

**REEVES HILL WIND ENERGY
SCHEME**

**PLANNING APPLICATION
DCNW08/1289/F**

**FURTHER SUPPLEMENTARY
ENVIRONMENTAL INFORMATION**

October 2010

SUBMITTED TO

HEREFORDSHIRE COUNCIL

BY

DULAS LTD

ON BEHALF OF

BOLSTERSTONE INNOVATIVE ENERGY (REEVES HILL) LTD

PREFACE

In May 2006 Bolsterstone Innovative Energy (Reeves Hill) Ltd submitted a planning application and associated Environmental Statement for the Reeves Hill Wind Energy scheme. The proposal was for the erection and operation of four (4) wind turbines and associated access tracks, hardstandings and sub-station building. The location of the proposed scheme is on Reeves Lane, near to Knighton.

A Supplementary Environmental Report (SER) was submitted to the local planning authority, Herefordshire Council, in October 2008 to provide further information and to clarify the findings of the environmental assessments undertaken at that time.

The planning application for Reeves Hill, NW2008/1289/F, was considered by Herefordshire Council planning committee on 12th February 2009. Committee resolved to approve the application. Since the time of the approval a Decision Notice has not been issued. Further information and assessment work has been required through Regulation 19 requests under the Town and County Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, largely in relation to the noise assessment that had been undertaken, but also in relation to other matters. In order to comply with this request, the developer has sought planning permission for, and has installed, a 60m wind monitoring mast at the Reeves Hill site for the purposes of collecting wind resource data which in turn supports the undertaking of background noise measurements, which are able to take into account wind shear as advised under new advice in the Institute of Acoustics bulletin March/April 2009. The Council has notified the developer of its intent to return the matter to committee before a decision notice can be issued.

In addition to the Regulation 19 request of the Local Planning Authority requesting the noise related data and information referred to above, dated 30th November 2009, further information was also requested in the same letter in respect of the proposed landscape enhancement fund. The particular details of the request were to explain the geographic coverage of the proposal, the schedule of schemes eligible for funding and

the likely financial controls and monitoring procedures that would be established. These details were submitted to Herefordshire Council on 3rd June 2010 but the Council has requested that the response be included in a single SEI report.

In addition to the above, the Council (letter dated 5th August 2010) has determined also that further information is required in relation to the visual impact methodology, the hydrology and private water supply baseline, and potential effects to Great Crested Newts.

The developer is also voluntarily submitting further information to the Local Planning Authority on two matters. Since the committee decision on the proposal, further relevant policy and planning policy and guidance has emerged, which is considered material to the application and is therefore presented in this SEI. The Secretary of State for Communities and Local Government (July 2010) has revoked all regional spatial strategies, thus removing one of the tiers of development plan policy cited by local authority officers for supporting the development proposal. As such an explanation of the effects of the removal of this tier of the development plan has been requested by the local planning authority. Whilst an explanation of policy changes has been presented in this Supplementary Environmental Impact (SEI) report, an evaluation of the planning implications has not, on the grounds that this is not the purpose of EIA.

Secondly, , due to the objection to the proposed scheme by Shobdon Airfield, a response on behalf of the developer on the perceived flight safety concerns of the airfield is presented as an appendix.

This SEI report has been compiled by renewable energy consultancy, Dulas Ltd, following the undertaking of further environmental assessment work.

The specialist advice and support was delivered by the following external, independent consultancies, each of which also has extensive experience in renewable energy planning and environmental assessments:

Landscape and Visual Assessment (LVA)

Anne Priscott Associates
The Old Bakehouse
Corfe
Taunton
Somerset TA3 7AJ

Ecological Assessment

Mick Green
Ecology Matters
Bronhaul
Pentrebach
Talybont
Ceredigion SY24 5EH

Civils and Hydrology

Scott Wilson (now URS Scott Wilson)
3rd Floor
Mayflower House
Armada Way
Plymouth PL1 1LD

Aviation

Pager Power Limited
New Mill
Bakers Court
Gt Cornard
Sudbury
Suffolk
CO10 0GG

Noise

Hayes McKenzie Partnership
Lodge Park
Machynlleth
Powys
SY20 8PL

communities, which are available from Herefordshire Council offices or the developer, Bolsterstone Ltd.

The contact for Bolsterstone Ltd, the Developer, is:

Amy Woodgate
Bolsterstone Plc
The Technology Centre
Station Road
Framlingham
Suffolk
IP13 9EZ

Tel: 01728 726 566

Email: amywoodgate@bolsterstone.com

A copy of this SEI report and the full ES are on display at Herefordshire Council offices, Garrick House, Corn Square, Leominster and Kington Library. In addition, it is possible to download copies of this document and figures from both Herefordshire Council's website and the project website:

www.reeveshillwindfarm.co.uk

Forty-five (45) copies of this document have been produced for submission to Herefordshire Council. In addition multiple copies of the SEI report on CD have been produced for distribution to other stakeholders and the local

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1 INTRODUCTION

1.1 Context

1.1.1 A planning application for the proposed Reeves Hill Community Wind Energy Scheme, located between Presteigne and Knighton on the border of Herefordshire and Powys, was submitted to Herefordshire Council in May 2008 by Bolsterstone Innovative Energy (Reeves Hill) Ltd. The planning application is for four (4) wind turbines, each typically up to 2.3 Megawatts (MW) in capacity, ancillary equipment and on site infrastructure for a period of twenty-five years (25) for the purposes of generating renewable energy through wind power.

1.1.2 The wind turbine design detailed in the ES comprises a three bladed rotor that is up to ninety (80) metres in diameter supported on an (up to) sixty five (65) metre high cylindrical tower to give a maximum tip height of up to 105m. The planning application also comprises an (up to) seventy (70) metre fixed lattice anemometry mast to monitor and optimise the performance of the Reeves Hill Community Wind Energy Scheme wind turbines.

1.1.3 For the reasons set out in the Preface, further supplementary environmental information is required by the Local Planning Authority (LPA) in the determination of the application and a further meeting of the planning committee is expected to consider the further information and take a decision on the project prior to issue of a Decision Notice.

