Appendix B

PFR SCOPING OPINION

Scottish Government

Local Energy & Consents

Scoping Opinion on behalf of the Scottish Ministers under Part III of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

Scoping carried out by Partnerships for Renewables (PfR) Ltd

Wauchope Newcastleton Wind Farm

18 March 2016

Contents

1. Introduction

By letter dated 11 December 2015 Partnerships for Renewables (PfR) Ltd submitted a request to the Scottish Ministers for a Scoping Opinion relating to the proposed Wauchope Newcastleton Wind Farm. The request was accompanied by a Scoping Report containing a plan sufficient to identify the site which is the subject of the proposed Development and a brief description of the nature and purpose of the proposed development and of its possible effects on the environment.

The Wauchope Newcastleton Wind Farm proposal

The proposed Wauchope Newcastleton Wind Farm will compromise of 90 wind turbines with a maximum tip height of 132 metres and each with a maximum installed generating capacity of 3.4 megawatts. The proposed wind farm will be sited in two different locations, Wauchope Forest and Newcastleton Forest in the Scottish Borders.

At Wauchope Forest there will be two different sites, Wauchope East and Wauchope West. Wauchope East will consist of 50 turbines and Wauchope West will consist of 20 turbines. The Wauchope Forest location is approximately 11 kilometres south-west of Jedburgh and 9 kilometres south-east of Hawick. The main access to the Wauchope East site will be both the B6357 at Note O' The Gate and the A6088 at Martinlee. The main access to the Wauchope West site will be the B6357 at Rough-hope Rigg. The closest trunk road the Wauchope Forest location is the A68 which is approximately 2.5 kilometres to the east

The site at the Newcastleton Forest location will comprise of 20 wind turbines. It is located approximately 1.5 kilometres to the east of Newcastleton and 18 kilometres east of Langholm. The main access to the site would be from the B6357 via an existing forest gate. The closest trunk road is the A7 which is approximately 18 kilometres to the west.

The proposed wind farm sits within the administrative area of the Scottish Borders Council.

In addition to the wind turbines and there will be ancillary infrastructure including:

- meteorology masts;
- access tracks;
- underground cabling;
- substation;
- temporary construction compounds;
- crane hard standing areas (crane pads);
- information boards;
- at least two onsite borrow pits/quarries.

Consultation

On receipt of the Scoping Opinion request, the Scottish Ministers initiated a consultation on the contents of the Scoping Report. This commenced on 13 January 2016 and requests for consultations were sent to Scottish Borders Council, Scottish

Natural Heritage, the Scottish Environment Protection Agency and various other bodies whom the Scottish Ministers consider are likely to have an interest in the proposed application. The Scottish Ministers and PfR agreed that the end date for the consultation would be 24 February 2016. Not including individual departments within bodies who were consulted, 40 Scottish consultees were contacted and because the proposed Development is very close to the Scotland-England Border, 26 English consultees were contacted. A total of 31 responses were received, 27 from Scottish consultees and 4 from English consultees.

The Scottish Ministers are satisfied that the requirements for consultation set out in ***section 5 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000*** have been met.

The purpose of the consultation was to obtain advice and guidance from each consultee in respect of the information which each of them believe should be provided in the Environmental Statement. Full consultation responses are attached in Annex A and each should be read in full for detailed requirements from individual consultees and for comprehensive guidance, advice and, where appropriate, templates for preparation of the Environmental Statement.

2. The Scoping Opinion - explanation

This Scoping Opinion is, effectively, a collection of the responses received to the consultation request of 13 January 2016 and it is issued on behalf of the Scottish Ministers to PfR in relation to the proposed Wauchope Newcastleton Wind Farm. Regard has been given to current knowledge and methods of assessment and the specific characteristics of the proposed Development, the specific characteristics of that type of development and the environmental features likely to be affected have been taken into account. The Scottish Ministers expect the Environmental Statement which will accompany any application for the proposed Development, to include full details showing that all the advice, guidance, concerns and requirements raised by each consultee as being addressed.

3. Duration of scoping opinion

This Scoping Opinion is based on information contained in PfR's written request for a Scoping Opinion and on information available at today's date. Nothing in this written Scoping Opinion will prevent the Scottish Ministers from seeking additional information at application stage, for example, to include cumulative impacts of additional Developments which enter the planning process after the date of this Opinion.

Without prejudice to that generality, it is recommended that an additional Scoping Opinion be sought from Scottish Ministers in the event that no application has been submitted within six months of the date of this Opinion.

4. Site specific issues of interest to the Scottish Ministers

The sections below highlight several points raised in consultation responses which are of particular importance with regards to any subsequent application and the Environmental Statement.

Development locations and subsequent application

In its consultation response Scottish Borders Council stated "*Three sites that can be identified as individual projects are shown in mapping; each has its own series of accesses, each is within a separate Community Council (parish) area and all three are separated by at least 3.5km from one another. Newcastleton Forest is approximately 13-14km from the Wauchope sites*". It is also stated "*Scottish Borders Council is firmly of the opinion that if any applications are forthcoming, they should be provided on an individual basis for each site. This would mean that for each site, an individual Environmental Statement would need to be provided. Although it is acknowledged that any Environmental Impact Assessment may deal with overlapping matters and be undertaken by consultants who look at the three sites together, for the application process it would only be acceptable to provide analyses of the individual sites in terms of ensuring each is considered on its merits as a potential wind farm, while at the same time assessing what influences each project might have on the others*".

It should be noted that in relation to whether or not the proposed Wauchope Newcastleton Wind Farm is one Development, the overwhelming consensus of consultees is the same as that stated by Scottish Borders Council in its response. Consequently, it is the opinion of the Scottish Ministers that any application subsequently submitted should in fact be three separate applications, the requirements for each being as stated by Scottish Borders Council above.

Forestry Commission Scotland

It is stated in the Scoping Report (page 2, section 1.3) that the Forestry Commission Scotland is "*working with PfR to assist in the delivery of its economic and climate change objectives set by Government and the Forestry Commission Scotland*". It should be noted that in their consultation response Forestry Commission Scotland refute this and state that PfR are working with Forest Enterprise Scotland and not Forestry Commission Scotland.

Forest Enterprise Scotland is the government agency that's responsible for managing Scotland's National Forest Estate. Forestry Commission Scotland acts as the Scottish Governments forestry department, advising and implementing forestry policy to protect and expand Scotland's forests and to increase their value to society and the environment. Forestry Commission Scotland has no direct relationship or input to the proposed Wauchope Newcastleton Wind Farm other than being a consultee and have asked that this be better clarified within the Environmental Statement.

Policy, Plans and Guidance to be considered

In addition to the Policies and Plans listed at 3.4.3 to 3.426 in the Scoping Report (page 11 to page 15) the English National Planning Policy Framework should also be fully considered.

Designated sites and Protected Areas and their ecologies

In addition to those listed and detailed in the Scoping Report, special note should be taken of each of the Designated sites and Protected Areas and their respective

requirements referred to in the consultation responses from Scottish Borders Council, Scottish Natural Heritage, Scottish Environment Protection Agency, Marine Scotland Science, RSPB Scotland, Natural England and the Northumberland National Park.

