OTHER ISSUES

Over the last fifteen to twenty years the wind industry has exhibited a good health and safety track record. However, in line with best practice, any health and safety risks will be addressed through mitigation measures and normal construction and operational procedures. The implementation of current best practice and technology will be used at all times so as to minimise any health and safety risks that might be associated with this project. The implementation of the construction design and management principles will result in a high quality wind farm development, built, operated and maintained to the highest standards of safety.

The proposed turbines are all located in excess of 10 rotor diameters (820m) from potential receptors within 130° of north and will therefore not give rise to any shadow flicker effects.

Sensors and protection equipment will be fitted to turbines and operational procedures followed to mitigate any safety risks associated with extreme weather.