1.1.4 As a result of further matters arising on the application between the dates of the committee meeting and issue of the Decision Notice, the developer has been instructed by the LPA to submit further supplementary environmental information (the requests for supplementary environmental information from the LPA are presented in Appendix 1 to this SEI). The information requested was as follows:

1. **Wind Shear and Other Noise Data:** the Regulation 19 request dated 30 November 2009 identified the requirement for information in relation to wind speed measurement data, a calculation of wind shear, calculations of mean hub height wind speeds, the

provision of raw data and information used in the noise predictions, and independent noise test reports from the turbine manufacturer. This data and information was provided to the LPA on 14th May 2010.

2. **Landscape Enhancement Fund:** the LPA requested particular details in relation to the proposed operation of the landscape enhancement fund, more specifically the geographic coverage of the proposal, the schedule of schemes that may be eligible for funding, and the financial controls and monitoring procedures to be established to operate the fund.
3. **Noise assessment:** as a result of a Regulation 19 request on 5th August 2010 the developer has been instructed to conduct further background noise monitoring at the site at locations to be agreed in advance with the Council and local opponents of the scheme. Such monitoring was to be undertaken using wind speed data collected through an onsite meteorological monitoring mast. The purpose of the monitoring process is to establish whether the original background noise monitoring results were an accurate reflection of the baseline noise environment, and to take account of wind shear in the noise propagation model.
4. **Landscape and Visual:** as a result of a Regulation 19 request on 5th August clarification on the study areas used for the visual impact assessment has been requested to identify why different study areas have been used.
5. **Hydrology and Private Water Supplies:** as a result of a Regulation 19 request on 5th August the local planning authority has requested further baseline information in relation to, more particularly, private water abstractions around the wind farm site and hydrology more generally. A justification of the use of the 50m buffer zone around the

development for the study area has also been requested.

6. **Great Crested Newts:** as a result of a Regulation 19 request on 5th August it has been requested that the further work on hydrology as identified above be used to reassess potential effects to great crested newts should it be demonstrated that watercourses or hydrological flows would be affected by the development.

1.1.5 In addition the above Regulation 19 requests, the developer is also voluntarily submitting further information on relevant policy and planning policy guidance in relation to renewable energy. This is following the recent revocation of regional spatial strategies, and the emergence of other core relevant policy and guidance.

1.1.6 In addition the response of the developer to the objection to the scheme by Shobdon aerodrome is presented in Appendix 5 of this SEI. The Airfield Manager for Shobdon Airfield stated in correspondence to Herefordshire Council that he has concerns regarding the potential effects of the approved wind farm on the navigational and communication facilities used at the airfield, particularly for events where diverted aircraft from other airbases are instructed to land at Shobdon and may be forced to overfly the Reeves Hill scheme in inclement weather. Pager Power Limited, specialists in aviation and potential effects of wind farms on navigational safety and radar operation, have assessed the issue further and their response to the objection is presented in Appendix 5. The conclusions of Pager Power are that, on the basis of published navigation and air-safeguarding procedures, there is no requirement for an aircraft using the airfield to fly in close proximity to the Reeves Hill site. Also it has been identified that the turbines do not breach any safeguarding surfaces and are not further an issue.

...

2 LANDSCAPE ENHANCEMENT FUND

2.1 Introduction

2.1.1 On the matter in the Regulation 19 request regarding the proposed landscape enhancement fund, the following further information has been requested:

- The geographic coverage of the proposal fund (set out on a parish basis related to the appropriate County boundaries).
- The schedule of schemes that would be eligible for funding.
- The financial controls and monitoring procedures that would be established.

2.1.2 The developer, Bolstertstone Ltd, has drawn up and provided to Herefordshire Council a draft Unilateral Undertaking (28th January 2010) which sets out the legal mechanism for delivery of the community benefit and landscape enhancement funds. Please be advised that the following commentary relates only to potential beneficiaries of the landscape enhancement fund and not the community benefits fund – which is adequately addressed in the UU already. It is apparent that this response does not dovetail entirely with the provisions of the UU on landscape enhancement, as the respective affected areas will differ slightly, and it is to be expected therefore that the draft UU will have to be amended to take account of this advice, if acceptable.

2.1.3 Considerable research on the matter of landscape enhancement on behalf of the developer has been undertaken, which has included a visit to the Shropshire Hills AONB Manager to discuss initiatives taking place in the southern part of the AONB. As the LPA is aware, Natural England was particularly interested in seeking landscape enhancements on the southern edge of the AONB as it was understood that this is where the more significant effects of the development would be experienced. It is the advice of NE and the AONB manager that has informed the formulation of the following advice.

2.1.4 **Geographical coverage:** currently the

UU defines the ‘affected area’ as any land within 5 km of the proposed scheme. Due to the nature of these types of development, i.e. low landtake but with tall and visually prominent structures, it has not been thought appropriate to geographically define the potential beneficiaries of the scheme according to abutting Parish Councils (as suggested in the LPA letter). Instead, and particularly in respect of the Natural England request that the landscape enhancement fund be used for off-site landscape enhancement opportunities, it has been deemed preferable to draw a 5 km radius around the site in order to include all those residences and communities likely to be directly affected by the approved development (although it should be acknowledged that some properties will not have a view within this radius), both during construction and later via visual sight of the turbines. The proposed area is demonstrated on Figure 1-SEI in Appendix 2.

2.1.5 In addition to this defined area, Natural England advised in their letter dated 13th November 2008, that “... *applying the principle of constant natural assets, ideally compensation should directly benefit the area impacted by the development and have regard to the changes to the landscape identified in JCA 98. JCA 98 raises the following issues, which may be of relevance:*

- *Conifer plantations have changed the character of the landscape in some areas. The straight edges and skyline dominance of the older style of planting is at odds with the rolling landforms;*
- *Hedgerows are very variable in density and management. In some of the upland areas they have many gaps and have been renewed or replaced with post and wire;*
- *The deciduous woodlands are sometimes adversely affected by grazing, thus reducing their capacity for natural regeneration and their nature-conservation interest;*
- *Some of the coniferous woodlands are nearing the end of their first cycle. There is an opportunity for improving*

the landscape and amenity value of woodland in line with current best practice, with an increase in broadleaf woodland where appropriate;

- *The future of many ageing hedgerow trees and waterside pollards needs addressing.*

The area experiencing significant impacts, i.e. between Bucknell and Knighton, appears to contain several areas of coniferous woodland, some of which is owned by the National Trust. It may be possible for a developer contribution to contribute to the restoration of coniferous to broadleaved woodland.”