Ecology, Habitats and Protected Species

Special note should be taken of the ecology, habitats and protected species referred to specifically in the responses from Scottish Borders Council, Scottish Natural Heritage, Marine Scotland Science, Natural England and Carlisle City Council.

Historic Environment

In addition to those referred to at 5.2.2 and 5.2.3 in the Scoping Report (page 22) special note should be taken on the impact assessment requirements in respect of the scheduled monuments listed in the response from Historic Environment Scotland especially, the impacts upon the Ruberslaw Roman signal station and fort.

It is recommended that for the purposes of the Environmental Statements, designated heritage assets and non-designated features of historic, architectural, archaeological or artistic interest on the English side of the Border are identified and made subject to appropriate impact assessments.

Landscape and Visual – viewpoints

It is recommended by the Scottish Ministers that sufficient viewpoints for **each** of the sites, Wauchope East, Wauchope West and Newcastleton Forest, should be selected and agreed following discussion with Scottish Borders Council, Scottish Natural Heritage, the Mountaineering Council of Scotland, the Northumberland National Park, Carlisle City Council, Natural England and respective community councils.

Landscape and Visual Impact Assessment – Visualisations

All visualisations accompanying or forming part of the Landscape and Visual Impact Assessment should comply with the standards set out in Scottish Natural Heritage's guidance document ***Visual Representation of Wind Farms (December 2014).***

Cumulative Impacts

It is recommended by the Scottish Ministers that in addition to those listed in Appendix 2 of the Scoping Report, cumulative impact assessments should include the following:

Birneyknowe Wind Farm;
Windy Edge Wind Farm;
Harwood Wind Farm
Langhope Rig Wind Farm.

It is also recommended that cumulative impact assessments of **each** site, Wauchope East, Wauchope West and Newcastleton Forest, are carried out on the Developments listed and that each site is included in the respective assessments.

Aviation – ATC Radar RAF Spadeadam (Deadwater Fell)

It is recommended by the Scottish Ministers that PfR has discussions with Defence Infrastructure Organisation (Ministry of Defence Safeguarding) to agree a mitigation scheme against the effects of the proposed turbines on the ATC Radar RAF Spadeadam (Deadwater Fell). Discussions at the earliest stage will assist in early resolution being negotiated.

Aviation – low flying zones.

It is recommended by the Scottish Ministers that PfR has discussions with Defence Infrastructure Organisation (Ministry of Defence Safeguarding) regarding low flying zones within or near the proposed Development with a view to resolving any possible conflicts. Discussions at the earliest stage will assist in early resolution being negotiated.

Aviation - unlicensed airfields and Operators

It is recommended that PfR take whatever steps are necessary to identify any unlicensed airfields and operators in the area of the proposed Development who may have an interest in it and thereafter be included in all related consultee lists.

Eskdalemuir nuclear test monitoring facility

It is recommended by the Scottish Minsters that PfR has discussions with the Ministry of Defence in respect of any impacts or embargoes the proposed Development may have in relation to the Eskdalemuir nuclear test monitoring facility.

Forestry and Woodland Removal

All matters related to forestry and woodland removal should make reference to the Scottish Government's Policy on Control of Woodland Removal (http://www.forestry.gov.uk/PDF/fcfc125.pdf/$FILE/fcfc125.pdf)

It is recommended by the Scottish Ministers that, in relation to all Forestry matters and woodland removal, PfR has discussions with Forestry Commission Scotland

Flooding Risk

An assessment of the impact the proposed Development may have on flooding risks to surrounding towns and villages should be undertaken as part of the Environmental Impact Assessment.

South of Scotland/Borders National Park

Although still at an early stage in its development, the South of Scotland/Borders National Park should be fully considered in Environmental Impact Assessments.

The Borders Railway

It is recommended by Scottish Ministers that PfR has discussions with the Campaign for Borders Rail (http://www.campaignforbordersrail.org/) regarding the impact the proposed Development may have on the Borders Railway.

Access and Recreation (Public Rights of Way and Core Paths)

It is recommended by Scottish Ministers that PfR has discussions with Scottish Borders Council, Scottish Natural Heritage, ScotWays and the Mountaineering Council of Scotland to identify all public rights of way and Core Paths that may be impacted by the proposed Development thereby ensuring that subsequent assessments are fully informed.

The 7Stanes Mountain Bike Trail

It is recommended by the Scottish Ministers that PfR has discussions with Rock UK regarding the impacts and mitigation of those impacts that construction of the proposed Development will have on the 7Stanes mountain bike trail which begins in the village of Newcastleton.

Noise

The information required by Scottish Borders Council in relation to Noise assessment as listed in its consultation response, should be noted and included in the Environmental Statement.

Other Issues

It should be noted that to facilitate uploading to the Local & Energy Consents portal the Environmental Statement and its associated documentation, when submitted, should be accompanied with a CD containing the Environmental Statement and its associated documentation divided into appropriately named separate files of sizes no more than 10MB. This will also assist SNH and other consultees.

5. Process Going Forward

It is acknowledged that the Environmental Impact Assessment process is iterative and should inform the final layout and design of proposed Developments. All Applicants are encouraged to engage with officials at the Scottish Government's Local Energy & Consents before proposals reach design freeze. This will afford an opportunity for additional comments to be provided on the final proposals at pre-application stage.

Applicants are reminded that there will be limited opportunity to materially vary the form and content of a proposed Development post submission.

When finalising the Environmental Statement PfR are asked to ensure that a summary in tabular form of where within the Environmental Statement each of the specific matters raised in this Scoping Opinion has been addressed.

6. Consultation

Prior to the Scoping Report being sent out for consultation a list of consultees was agreed by PfR and Local Energy & Consents. For a list of respondents and copies of their responses see Annex A.

All consultation responses received should be considered in full and the Scottish Ministers expect the Environmental Statement to include all matters raised by the consultees.

With regards to those consultees who did not respond, it is assumed that they have no comment to make on the Scoping Report.

ANNEX A CONSULTATION RESPONSES

Ian Aikman
Chief Planning Officer

Please ask for : John Hiscox
[redacted]
Application Ref : 16/00037/SCO
Your Ref :
Date : 3rd March 2016

Stephen McFadden
Senior Case Officer
Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow G2 8LU

Dear Sir

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)(SCOTLAND) REGULATIONS 2000 (AS AMENDED)

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION FOR WAUCHOPE NEWCASTLETON WIND FARM LOCATED AT WAUCHOPE AND NEWCASTLETON FORESTS, SCOTTISH BORDERS.

I refer to your consultation dated 13 January 2016. The following advice constitutes the formal Scoping Response of Scottish Borders Council, who will be a 'relevant authority' consultee in the event of Section 36 Applications being submitted to Scottish Government for determination.