2.1.6 As a result, the applicant has included a zone taking in the southern edge of the AONB, as show on Figure 1-SEI, Appendix 2. This extension to the zone has been defined by reference to the 30km Zone of Theoretical Visibility shown as Figure 24a in Volume 3 of the Environmental Statement (May 2008). The ZTV demonstrates those areas of the southern edge of the AONB that would be most affected by the development. Consequently, through the process described above we have defined an area in which schemes for landscape improvement and enhancement could benefit from the fund set up by the developer. For clarity, we have focussed on the immediate 5km vicinity of the wind farm and the AONB because of the magnitude of change for the former, and for its sensitivity to change and its protected status for the latter.

2.1.7 **Schedule of Schemes:** it will be the responsibility of the Environmental Fund Administrator, as set out in the UU, and the input of principal stakeholders including Natural England, the Shropshire Hills AONB partnership and the Council, to identify the potential schemes that would benefit from the off-site enhancement fund. However, without prejudice to the potential qualifying schemes and following the advice given by Natural England as quoted above and discussions with the AONB manager, it would be reasonably expected that potential beneficiary schemes will include:

- Instatement, replacement, renewal and improvements to hedgerows using

traditional hedge creation and laying methods and utilising traditional species;

- Replacement of parts or whole conifer plantations with more traditional, deciduous species;
- Creation of new woodland copses and plantations;
- Riparian habitat management along the River Clun to improve river margins with alder and coppice species;
- Woodland and hedgerow creation directly north of Knighton to reduce river run off in the River Teme, which is an SSSI, as part of the Clun catchment ongoing management scheme;
- Under the current terms of the UU, any person with an interest in land as may be reasonably required to mitigate effects upon the natural environment, or in respect of enhancing the built or natural environment, or works to secure environmental biodiversity which will mitigate the effect of the development on the affected area.

2.1.8 **Financial Controls and Monitoring:** it is the expectation of the developer that the Environmental Fund Administrator, as defined in the UU on page 2, would be responsible for the administration and award of payments under the Environmental Fund. It is expected that the Fund Administrator would draw up, following consultation, a definition of potential activities and schemes that may benefit from the fund as well as establishing pre-set criteria for determining the conformity of applications to the objectives of the Fund. It would be expected that the funds would distributed to qualifying schemes applied for by landowners and communities in the defined area, or though applications to the Council’s existing landscape improvement grants and the Shropshire Hills AONB Partnership’s Sustainable Development Fund.

2.1.9 It is expected that the Fund Administrator will take responsibility for monitoring and evaluating progress on schemes approved for funding. A monitoring and evaluation mechanism will need to be established to ensure funds are well invested and achieve the objectives the Environmental Fund.

3 NOISE ASSESSMENT

3.1 Introduction

3.1.1 In response to a request under Regulation 19 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Act 1999, the developer Bolsterstone has commissioned a new background noise assessment for the Reeves Hill. This re-assessment has been supported by the use of wind resource data from a 60m meteorological monitoring mast.

3.1.2 The specific requirements of the Regulation 19 requests are as follows:

“The Council requires the following information:

- *Measurement data of wind speeds taken at the application site, at three heights, 10metres, H1 and H2, H1 being not less than 60% of the proposed turbine height and H2 being between 40% and 50% of the proposed hub height. This measurement data should be recorded in 10-minute average intervals for a noise monitoring period that is of a sufficient duration to be representative of the range of wind speeds and wind directions experienced at the site, and that this is expected to be of a minimum period of 2 weeks or an alternative length of time agreed with the Planning Authority. Measurements should be taken in accordance with guidance in Acoustics Bulletin, Volume 34, No.2, March/ April 2009.*
- *A calculation of the wind shear exponent derived from the mean wind speeds at H1 and H2 using the equation detailed on page 36 of Acoustics Bulletin, Volume 34, No.2, March/ April 2009.*
- *Calculations of the mean hub height wind speeds corrected to 10metres height using a ground roughness reference of 0.05m and in accordance with the procedure detailed on page 36 of Acoustics Bulletin, Volume 34, No.2, March/ April 2009. This data should be displayed in a way to allow direct comparison between the derived 10m wind*

speeds and the measured 10m wind speeds. If it is shown the wind speed at H1 is equal or lower than the wind speed at H2, then the derived 10m wind speed data should be calculated as above but using only the H1 data.

- *For clarity, and in line with the guidance in Acoustics Bulletin, Volume 34, No.2, March/ April 2009 please provide the raw data, method, model inputs and any assumptions used for calculating the wind turbine emission levels submitted in the Environment Statement. This should be supported with any relevant documentation where necessary. By way of clarity the environment statement states 'noise emitted by the turbines is based upon measured data provided by Enercon from Independent Noise Test Reports, but does not mention a relevant standard or model used.*
- *The Independent Noise Test Reports provided by Enercon (in line with the guidance in Acoustics Bulletin, Volume 34, No.2, March/ April 2009). By way of clarity these reports are not included in the appendices of the Environmental Statement.*

3.1.3 A reassessment of the background noise to the Reeves Hill site has been undertaken in fulfilment of the Regulation 19 request. The full background noise assessment report is presented in Appendix 3 of this SEI.

3.1.4 The conclusions of the further noise report are that a revised assessment has been conducted in accordance with and compliant with ETSU-R-97 and the further guidance in the IOA Bulletin March/April 2009.

3.1.5 Background noise measurements were made at nine locations neighbouring the proposed wind farm based upon preliminary predictions, and following agreement with representatives of Herefordshire and Powys County Councils.

3.1.6 Analysis of the measured data has been performed in accordance with ETSU-R-97 to determine the pre-existing background noise environment at these locations.

3.1.7 The background noise environment reported with respect to standardised wind speed at 10m agl for the nine locations considered in this report has been derived in accordance with the best practice detailed in the IoA Bulletin article issued in April 2009. This would be appropriate for use in setting of noise conditions if the Local Planning Authority wishes to set conditions following the guidance contained in the IoA Bulletin.

3.1.8 The background noise measurements detailed here support the conclusion of the 2008 Environmental Statement in indicating that wind farm noise levels can meet the ETSUR-97 noise criteria at all dwellings.

4 LANDSCAPE AND VISUAL ASSESSMENT

4.1 Introduction

4.1.1 The purpose of the visual assessment undertaken in the ES is to identify significant changes in view. The assessment doesn't have to identify every effect, or every significant effect, but should show where significant effects are likely to occur. Some viewers (visual receptors) are more sensitive to changes in view than others. The more sensitive a viewer the more likely a smaller change in view, or a view from a more distant vantage point, is likely to affect the viewer's perception and bring about a significant change in view. For this reason the study area radius selected for each receptor group varies with the largest radii for the more prominently located or sensitive receptor groups.

4.1.2 The visual assessment in the ES was based on the extent of visibility of the proposed Reeves Hill Wind Farm and the perception of viewers and visually sensitive visual receptors. The assessment was undertaken to identify where significant visual effects would be experienced. The assessment used a range of tools, set out below, to identify the change in view that would be appreciated by viewers (visual receptors). The definition of the levels of sensitivity of receptors to change, whether landscape or visual, was set out in the LVA, and is set out in Appendix 9, Table 4.5A of Volume 3 of the ES. The sensitivity of the receptor was analysed in conjunction with the magnitude of change of view to produce an objective and consistent assessment of the level of impact.

4.2 Visual (amenity) impact assessment

4.2.1 The assessment considers for each receptor group the extent of the predicted and actual visibility, the magnitude of the change in views and whether these changes will be significant.

4.2.2 The judgement as to whether a change will be significant for a receptor group depends on the receptor sensitivity. Receptor sensitivity depends on the activities of the receptor, whether the receptors will be stationary or

moving, the orientation of the receptor in relation to the view, whether receptors are likely to be there for the purposes of enjoying the view and the duration of the view for each receptor (in relative terms).

4.3 Tools of the LVA

4.3.1 To aid in the landscape and visual assessment the following tools were used:

- Zone of theoretical visibility - The potential visibility of the proposed wind farm development within the landscape has been identified in maps of Zones of Theoretical Visibility (ZTVs) created electronically using digital terrain modelling provided by OS. These maps show areas of potential visibility, based on landform alone, with no built structures, trees, hedgerows or other natural elements. Therefore, actual visibility can only be confirmed through site visits.
- Viewpoints – Viewpoint locations within the study area were chosen which are considered representative of the main landscape character areas and visual receptors. They are also representative of varying distance and directions from the site. Specific viewpoint analysis was undertaken for these viewpoints to highlight and confirm the findings of the landscape and visual assessment. For the Reeves Hill Wind Farm the location of these viewpoints was agreed with the landscape officer and the planning officer at the time of scoping. (Please see Table 4.3 of Volume 2 of the ES for the agreed viewpoints list.)
- Wireframes – These are computer generated views of the terrain and proposed development from a specific viewpoint. As with ZTVs wireframes are usually based on the bare ground terrain model so do not show the screening effect of surface features. Wireframes have been used in the field

to confirm views, taking into account a range of factors, including the effects of background, distance, weather, lighting, movement and the context of the proposed turbines.

- Photomontages (montages) – These are computer-generated 3D images of a development accurately located and overlaid onto the panoramic photograph of an existing view to illustrate the location and scale of a proposed development in the context of its setting. These are principally produced so that decision makers, consultees and the public can take them into the field and visualise the development (whilst taking into account all the other facets that affect impact but which can not be portrayed on a montage such as alternative weather, lighting conditions and movement as well as the wider context of the view). Each montage for this proposal is a monocular, curvilinear projection and should be viewed at a distance of approximately 350mm when printed at A3, with the page curved through 64-degrees.

4.4 Study Area Parameters for the Individual Surveys within the LVA

4.4.1 The sensitivity of the receptor, levels of visibility in the landscape and distance from the proposed Reeves Hill Wind Farm determine the significance of the effects. Table 4:1 in the ES summarises the study areas selected for each group of receptors. These study areas were tailored to ensure that all significant effects were

identified for each group of receptors, and were informed by preliminary studies using the tools described above. For example, features noted for having potential strong visual links to the landscape or being noted for views out into the landscape, such as designed views from within parklands or long-distance path walkers, or representing highly sensitive receptors have broader study areas than those for less sensitive receptors or receptors in more sheltered locations with few long-range views.

4.4.2 The EIA Regulations are concerned with identifying where significant effects would occur, and how or if they can be removed, reduced or mitigated. Therefore, it was agreed with the planning case officer and the county landscape officer that should any significant effects be identified at the edge of the particular study area radius for any group of receptors then the study area should be extended to allow detailed consideration of these potential effects.

4.4.3 The results of the LVA did not indicate that there would be any significant effects beyond the defined distance from the site for each study, and therefore the study area radii were found to be sufficiently extensive for the assessment of effects to be undertaken.