General/Process:

The Scoping Report outlines the development of a potential 90 turbines, generally with a tip height of 132m, in three separate land areas. Three sites that can be identified as individual projects are shown in mapping; each has its own series of accesses, each is within a separate Community Council (parish) area and all three are separated by at least 3.5km from one another. Newcastleton Forest is approximately 13-14km from the Wauchope sites.

The areas are described as Wauchope East, Wauchope West and Newcastleton Forest.

Scottish Borders Council is firmly of the opinion that if any applications are forthcoming, they should be provided on an individual basis for each site. This would mean that for each site, an individual Environmental Statement would need to be provided. Although it is acknowledged that any Environmental Impact Assessment may deal with overlapping matters and be undertaken by consultants who look at the three sites together, for the application process it would only be acceptable to provide analyses of the individual sites in terms of ensuring each is considered on its merits as a potential wind farm, while at the same time assessing what influences each project might have on the others.

It is accepted that for the applicant's purposes it may be necessary to provide material that gives an overview of cumulative issues with individual foci on the sites in turn; but this must not be allowed to form the first basis of any application. If the focus of the EIA is to confirm that the 3 sites are being proposed together as one development, it will not allow an appropriate appraisal of which

components might be acceptable and which might not. For example, if one of the turbine groups may have merit from a planning point of view, but require adjustment that can only be achieved through focussed negotiation and collaboration, to have that site as part of one overall application would mean that the entire application for all three sites would potentially be held up while collaborative work/talks take place, Further Environmental Information is prepared, submitted, advertised and re-considered by consultees. If the project were to be split up into 3 applications it would allow any such periods of transition to occur without having the effect of halting progress in relation to all three sites. Without prejudice, it is plausible that SBC could be satisfied with, and not likely to object to one or more of the 3 turbine groups; however, if one is giving rise to substantial planning concerns that could only be potentially overcome through what may prove to be protracted negotiation, it would be logical to enable the others to continue to a conclusion, whether that be a straightforward 'no objection' or even a straightforward 'objection'.

Given the geographical and physical separation of each site from each of the others, it will be essential that the cumulative environmental effects of each site on the others are appraised and described in adequate detail within the ES. This could only realistically be feasible if the primary focus of any of the three applications is on the individual site.

A further example of how the approach proposed by the applicants may be prejudicial to enabling full and proper consideration of the wind farm proposals is in the approach for selecting viewpoints relating to the Landscape and Visual Assessment (LVIA) and potentially for the equivalent Cultural Heritage LVIA. SBC considers that a range of viewpoints relating primarily to each turbine site/area is essential to enable a thorough understanding of the potential effects. Utilising one set of viewpoints for the overall 3-site proposal would not provide an appropriate focus and would not fully tease out the different scenarios of one, two or three of the developments (plus other development considered as part of the cumulative picture) being introduced. It would also not provide an adequate platform upon which to base appraisals of each development area to enable elements of development to be changed, if required.

SBC does not accept that the three sites constitute one site and would be highly concerned if the applicants are permitted to proceed on the basis of one application with the 3 areas considered as one proposal. This approach would hinder, and prejudice the ability of all interested parties (including consultees) to undertake a full and reasoned assessment of each site in turn. A very basic justification of this opinion is the distance between each area – from 3.5km Wauchope West to Wauchope East; and from 13-14km Wauchope sites to Newcastleton Forest.

Forward Plans Response:

The following advice has been received from the SBC Planning Policy and Access Section:

The new Scottish Borders Local Development Plan (LDP) is about to be adopted, therefore Policy ED9 (Renewable Energy Development) is the relevant policy and D4 of the Scottish Borders Consolidated Local Plan 2011 will be superseded. All other matters would be judged against the relevant policies within the new LDP.

SPP and policy ED9 confirm the role that landscape capacity studies have in giving initial guidance to wind turbine proposals. Ironside Farrar carried out a Landscape Capacity and Cumulative Impact Study in July 2013 which gave guidance to the development of policy ED9. This study is being updated as part of Supplementary Guidance on Wind Energy and the output from the updated study should be noted as the application progresses.

In relation to the two sites in question, these fall within the following Landscape Character Areas, as shown in Figure 3.4 of the Ironside Farrar Study:

Wauchope Forest:
4(iii) Cauldcleuch Head Group

Newcastleton Forest:
5(ii) Wauchope/Newcastleton
22(vi) Liddel Water

Further information on the capacities for these landscape areas can be seen in Table 6.1. The following comments are relevant:

4(iii) Cauldcleuch Head Group	
Turbine Size: Medium (25m-50m), Large (50m-100m) and Very Large (100m+) Group Size: Small, Medium. Separation distances: 3-5km (medium) 5-10km (Large and Very Large)	Within the Cauldcleuch Head Group LCA there are no windfarms or turbines or applications for windfarms or turbines. There are no landscape designations, long distance footpaths, the area is sparsely populated and has a low intervisibility. There is capacity therefore for medium scale turbines as individual turbines or small groups of 3no or less, these should be sited alongside farmsteads and individual properties and be seen as domestic scale energy generation. There is capacity for large and very large turbines in the more elevated upland areas where topographical containment reduces intervisibility. Although not a landscape designation the southern area of this LCA contains a large SSSI and SPA which may impact on potential turbine developments. Consideration must also be given to the setting of Hermitage Castle.
5(ii) Wauchope/Newcastleton	
Turbine Size: Medium (25m-50m), Large (50m-100m) and Very Large (100m+) Group Size: Individual (Medium), small/ medium – Medium (Large and Very Large Turbines) Separation distances: 3-5Km (medium), 5-10Km (Large and very large)	There are no existing windfarms or wind turbines in this landscape and none in application stage. This upland large scale wooded landscape has potential to accommodate the occasional windfarm consisting of medium, large and very large turbines. Small/ medium to medium sized windfarms are suitable in this landscape. This landscape can accommodate turbine developments due to the upland topography creating topographical containment, the sparsely populated landscape with the occasional farmstead being present and the lower degree of intervisibility from settlements, transport routes and viewpoints. Medium sized turbines should be located alongside individual farmsteads. This should not become a landscape with wind turbines, therefore emphasis should be placed on the limited capacity of this landscape. This is due to it's location relatively close to the Northumberland National Park. The Carter Bar/ A68 England Border viewpoint has a much higher local sensitivity with no capacity in the area immediately in the vicinity of this

	iconic viewpoint or in the short to mid range view looking north.
22(vi) Liddel Water	
No Capacity	There are no consented or operational windfarms or turbines in this area and there are no planning applications for windfarms or turbines. Due to the scenic qualities, scale of this landscape allowing long to mid distance views up and down the valley and settlements, farmsteads and dwellings dotted throughout this LCA there is no capacity for medium, large or very large turbines or windfarms.

If any development proposals exceed the indicative figures and capacities stated within the Ironside Farrar Study the onus is on the applicant to submit information which they feel could deem their proposal acceptable.