4.5 Receptors and their study areas within the LVA

4.5.1 The following table describes the different receptor groups assessed within the LVA for this proposal and the study area examined for each receptor group along with the rationale for each study area (and verified in the field).

| INDIVIDUAL SURVEYS | INITIAL EXTENT OF STUDY AREA | RATIONALE FOR INITIAL EXTENT OF STUDY AREA |
|--|---|---|
| Cumulative Impact Assessment | Initially 60km then narrowed to those that might bring about significant cumulative effects | Set out in SNH guidance as initial study area for cumulative assessments based on potential views in open areas over 30km distances |
| Broad-scale Visibility Assessment – Zone of Theoretical Visibility (ZTV) | 30km | Furthest extent of likely views in this landscape. The study identified a view from |

| | | |
|---|------|---|
| | | Clee Hill (Viewpoint 13), nearly 30km from the proposed site, however, the change in view would be negligible and was the only very distant view identified, and only view identified over 20km. |
| Broad-scale Landscape Character | 20km | Furthest extent of likely views in this landscape (except Clee Hill), narrowed to a detailed study area of 10km based on field observations identifying no views likely to bring about any significant effects over 10km. |
| National Landscape Designations | 20km | Furthest extent of likely views in this landscape (except negligible change in view from Clee Hill). |
| A and Trunk Roads, Long-distance and Named Paths | 10km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the threshold of significance). |
| Towns | 10km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the threshold of significance). |
| Parks and Gardens on the English Heritage / CADW register and Scheduled Ancient Monuments (including Offa's Dyke) | 10km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the threshold of significance). |
| B and Local Roads and Public Rights of Way | 5km | Furthest likely medium magnitude of change views which on a medium sensitive receptor might bring about moderate effects (just below the threshold of significance). |
| Listed Buildings and Conservation Areas | 5km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the threshold of significance). |
| Villages | 5km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the threshold of significance). Not extended to 10km because of the limiting effect of the landform and generally well-wooded context of villages in this landscape on views. |
| Individual Dwellings outside of Settlements | 3km | Furthest likely low magnitude of change views which on a highly sensitive receptor might bring about moderate effects (just below the |

| | | |
|--|--|--|
| | | <p>threshold of significance) Reporting limited to 3km because of the limiting effect of the generally well-wooded and garden vegetation context of houses in this landscape on views and need to concentrate assessment on likely significant effects and the greatest magnitude of effect is likely closest to the site. The surveys found that most dwellings are set within the valleys or on lower valley side slopes and not on the open hill tops. The landform therefore foreshortens views from more distant individual dwellings. Each individual dwelling was not visited however, all of the roads were driven and the paths walked, and field observations were made of the orientation and aspects of individual dwellings from these publicly afforded viewing locations. These observations informed the assessment of effects on individual dwellings included in the ES. The EIA Regulations do not require every individual receptor to be assessed, but for the likely range and locations of significant effects to be identified. Accordingly the assessor, project manager and Council officers were satisfied that the assessment had been undertaken sufficiently and the resulting conclusions robust.</p> |
|--|--|--|

5 HYDROLOGY AND PRIVATE WATER SUPPLIES

5.1 Introduction

5.1.1 Pursuant to the Regulation 19 request of Herefordshire Council dated 5 August 2010, further surveys and assessment in respect of the hydrological features and private water supplies at Reeves Hill have been conducted. These have been undertaken by Scott Wilson, the consultants who undertook the previous assessment work for the Reeves Hill application.

5.1.2 The matters on hydrology and hydrogeology that the Council requested be addressed are as follows:

- *Further information is required on the identification of the hydrological and hydrogeological features present, including water features, water catchments, private water supplies, springs which rise in the area, their flow regime and their use. An assessment should be undertaken on the impact of the development on these features. This assessment should also consider the impact of the development on water features where great crested newts are present, and should address any mitigation measures that may be required ... further information is required on the potential impacts on ground water supplies such as in the event of a fuel spill from a heavy good vehicle on site.*

5.1.3 The full response to the information and assessment request is presented in Appendix 4 of this SEI. A summary of the findings are given below.

5.1.4 An assessment of potential effects to great crested newts is provided in the subsequent section of this SEI.

5.2 Survey and Assessment Findings

5.2.1 A site survey and door knocking exercise took place on the 2nd and 3rd September 2010. The purposes were to confirm the location of water features and identify

relevant private water supplies in the locality.

5.2.2 The local water features were reconfirmed as those originally reported in the ES. Whilst there are various springs proximate to the site, the majority are located outside of the 500m buffer of the development. Of those within the site boundary, three have been fitted with collection pipes and the fourth was not observable due to the dry conditions. All springs were observed to be at lower elevations to the proposed turbine crane hardstandings and turbine foundations.

5.2.3 Investigation of the Aquifer Designation maps available from the Environment Agency has identified that the site is underlain by a Secondary Aquifer, Type A, meaning it supplies water at a local scale, which has been verified by on-site observations.

5.2.4 The survey of private water supplies was extended from the original 500m buffer area to 1km from site infrastructure. It identified that the majority of dwellings and farms in the vicinity of the proposed scheme have a private water supply, usually for domestic and agricultural uses. Water is mainly extracted from springs but also on occasion boreholes, and whilst such supplies become lower during dry months they rarely dry up completely.

5.2.5 On the basis of the new information yielded on the survey, it was possible for the assessors to review their original baseline description of the study area. It has been identified that the groundwater resource beneath the site has a high importance as it is a Secondary Aquifer and provides water to local residents.

5.2.6 On the basis of the potential impacts of construction and operation of the wind farm site, the predicted effects are assessed of minor significance. In order to ensure such effects are not significant, mitigation measures are proposed. These conform to the mitigation measures proposed in the original ES whilst further measures are proposed, as follows:

- In order to confirm that the spring lines are below the foundation bases of the turbines it is recommended that observation boreholes are placed at turbine locations prior to construction.
- Should the proposed turbine foundations be located beneath the level of the groundwater, additional mitigation would be required in order to mitigate against any negative impacts on local groundwaters;
- Mitigation against groundwater impacts will, if necessary, include:
 - Potential dewatering (pumping) of groundwater to ensure ‘dry working’ of foundations (dewatered discharges should be directed into recharge trenches wherever possible to ensure water percolates naturally back into the ground);
 - Sealing (e.g. using a clay seal or similar) of the dewatered area to prevent ingress of water into the working zone and leaking of sediments and pollutants out of the working zone; and
 - Use of water resistant materials for foundation design to limit leaching of any pollutants.

5.2.7 It is the conclusion of the hydrological consultants that with the recommended mitigation measures identified above, along with those proposed in the ES, in place, the proposed development would not have a significant effect on the local water environment.

6 ECOLOGY: GREAT CRESTED NEWTS

6.1 Introduction

6.1.1 Following the further baseline survey of hydrological features at the Reeves Hill site a further assessment of potential effects to great crested newts has been undertaken by Ecology Matters. This assessment is based on the requirements of the Regulation 19 request of the Council.

6.1.2 The further hydrological work undertaken entailed the following:

- Confirmation of local water features on the site; including hydrogeological features, springs and watercourses and their relevant catchments;
- identification of local private water supplies not previously identified;
- further assessment of the impact of the proposed development on the local water features; and
- confirmation and clarification of any mitigation measures required to ensure no significant impact arise on the water environment as a result of the proposed development.

6.1.3 On the basis of the further baseline survey assessment, it has been possible to undertake a further assessment of potential effects to great crested newts and their habitats.

6.2 Further Assessment

6.2.1 In the original surveys 11 water bodies were located within the site survey boundary and one within a 500m buffer of wind farm infrastructure. Seven of the ponds with the site survey boundary including the one within the buffer area were found to contain great crested newts.

6.2.2 The further surveys found no new water bodies. They did confirm the presence of two springs within the site and two within the 500m buffer. The springs do not provide potential

breeding sites for newts as there is no standing water associated with them. At the southernmost spring within the site survey area there is some associated wet and rough ground which may provide hibernacula habitat.

6.2.3 The original environmental statement along with the additional hydrological information provides detailed mitigation measures required to minimise any impact on the hydrology. As long as these measures are followed then the additional information does not change the conclusions of the original environmental statement regarding the impacts on great crested newts.

7 POLICY CONTEXT

7.1 Revocation of Regional Spatial Strategies and National Policy Developments

7.1.1 Please note that the following information is submitted voluntarily by the developer and is not subject to Regulation 19 request.

7.1.2 Regional Spatial Strategy

7.1.2.1 On 6th July 2010 the Secretary of State announced the revocation of regional strategies. The Coalition government has set out that in the longer term the legal basis for regional strategies will be abolished through the “Localism Bill” that Government intend to introduce. In a letter from the Chief Planning Officer, DCLG to planning departments (6th July 2010) local planning authorities are instructed as follows in determining planning applications:

In determining planning applications local planning authorities must continue to have regard to the development plan. This will now consist only of:

- *Adopted DPDs;*
- *Saved policies; and*
- *Any old style plans that have not lapsed.*

Local planning authorities should also have regard to other material considerations, including national policy. Evidence that informed the preparation of the revoked Regional Strategies may also be a material consideration, depending on the facts of the case.

7.1.2.2 In consideration of the implications of this change on renewable and low carbon energy, the Chief Planner states the following:

Through their local plans, authorities should contribute to the move to a low carbon economy, cut greenhouse gas emissions, help secure more renewable and low carbon energy to meet national targets, and to adapt to the impacts

arising from climate change. In doing so, planning authorities may find it useful to draw on data that was collected by the Regional Local Authority Leaders’ Boards (which will be made available) and more recent work, including assessments of the potential for renewable and low carbon energy.

7.1.2.3 The RSS for the West Midlands is therefore no longer a material consideration to the planning application. However, it is necessary on the basis of the above guidance that the local planning authorities take account of assessments for renewable and low carbon energy. Such assessments may be expected to include those presented in the West Midlands Regional Energy Strategy (WMRES) 2004.

7.1.2.4 The West Midlands Regional Energy Strategy identifies the national target of 10% of electricity supplied to come from renewable sources by 2010 and 15% by 2015 but goes on to state that, having considered the resources of the West Midlands, the Strategy recommends renewable generation equivalent to 5% of electricity consumption by 2010 and 10% by 2020. The 2010 target is equivalent to: up to 75 MW of landfill gas fuelled generators, 100 1.5 MW wind turbines and 27 1MW biomass/biogas powered generators.

7.1.2.5 The action plan set out to achieve these targets for renewable energy is as follows:

- Local authorities to encourage proposals for the use of renewable energy resources, through their Development Plans;
- Promote the deployment of mature and near market technologies in the region (wind, larger run of river hydro, biomass);
- Promote the deployment of renewables in areas off the gas grid (solar thermal, heat pumps, biomass); and,
- Promote domestic renewable energy (PV, wind etc).

7.1.2.6 Annexe E of the Strategy further elaborates on how the targets could be achieved:

The contribution of wind depends heavily on the number of MW-scale turbines that can be installed. Halcrow 2001 suggested 512 MW installed where wind speeds are 7m/s or more, leading to 1345 GWh being generated annually.

7.1.2.7 The contribution from wind can now be revised in the light of the West Midlands Wind Energy Resource Assessment (March 2004) and the recent West Midlands Regional Urban Wind Study. The Wind Resource Assessment concluded that there was potential for between 65-150 MW of wind energy in areas with wind speeds in excess of 7 m/s – the lower limit assumes a 50% success rate. The Urban Wind Study demonstrates that there are opportunities to develop nearly 100 MW of wind energy in and adjacent to urban areas of the West Midlands.

7.1.2.8 Subsequent to release of the Strategy a monitoring report on the West Midlands Energy Strategy was published in 2006. The report identified that resource availability indicated that the region has the potential for 2,993GWh of generation from renewable energy sources by 2010, with 45% of this coming from wind, 26% from waste, 21% from landfill gas, 4% from biomass, 2% from sewerage gas and 1% from photovoltaics and hydro-electricity. By the period ending 2004 there was no installed wind capacity throughout the region.

7.1.3 National Policy on Renewables

7.1.3.1 Subsequent to the submission of the Reeves Hill wind farm application in 2006, further national policy and planning policy has emerged, much of it relevant to climate change objectives and renewable energy. A summary of this additional policy is presented below.

Planning Policy Statement 1: Delivering Sustainable Development

7.1.3.2 A supplement to PPS1 came into force in December 2007.

PPS1 Supplement - Planning and Climate Change

7.1.3.3 As a statement of Government policy this PPS1 Supplement has considerable weight in the decision-making process. It is also expressly mentioned in the latest Energy White Paper (2007) as a key plank of the

Government's approach.