It is specifically reinforced that the following issues are addressed:

Wauchope Forest

- Safeguarded route of Railway runs through site
- SSSI within eastern boundary of the site. SSSI adjacent to the northern boundary of the site.
- River Tweed SAC
- 1:200 year flood
- Surface water flooding in some places
- Wauchope/Wolflee Garden and Designed Landscape adjoins northern boundary of site
- Stobs Castle Garden and Designed Landscape and Preisthaugh Garden and Designed Landscape to the west of site
- Scheduled Monument (Tamshiel Rig, fort, settlement and field system) within the north eastern part of the site
- Listed Buildings within the site (Whitrope Tunnel, Viaduct & culvert)
- Archaeology
- Rights of Way

Newcastleton Forest

- 1:200 year flood
- Surface water flooding in some places
- Constraints for both sites
- Listed Buildings adjacent to site
- Archaeology within site
- Rights of Way through the site

Particular care must be given in respect of the impacts upon the Carter Bar and views from it. Other scenic viewpoints which should be considered are those identified in Appendix D of the Wind Energy SPG 2011 at Rubers Law, Carby Hill, Blackburn and Larriston Fell. Please note the Grid Reference for Blackburn is incorrect within Appendix D and should read NY473883.

The Applicant should make contact with the Ministry of Defence in respect of any impacts or embargoes the proposals may have in relation to Eskdalemuir.

Road Safety:

The following is based substantially on the advice received from the SBC Roads Planning Service. It has been adapted only to ensure it is delivered in an appropriate form:

Whilst there are no objections to the principle of a wind farm at these locations, there are some concerns regarding the surrounding road network. Although unable to comment fully at this stage due to lack of information, should a formal application be forthcoming the following matters must be addressed through the submission:

1. The proposed access route whilst not having any weight restrictions, and being a recognised timber haulage route, does cause some concern due to the geometry and condition of some existing structures. These would all need to be assessed against the proposed loadings to confirm suitability in terms of strength. In terms of geometry, swept path analysis will be required to ensure that the anticipated vehicles can manoeuvre past/over the structures.
2. The access routes have some areas where the geometry may not be satisfactory for the anticipated abnormal loads. Again, swept path analysis of areas of concern must be carried out and all mitigating works identified.
3. The number of anticipated vehicles must be confirmed to enable consideration of whether the surrounding road network can cater for these. The abnormal loads are catered for in comments 1 and 2, however careful thought will also be required when considering the general construction traffic and HGVs. The level of these required for such a number of turbines could be vast and, unless stone is being won on site, and possible concrete batching on site, the level of HGV's required may be unsuitable for the surrounding roads.
4. All mitigating works, where required, must be carried out to an agreed timescale and these may require planning permission in their own right, depending on the exact extent of the works.
5. A Transport Assessment covering all aspects of the traffic associated with the proposed development will also be required.
6. Any eventual consent should be subject to a Section 96 Agreement (Roads (Scotland) Act 1984) in respect of extraordinary expenses in repairing roads damaged by heavy vehicles.

Given the level and scale of this proposal, it is recommended that the applicant engages in discussions regarding the access routes at an early stage as an alternative access route, if required, may deem the project unviable.

Cultural Heritage:

The following is based substantially on the advice received from the SBC Archaeology Officer. It has been adapted only to ensure it is delivered in an appropriate form:

It is confirmed that there are potentially significant implications for the proposal that will require a full assessment as part of an EIA. There are areas of archaeological potential within the proposed wind farm boundary where direct impacts are possible and will require mitigation. However, the primary, and potentially most significant, impacts will be indirect to the settings of designated and undesignated heritage assets in the wider area around the proposal. The scoping request specifies a cultural heritage impact assessment will take place as part of the EIA that will analyse potential direct and indirect impacts.

Policies:

Archaeological constraints on development are governed by national and local policies and reference to these should be made in any Environmental Assessment. The Scottish Government's policies governing planning and the historic environment include *Planning Advice Note (PAN) 2 (2011)*, *Scottish Historic Environment Policy (SHEP)* and *Scottish Planning Policy (SPP)*. These sit alongside the *Managing Change in the Historic Environment Guidance Notes* series published by Historic Scotland. Scottish Borders Council's policies on archaeology constraints and mitigation are dealt with through Local Plan policy EP8.

Potential Impacts: A6

The Scoping Report provides a baseline assessment of Cultural Heritage. This assessment does not adequately address the range of potential impacts and should not be used as the baseline for the EIA. A much more rigorous understanding of the known resource, designated an undesignated, is required as the baseline and this will require professional archaeological desk based assessment backed by detailed field survey of proposed infrastructure. While the Environmental Issues Checklist does highlight the potential impacts to the Historic Environment, there is concern that both this and the Scoping Report section on the Historic Environment have been written without a full understanding of the most likely heritage issues, or indeed the policy environment that governs the assessment of these. In particular the issue of setting impacts to designated and undesignated archaeological assets is absent from the Issues Table and not explicit in the main body of the Scoping Report. Furthermore, the baseline assessment has only examined designated assets without due regard to the majority of assets that are undesignated. This is implied in the Issues Table but is again not explicit. The Historic Environment maps are substantially incomplete and do not include undesignated heritage. At this stage the proposed baseline or scope of the Historic Environment Assessment is not recommended.

The Baseline provided in the Historic Environment section (5.2) of the scoping report lists several of the 'most significant assets that may be affected', though no rationale is given for why this is the case. It is agreed that the assets listed have the potential for significant impacts to their settings. However, on an initial assessment of our HER it is noted that there are a number of further Scheduled and undesignated assets within the ZTV at under 5km-10km of the proposal boundary (on the Scottish Borders side, consideration should be given to assets in England as well) where significant effect may occur. These include, but are not limited to:

- Wheel Village
- Dykehead Homestead Moat
- The Wheel Causeway and Westshiels Spur
- Dykeraw Tower
- Southdean Law fort
- Slacks Tower
- Steelknowe settlement
- Martinlee Sike settlement
- Shaw Craigs settlement
- Highlee Hill settlement (undesignated)

Key iconic heritage receptors have also not been included including Rubers Law and Hermitage Castle, though this site was identified as an issue elsewhere in the Scoping Report.

Recommended Assessment:

The Historic Environment section of the EIA study is best conducted by a trained archaeologist working to the standards and guidance of the Chartered Institute for Archaeologists (CIfA). The recommended method for this to first produce a thorough desk-based assessment of data from the Council's HER, the National Monument Record for Scotland, the Scheduled Ancient Monument Inventory, aerial photos, historic maps and any relevant datasets that could aid our understanding of the archaeological potential for the site and the surrounding landscape. The desk based assessment will allow for a full understanding of known issues and should be used to inform a field survey of all proposed wind farm infrastructure. The will be included in the EIA and inform a gazetteer of sites including photographs where appropriate. The compilation of these sources will form the baseline data for later assessments and mitigation proposals. The desk-based assessment should examine the potential for direct and indirect impacts on heritage assets both within the proposed development site and in the surrounding area to an extent of at least 10 kilometres (though there may be assets beyond this). The subsequent report should include:

- an interpretive assessment, by prehistoric and historic period, on the existing archaeological and structural heritage assets within the development boundary

- an assessment on the potential for encountering previously unknown heritage assets

- interpretive statements on relative importance of heritage assets within the site boundary at the local, regional and national levels

- The assessment of setting impacts to Scheduled and, where appropriate, undesignated assets.