7.1.3.4 In the Foreword it states that where there is any difference in emphasis between this PPS and others in the national series, this will take precedence – this is especially important where it tackles the way in which policies are to be devised to deal with criteria to be used in assessing proposals. At paragraph 9, it states that the spatial strategies shall make a full contribution to delivering the Government's Climate Change Programme and energy policies. At the RSS level it states (paragraph 13) that the policies shall ensure that opportunities for renewable and low-carbon sources of energy supply are maximised, and that policies are in place to meet opportunities in the region and the national targets.

7.1.3.5 Critically at paragraph 20 on Local Development Documents it sets out a series of tests for policies which must, inter alia, pay particular attention to opportunities for decentralised energy from renewable sources; look favourably on proposals for renewable energy; not to require applicants to demonstrate either the overall need for renewable energy or for the energy justification for a particular proposal for renewable energy to be sited in a particular location; and ensure any local approach to protecting landscape and townscape is consistent with PPS22 and does not preclude the supply of any type of renewable energy other than in the most exceptional circumstances.

7.1.3.6 At paragraph 34 it makes it clear that monitoring is needed to identify where failure to meet targets is occurring and to identify steps to respond effectively to such failure. Finally at paragraph 40 it states that an application for planning permission to develop a proposal that will contribute to the delivery of the Key Planning Objectives in the PPS should expect expeditious and sympathetic handling of the application.

Planning Policy Statement 5 – Planning for the Historic Environment

7.1.3.7 PPS 5 sets out the Government's national policies on the conservation of the historic environment. The policies in PPS 5 are a material consideration which must be taken into account in development management decisions. The Listed Buildings and Conservation Areas Act of 1990 also sets out national heritage

policy. Advice is also provided by English Heritage in their publication “Wind Energy and the Historic Environment” (2005) and in ‘Conservation Principles Policies and Guidance (2008).

7.1.3.8 Those parts of the historic environment that have significance because of their historic archaeological, architectural or artistic interest are referred to in PPS5 as heritage assets. Some heritage assets possess a level of cultural value that justifies a national designation and particular policies within PPS 5 (HE9.1-9.4 and HE10) apply to decisions that involve them. The national designations considered within this statement are Scheduled Ancient Monuments, Listed Buildings, Conservation Areas, and Registered Historic Parks and Gardens. The level of detail and assessment undertaken for each heritage asset is proportionate to the importance of the heritage asset and in line with policy HE6.1 of PPS 5 is designed to provide sufficient information to understand the potential impact of the proposal on the significance or cultural value of the asset.

7.1.3.9 The effect of a development on the significance of a heritage asset or its setting is a material consideration in determining the application and this is set out in Policy HE8.1 of PPS 5. Further detail regarding the assessment and implications of impacts on the settings of heritage assets is highlighted in policy HE10.1 which states that:

‘When considering applications for development that affect the setting of a heritage asset, local planning authorities should treat favourably applications that preserve those elements of the setting that make a positive contribution to or better reveal the significance of an asset. When considering applications that do not do this, local planning authorities should weigh any such harm against the wider benefits of the application. The greater the negative impact on the heritage asset, the greater the benefits that will be needed to justify approval.’

7.1.3.10 PPS 5 sets out a presumption in favour of the conservation of designated heritage assets and this presumption is greatest for heritage of assets of greatest cultural value. This principle is outlined in Policy HE 9.1 of PPS 5 which states that:

‘There is a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled ancient monuments, protected wreck sites, battlefields, grade I and II listed buildings and grade I and II* registered parks and gardens, World Heritage Sites, should be wholly exceptional.’*

7.1.3.11 Whilst PPS 5 states that preservation of a heritage asset in situ is always preferable, in some cases, preservation by record is an acceptable albeit less desirable alternative. The means by which this may be achieved is outlined in policy HE12.3 which states that:

‘Where the loss of the whole or a material part of heritage asset’s significance is justified, local planning authorities should require the developer to record and advance understanding of the significance of the heritage asset before it is lost, using planning conditions or obligations as appropriate. The extent of the requirement should be proportionate to the nature and level of the asset’s significance’

7.1.3.12 Advice on the use of the term “setting” is to be found in Annex 2 of PPS 5 which defines setting as:

‘The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset.’

7.1.3.13 The Listed Buildings and Conservation Areas Act of 1990 sets out the duty on decision-makers as follows:

‘i. S66 In considering whether to grant planning permission for development which affects a listed building or its setting, the local

planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.'

7.1.3.14 Further guidance on the treatment of cultural heritage assets is contained within the English Heritage document entitled: 'wind energy and the historic environment' published in 2005. This recognises the threat from climate change to our historic and natural environment and our national prosperity. It welcomes the Government's commitments on emissions savings and the exploitation of renewable resources, but also recognises the need for a balance to be struck on the environmental costs of renewables. It quotes from paragraph 5 in PPS22 that the objective of the designation of an area should not be compromised by development or that where there are any significant adverse effects on the aspects for which the area has been designated, these would need to be clearly outweighed by the development's environmental, social and economic benefits. This policy is further reiterated in Policy HE1.3 of PPS 5 which states that the public benefit of mitigating the effects of climate change should be weighed against any harm to the significance of heritage assets in accordance with the development management principles in PPS 5 and national planning policy on climate change.

Renewable Energy Strategy 2009

7.1.3.15 The latest development of UK energy policy has come forward with the publication of the Renewable Energy Strategy (RES) in July 2009. Whereas the Government had been working towards a UK 2020 target of 20% of electricity coming from renewable sources, the adopted scenario in the RES is that this figure is now to be raised dramatically. The Government has signed up to the EU requirement that 15% of all energy consumed in the UK should be from renewable sources by 2020, but as the RES points out this also covers fuel and heating – i.e. all energy sources and not just electricity. In the light of the difficulties in providing significant elements of fuel and heating from renewables by 2020, the proportion of electricity supply that will have to come from renewables to balance this out will need to be raised substantially, to 30% or more.