    - A list of visualisations where the ZTV indicates impacts should be agreed with the Council and Historic Environment Scotland prior to any assessment. These will include cumulative effect wirelines from all potentially effected assets, and cumulative effect photomontages from key assets. The visualisations will show numbered turbines and label any intervisible Scheduled assets within the view. Photographs should be taken from a location where an asset is best understood, appreciated and experienced. This may not be from within the asset itself.

- an assessment of potential effects on historic or cultural landscapes.

- A full assessment of all potential cumulative impacts with existing and proposed wind energy schemes in the likely area of greatest impact

The Historic Environment chapter should suggest mitigation strategies for the prevention or limitation of adverse impacts to archaeological sites, cultural landscapes and their settings. In addition to the cultural heritage chapter in the EIA, the following should be supplied to allow the Archaeology Service of the Planning Authority to assess the findings:

- a GIS shapefile corresponding to the final gazetteer sites in the development boundary following the field survey

- photos and plans of heritage assets (if produced) within the development boundary for inclusion in the HER

These must be supplied in digital formats.

Other assessments that may be used to inform the EIA statement can include:

- a geophysical survey of known or suspects heritage assets

- an earthwork, or topographic, survey of known or suspected heritage assets that might be directly impacted by development

- a LIDAR scan or infrared/multispectral image of the development area which may be useful in identifying heritage assets as well as inform other environmental issues in the EIA

Mitigation:

Where possible, archaeology should be avoided altogether and preserved *in situ*. A marked buffer around known archaeological sites, and agreed to by the applicant and the Archaeology Officer, would accomplish this. Where it is not possible to preserve the archaeology *in situ*, a less favourable mitigation is ‘preservation by record’; that is to excavate record and publish archaeological features. Where there is evidence that previously unknown archaeology will be uncovered during the course of ground disturbance, the preferred mitigation strategy is either a Watching Brief during which an archaeologist will monitor ground disturbance, record archaeology should it be discovered and

possibly request the expansion of excavation in order to fully assess buried features or finds; geophysical survey and/or an evaluation by trial excavation in which archaeologists extend trenches across the development area to assess the absence, presence and quality of buried archaeology.

There may also be potential for off-setting impacts to setting through the increasing of appreciation, experience and understanding of key assets.

Biodiversity and Habitat (Ecology and Ornithology):

The following is based substantially on the advice received from the SBC Ecology Officer.

Key Issues:

Given the nature of the site and proposed development, based on the information submitted to date, the key ecological impacts are likely to be in relation to the potential impacts on the River Tweed SAC, Langholm-Newcastleton Hills SPA, the adjacent Kielderhead Moors SSSI; impacts on schedule 1 birds and priority habitats (blanket bog and upland heath) including hydrological impacts on peat.

Scoping Report: Ecology and Ornithology:

The site lies within an area identified as significant constraint and higher moderate constraint, with smaller areas of lower moderate constraint and minor constraint in the Council's spatial strategy for wind energy contained within the Supplementary Planning Guidance for Wind Energy http://www.scotborders.gov.uk/directory_record/7454/wind_energy

The Council's adopted Local Plan policies *NE1 International Nature Conservation Sites, Policy NE2 National Nature Conservation Sites* and *NE3 Local Biodiversity* apply and Local Development Plan Policies EP1 *International Nature Conservation Sites and Protected Species*, EP2 *National Nature Conservation Sites and Protected Species* and EP3 *Local Biodiversity* will apply.

Designated sites:

The Wauchope Forest site lies in part within the catchment of the River Tweed and there is potential connectivity with the River Tweed SAC (drainage via Black burn to Jed water , Hyndlee burn, Lurgies burn and Wauchope burn to Rule water). Assessment of impacts on the River Tweed SAC should be included in the Ecology chapter.

There is potential connectivity with the Langholm-Newcastleton Hills SPA. An assessment of impacts on this SPA should be included in the Ornithology chapter. NB - The Scoping responses of SNH and SEPA had not been observed at the time of writing of the Ecology Officer's response.

Habitats and Protected Species:

Guidance on the Council's requirements is given in the Supplementary Planning Guidance for biodiversity http://www.scotborders.gov.uk/life/planningandbuilding/plansandresearch/6003.html
The Council's requirements are set out in Sections 4.1 Environmental Impact assessment, 4.2 Ecological Impact Assessment and for species and habitats in Sections 4, 5 and 6 of the SPG.

It is noted that the Ecology and Ornithology section of the scoping report submitted suggests that a comprehensive ecological impact assessment is being undertaken. For the avoidance of doubt, the EcIA should include the following:

The Ecological Impact Assessment under the Environmental Impact Assessment (EIA) should include an Extended Phase 1 habitat survey and NVC surveys of any Priority BAP habitats present as appropriate, and include NVC and assessment of impacts on of groundwater dependent terrestrial ecosystems (GWDTEs). An assessment of impacts will also be required for European Protected

Species (otter, bats and great crested newt[i]), badger, red squirrel, water vole and breeding (including black grouse) and wintering birds[ii]. Other species interest may include reptiles, amphibians and terrestrial and aquatic invertebrates. Any sensitive information regarding protected species should be included in a confidential annex.

The extended Phase 1 habitat survey should be carried out within the development boundary and within a 500m buffer area around the development boundary.

Assessment of impacts on GWDTEs should be included in the Ecology chapter.

Cumulative effects on birds should be considered with regard to wind farm proposals within 20km including Windy Edge and Birneyknowe applications (the former currently at appeal; the latter currently the subject of a Section 36 Application) and Highlee Hill (Scoping – and likely to be submitted imminently).

Further guidance on the assessment of cumulative effects on birds is published by SNH[iii]

A full report of the Borders Notable Species and Habitats of Conservation Concern should be obtained from The Wildlife Information Centre , Vogrie Country Park, Midlothian http://www.wildlifeinformation.co.uk/ (tel: 01875-825968 mailto:info@wildlifeinformation.co.uk). Where appropriate, additional survey information and impact assessment will be required for relevant Borders Notable Species and Habitats of Conservation Concern. Information relating to the Scottish Borders Local Biodiversity Action Plan and Habitat Action Plans therein can be found at http://www.scotborders.gov.uk/life/environment/naturalheritage/2711.html and http://www.scotborders.gov.uk/life/environment/naturalheritage/2715.html

The Environmental Impact Assessment should also include information on:

• habitat corridors and links to local habitat network
• significance of ecological impacts
• avoidance, mitigation and compensation proposed
• residual significance of ecological impacts
• method statement to include details of how avoidance, mitigation and compensation are to be implemented and the long-term management of habitats and species created, enhanced or protected.