7.1.3.16 Onshore wind and offshore wind are expected to provide about 64% of all the electricity from renewable sources by 2020, made up of 29% onshore and 35% offshore. This is estimated to mean that a potentially further 6000 wind turbines will need to be installed onshore by 2020 and 4000 offshore (where turbine sizes are bigger).

7.1.3.17 The RES also proposes major changes to the grid infrastructure and indicates new grid interconnectors to facilitate export of both onshore and offshore wind away from the production areas to the areas of greatest consumption. One of the key features set out in the RES is that instead of looking forward to 2020 as the next target date, the EU Directive requires that every two years each Member country has to submit details of its performance on the targets against indicative levels that have to be met to keep the country on its trajectory to meet the 2020 figure. Therefore instead of looking 11 years ahead, there will be benchmark targets as early as 2011-2012, and further steps along the way all of which are expected to be met. Given that the UK starts out from the position that it is already well behind the prospects of meeting the 2010 target of just 10% of electricity from renewables, the need for a rapid escalation of renewables electricity and especially onshore wind in the coming months is quite clear. All regions are now expected to carry out detailed resource and constraints planning, but the RES makes it clear that the Government expects each to contribute its proportion of the overall target.

Draft National Policy Statements 2009

7.1.3.18 The UK Government has embarked on a reform of the planning system for nationally significant infrastructure, the main component of which is the Planning Act 2008. Under the new system development consent for nationally significant infrastructure will be administered by a new independent body, the Infrastructure Planning Commission (IPC), and a new suite of National Policy Statements (NPSs) will be the primary consideration for the IPC when it makes decisions on applications for development consent.

7.1.3.19 Reeves Hill wind farm is not a nationally significant infrastructure project for the purposes of the new regime and the planning application will be determined by the local

planning authority. However, the NPSs contain policy of relevance to renewable energy development in general. Paragraph 1.3.3 of the Renewables National Policy Statement EN-3 states that "Further information on the relationship between NPSs and the town and country planning system, as well as background on the role of NPSs and the arrangements in the devolved administrations, will be issued by the Department for Communities and Local Government (CLG)." It is considered that, whilst the policy document itself is in draft and intended primarily to be used by the IPC, it contains information that assists parties in developing and evaluating wind energy projects under the Town and Country Planning Act 1990.

7.1.3.20 EN-1, The Overarching National Policy Statement, identifies on page 17 that the major challenge to the UK is moving to a low carbon economy and that significant amounts of new energy infrastructure are required over the next 10-15 years. EN-1 identifies that around 30% of electricity generation will need to come from renewable sources by 2020, primarily from onshore and offshore wind generation. Paragraph 3.4.3 identifies that that onshore wind is the most well established and economically viable source of renewable electricity available for future large-scale deployment in the UK.

7.1.3.21 EN-3, Renewable Energy National Policy Statement, is the primary decision-making guidance document for the Infrastructure Planning Commission on nationally significant onshore renewable energy infrastructure projects in England and Wales. Section 2.7 on onshore wind provides detailed guidance, and states that onshore wind farms are the most established, large-scale source of renewable energy in the UK, and that onshore wind farms will continue to play an important role in meeting the UK's renewable energy targets. Applicants for onshore wind farms are instructed that all impacts of a proposal should be identified, together with proposals for their avoidance or mitigation wherever possible. The following advice is provided in EN-3:

- Paragraph 2.7.7 states it is the decision of individual applicants as to whether a wind resource assessment for a wind farm is required or not;
- Paragraph 2.7.9 advises that the two main

impact issues that determine the acceptable separation distances between houses and turbines are visual amenity and noise. It is advised that appropriate distances should be maintained between wind turbines and residential properties to protect residential amenity; and

- Paragraph 2.7.10 identifies that separation distances between turbines, whilst usually up to 6 rotor diameters in the prevailing wind direction and 4 rotor diameters perpendicular to this, is a matter for the applicant to determine.

7.1.3.22 Further detailed advice in EN-3 relates to the following:

- access routes;
- decommissioning;
- project lifetimes;
- temporary nature of wind farm developments;
- flexibility in applying the 'envelope' approach to applications;
- micro-siting of turbines;
- biodiversity and geological conservation;
- historic environment;
- landscape and visual matters;
- noise;
- shadow flicker; and,
- traffic and transport.

Conclusion

7.1.3.23 There have been significant changes in recent years to the policy and planning policy framework relevant to the Reeves Hill wind farm scheme. The revocation of the RSS has resulted in the wholesale removal of regional planning guidance relevant to development, except in respect of the energy generation studies that have helped inform devolved renewable energy targets. RSS is therefore no

longer relevant to the determination of the Reeves Hill scheme, although at the time of approval it was still extant and valid to the decision made at that time.

7.1.3.24 A supplement to PPS1 has emerged, which states that local planning authorities are required to pay particular attention to opportunities for decentralised energy from renewable sources and they are asked to “... *look favourably on proposals for renewable energy*”. They are also instructed to ensure any local approach to protecting landscape is consistent with PPS22 and does not preclude the supply of any type of renewable energy other than in the most exceptional circumstances.

7.1.3.25 The draft National Policy Statements under the Planning Act 2008 primarily address nationally significant infrastructure projects, of which Reeves Hill is not one, but the criteria based guidance in EN-3 is considered material to this proposed development.

7.1.3.26 The Renewable Energy Strategy 2009 has introduced further ambitious targets for renewable energy generation: onshore and offshore wind are expected to provide about 64% of all the electricity from renewable sources by 2020, made up of 29% onshore and 35% offshore. This is estimated to mean that a potential further 6000 wind turbines will need to be installed onshore by 2020 and 4000 offshore.

APPENDICES

Appendix 1: Regulation 19 request letters from Herefordshire Council

Appendix 2: Figure 1-SEI – proposed landscape enhancement fund beneficiary area

Appendix 3: Background Noise Assessment 2009/2010

Appendix 4: Further Hydrological Assessment

Appendix 5: Evaluation of Shobdon Airfield Objection