Impacts on the water environment, notably, Black burn, Hyndlee burn, Lurgies burn and Wauchope burn (all part of the River Tweed SAC) Kershope burn and other unnamed burns should be assessed within the EIA. This should also take into account the drift and solid geology and any hydrological impacts that may arise. The proposal site lies within the catchment of the River Tweed SAC.

Loss of forestry should be compensated for in accordance with the Scottish Government's Control of woodland removal policy and the Scottish Borders Woodland Strategy. There are opportunities to deliver multiple benefits for biodiversity, natural flood management and water quality improvements through an appropriate woodland compensation scheme.

Soil types: peat soils are found across large parts of the site including Peat, Peaty podzols and Peaty gleys, there are areas of Brown Forest soils and non-calcareous gleys[iv]

Further advice on statutory protected species and habitats issues will be available from SNH. It is also recommended that Lothian and Borders Raptor Study group are consulted by the applicant for records of Schedule 1 raptors. Any sensitive information on protected species should be contained within a confidential annex. The site lies within the traditional home range of a significant species of Schedule 1 raptor which should be considered in the EIA.

The site includes areas identified as high sensitivity and significant areas of moderate sensitivity in the RSPB/SNH Bird Sensitivity Map[v].

The preliminary results of the South-east Scotland Bird Atlas http://www.the-soc.org.uk/se-atlas/ indicate that curlew, oystercatcher and snipe are recorded in the breeding season

Habitat Management Plan:

Adopting CIEEM guidance[vi], the developers should incorporate measures that are required to deliver ecological enhancements as well as measures to avoid, reduce or compensate for negative ecological impacts. There are opportunities to enhance the local habitat network including the heathland, acid grassland woodland and wetland habitat network (SNH Integrated Habitat Network) http://www.snh.gov.uk/land-and-sea/managing-the-land/spatial-ecology/habitat-networks-and-csgn/map-viewer/

Further guidance on the requirements of Environment Impact Assessment is provided by SNH[vii]

Landscape and Visual:

The following is based substantially on the advice received from the SBC Landscape Architect:

The general approach is appropriate and acceptable. The following more specific comments are applicable:

1 From initial site and desk appraisal, it is clear that, at least in landscape and visual terms, this is not one site but three. Each of the proposed turbine arrays at Newcastleton, Wauchope West and Wauchope East are substantial developments in their own right and are located in different places each with their own character and impacts. To a member of the public, each array would appear to be a separate windfarm. Each site has its own zone of theoretical visibility and landscape and visual effects and assessment will need to look at each site independently as the separation distance precludes them being seen or considered as one entity. In addition, any combined landscape and visual effects of the three arrays ought to be considered in terms of their cumulative impacts with each other as well as other neighbouring developments, some of which are located closer to part of this proposal than these arrays are to each other (e.g. Wauchope East and Highlee Hill).

2 The methodology for the Landscape and Visual Impact Assessment (LVIA) should be as set out in the 'Guidelines for Landscape and Visual Impact Assessment', 3rd edition and current SNH guidance.

3 The applicant's attention is also drawn to SBC guidance for Landscape and Visual Impact Assessment dated October 2011 http://www.scotborders.gov.uk/downloads/file/1800/landscape_and_visual_impact_assessment This sets out some basic requirements for scale and presentation of Zone of Theoretical Visibility (ZTV) mapping. This information forms the basis for consideration of proposed viewpoint locations. N.B. As compliant ZTV mapping has not yet been provided, it is not possible to confirm the proposed draft viewpoint positions indicated in Figures 7 and 8 of the Scoping report.

4 An additional landscape and visual factor associated with this application will be the effects of the development on surrounding forest. Felling associated with the development creates additional effects which need to be taken into account as part of the LVIA.

5 Attention is also drawn to the Scottish Government 'Control of Woodland Removal' policy http://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/woodland-expansion/control-of-woodland-removal This requires compensatory planting to be provided to compensate for areas that are permanently deforested as part of the works. Whilst it is accepted that forest removal is intended to be limited through 'keyholing', the total areas for the whole development could nevertheless be substantial. The ES should fully specify the applicant's intentions for compensatory planting including identifying any sites for compensation planting which might lie outwith the site boundary.

Full approval of the Scoping Report cannot be given until item 3 above is addressed. A11

Note from Author: it is recognised that the 5th item listed in the response of the SBC Landscape Architect is not limited to being landscape and visual matters. However, as it is raised by the Landscape Architect it is considered most appropriate to leave this advice in this section of the SBC Scoping Response. It is noted that this overlaps with subject matter described by the SBC Ecology Officer, but as the remits of both officers giving advice in this regard differ the Applicant will need to ensure that matters of forestry removal/compensation etc. are relevantly appraised in both contexts.

Flood Risk:

This section of the response is based largely on the material provided by the SBC Flood Risk Officer.

In terms of information that this Council has concerning flood risk to this site The Indicative River & Coastal Flood Map (Scotland) known as the "third generation flood mapping" prepared by SEPA indicates that the site may be at risk from a flood event with a return period of 1 in 200 years. That is the 0.5% annual risk of a flood occurring in any one year.

The Indicative River & Coastal Flood Map (Scotland) has primarily been developed to provide a strategic national overview of flood risk in Scotland. Whilst all reasonable effort has been made to ensure that the flood map is accurate for its intended purpose, no warranty is given.

Due to copyright restrictions the map cannot be copied; however, if the applicant wishes to inspect the maps they can contact the SBC Flood Risk Officer to arrange to view them.

Although the Flood Risk Officer would prefer the development to come forward in two separate parts, this does not change the overall message of the specific consultation response.

At present due to the minimal flood risk at the site, the position would be that the Flood Risk Officer would have no major objection to this proposal in terms of flood risk.

The consultee would require the following to be adhered to:

- The formation of any newly formed hard surfaces such as access roads should be attenuated to at least existing Greenfield runoff rates so that there is no increased effect on downstream receptors. Likewise, any discharges from SUDS and other drainage should be kept to existing Greenfield runoff rates.

- If there are to be any culverts, watercourse crossings or alterations to crossings, these must not reduce the flow conveyance of the watercourse.

- Details of the silt traps and any other functions that the applicant proposes to minimise the amount of sediment entering the water course should be submitted.

It is expected that SEPA would require that there is a buffer zone between the watercourse and any turbines.

The information contained within the Flood Risk Officer's advice must be taken in the context of material that the Council holds in fulfilling its duties under the Flood Risk Management (Scotland) Act 2009.

Access & Recreation (Public Paths):

This section of the SBC Scoping Response is based largely on the specialised advice of the SBC Senior Countryside Ranger (Access and Countryside Team).

General Access Rights:

The Land Reform (Scotland) Act 2003 (LRA) introduced a right of responsible public access to most areas of land and inland water in Scotland. Scottish Borders Council (SBC) has a statutory duty to uphold these rights on paths, tracks and areas of open ground. There are, of course, certain exceptions where access rights are not exercisable. In addition, s.3 and 14 introduced a reciprocal obligation for land managers to manage land and water responsibly for access. A brief outline of land managers' responsibilities includes;

1. Respect access rights in managing your land or water;
2. Act reasonably when asking people to avoid land management operations;
3. Work with your local authority and other bodies to help integrate access and land management; and
4. Take account of access rights if you manage contiguous land or water.

Scottish Planning Policy 11: Open Space & Physical Activity states; "Access rights and core paths plans are material considerations in determining applications for planning permission. Access authorities have a duty to uphold access rights over most land and inland water, not just on paths. Planning authorities should consider attaching appropriate conditions to ensure continuing public access. New development should incorporate new and enhanced access opportunities where appropriate".

Scottish Borders Local Plan (2008), Policy Inf2: Protection of Access Routes, stipulates "when determining planning applications or preparing development briefs…the council will seek to uphold access rights by protecting existing access routes including statutorily designated long distance routes, rights of way, walking paths, cycle ways, equestrian routes….and in due course, core paths".

With this, public access must be addressed by the EIA that forms the Environmental Statement of any successful planning application.

Path Planning Study:

A Path Planning Study may address this need. The study should be commissioned within the title deed extent of the landowner affected. A detailed plan of public access (pedestrian, cycle, horse, all ability routes), across and outwith the site, (existing, during construction and upon completion) should be provided by the developer for the consideration of the Planning Authority. This should show:

1. All existing paths, tracks and any areas currently out with or excluded from statutory access rights;
2. Any areas proposed for exclusion from statutory access rights, for reasons of privacy, disturbance or curtilage, in relation to proposed buildings or structures;
3. All paths and tracks proposed for construction or used for site traffic, for use by walkers, cyclists, horse, all-abilities users, etc.
4. Any diversions of paths - temporary or permanent - proposed for the purposes of the development;
5. Improvements which the developer will implement in terms of:
    a. Provision of high-quality public access routes within the proposed development site;
    b. Provision of high-quality public access routes linking the site with the wider access network of paths and tracks;
    c. Provision of additional path furniture required in terms of signage and interpretation.

Public Rights of Way/ Core Paths:

Newcastleton Forest and Wauchope Forest (west):

According to the records held by Scottish Borders Council, there are no claimed rights of way or core paths within these core turbine development areas, however there are a number of paths within the site boundary and others close by from which the turbines will be clearly visible, as shown on maps 1 and 2 below.

Wauchope Forest (east):

According to the records held by Scottish Borders Council, there are 4 claimed rights of way within the core turbine development area:

Rights of Way Code	**Start** (Approx. Grid Ref)	**Finish** (Approx. Grid Ref)	**Length**
BR143 (Wheel Causeway)	Cleuch Head (NT 593101)	Deadwater (NY 607966)	14.5km
BR145	Southdean (NT 626095)	BR143 (near Wheelrig Head) (NT 613023)	8.3km
BR147	A6088 road (NT 657079)	The Border at Knox Knowe (NT 655028)	5.4km
BR148	A6088 road (NT 666077)	The Border at Carter Fell (NT 671034)	3.2km

There are a number of other rights of way within the site boundary and others close by from which the turbines will be clearly visible, as shown on map 3 below.

Please note that Scottish Borders Council does not have a definitive record of every claimed right of way within its area. The Scottish Rights of Way and Access Society, community councils and local residents may have evidence of existence of claimed rights of way that have not yet been recorded by SBC.

Proximity to recreational routes:

Wind turbines should be set back at a reasonable distance from the rights of way and other potential recreational routes. PAN 45 outlines a setback from roads and railways of at least the height of the turbine. Organisations such as the British Horse Society underline the importance of this distance of setback on rights of way to maintain safe access for horses and riders.

Use of Access Tracks:

Over and above rights of way, the LRA provides for a right of responsible access to this area. Tracks to accommodate construction or service vehicles should, therefore, be available for all types of non-motorised recreational users (pedestrians, equestrians and cyclists) after construction is complete. The legislation, of course, excludes land under construction as 'building, civil engineering or demolition works'. Therefore, where any access tracks pass through or nearby the development area, it may be useful to provide boards on site detailing development information and information on routes that are accessible and those routes that are temporarily closed due to development. This would assist safe management of the site.

Further advice on the Land Reform (Scotland) Act 2003 and the Scottish Outdoor Access Code is available from www.outdooraccess-scotland.com or by contacting one of the Outdoor Access Team (Tel: 01835 825060 email: outdooraccess@scotborders.gov.uk)

NB: – Three separate maps attached to this document identify components of the path network, as provided by the Senior Countryside Ranger. A14

Noise:

The advice of SBC relating to noise matters as described within the Scoping Report will be forwarded under separate cover. This is as agreed with the Energy Consents and Deployment Unit; the delay has resulted from an administrative error during the internal consultation process at SBC. It is anticipated that a response relating to noise matters will be submitted on or before 9th March 2016.

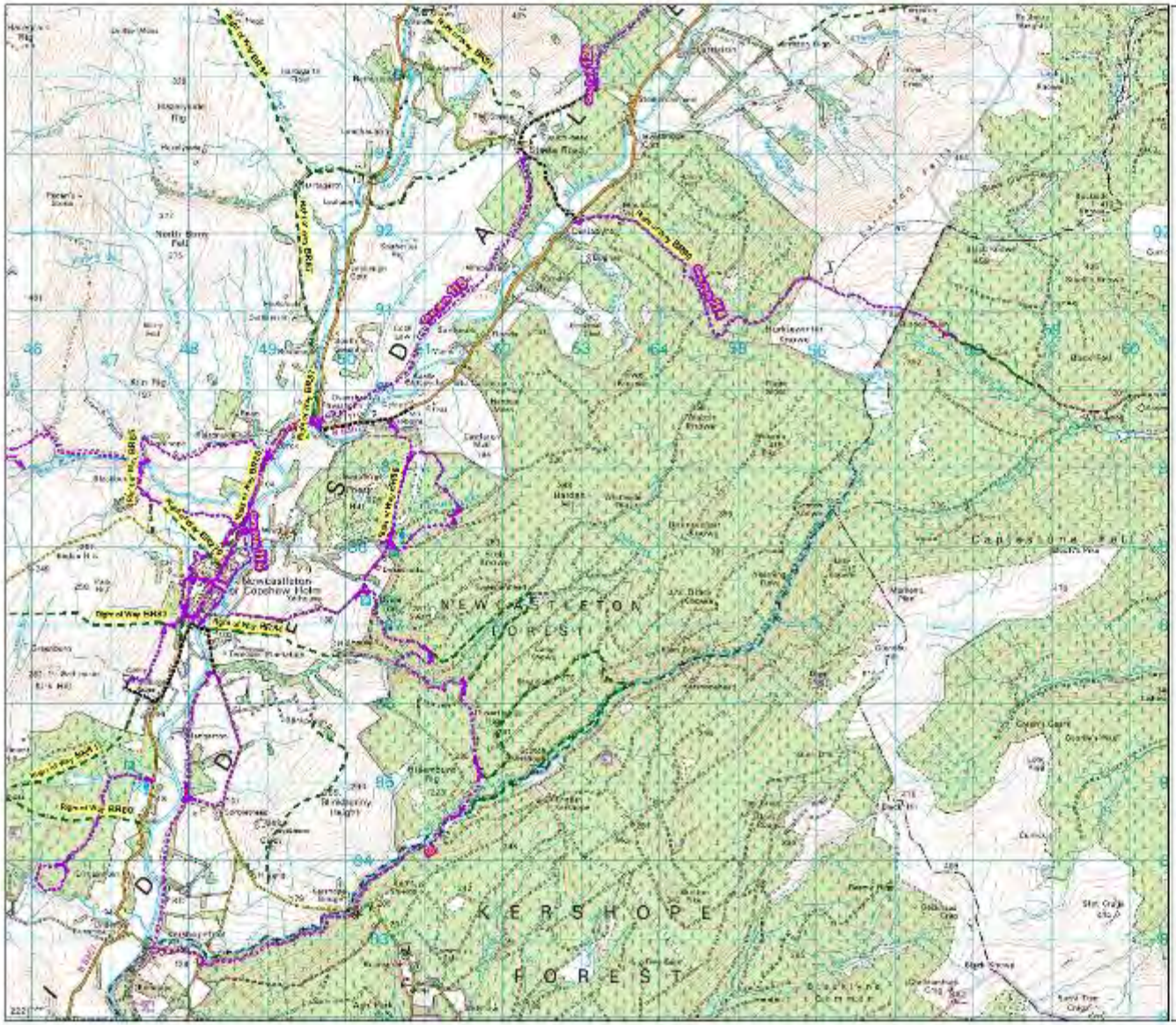
Other Matters:

The following points should be noted:

- there are no Areas of Great Landscape Value within Scottish Borders. The Applicant should refer to the designation of Special Landscape Areas (SLAs) within Borders when making assessment of landscape impacts
- it is strongly advised that in the residential visual amenity assessment, all properties situated within 2km of a turbine should benefit not only from wirelines to enable assessment of visual impacts, but also photomontages for each individual property (or in some cases groups of properties)
- all cumulative assessments must make reference to schemes that have been the subject of Scoping Opinion requests to the planning authority
- the list of cumulative developments is out of date and includes a range of minor projects irrelevant to consideration of this scheme; the cumulative list should include all proposals for turbines of 50m height or above; Scoping schemes should not be included where they have been superseded by applications; anemometry masts should not be included;
- infrastructure and buildings should appear, where appropriate and relevant, in the photomontages forming part of the LVIA

Yours faithfully

John Hiscox
Planning Officer



Scottish Borders COUNCIL

16/00037/SCO

Map 1.
Newcastleton Forest

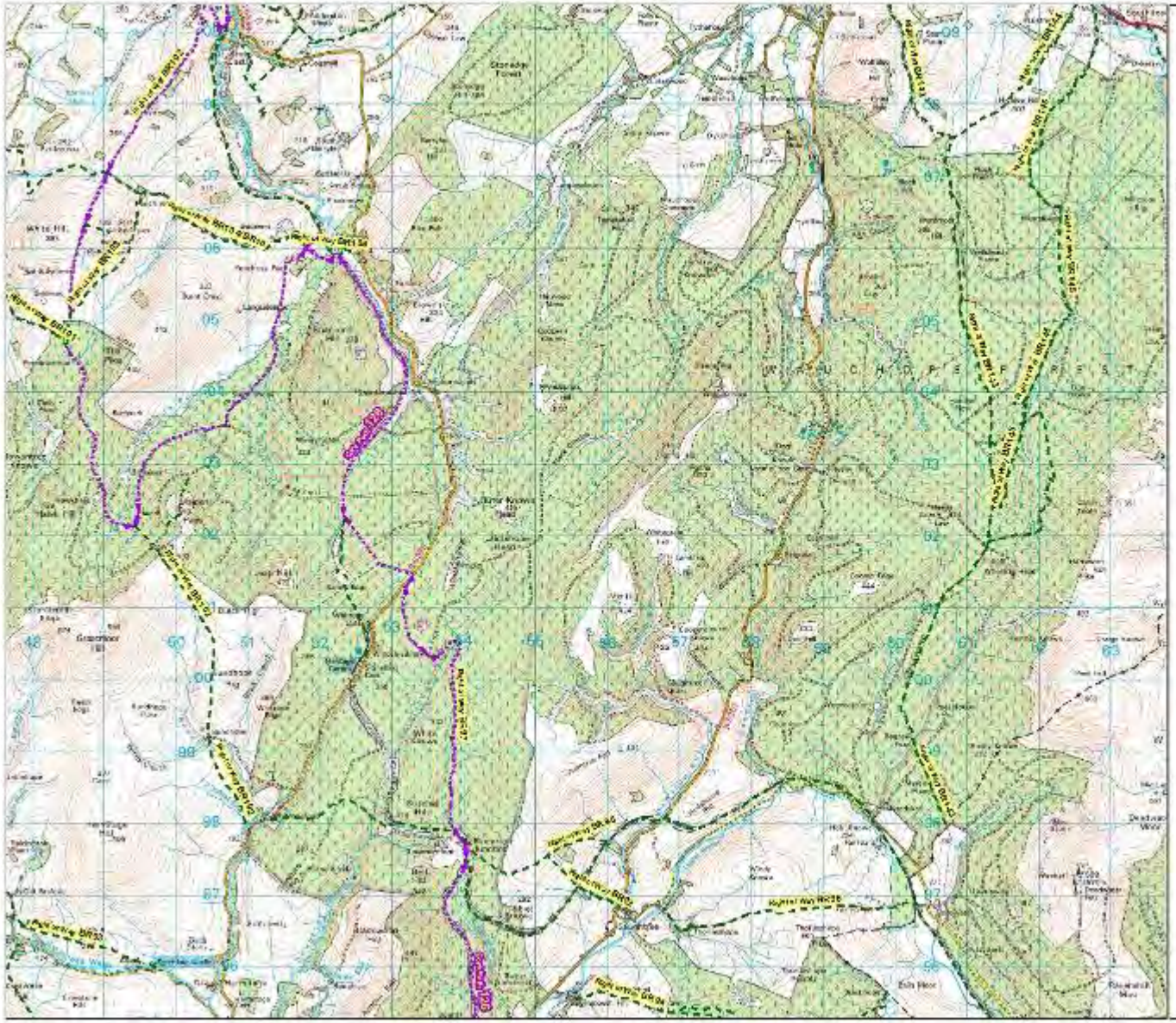
Legend

- Managed Path (Local Community)
- Managed Path SBC (Core Path, Promoted Route, Aspirational Core Path)
- Other (Right of Way, Permissive/ Customary Path, Longer-term Aspirational Path)
- Path Link on SBC Adopted Road(No Pavement) (Core Path Link and Promoted routes)

Scale: 1:45,000

This map has been prepared by the Countryside Access Ranger Service of Scottish Borders Council

For further details contact:
outdooraccess@scotborders.gov.uk
01835 826509



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Map 2.
Wauchope Forest (west)

Legend

- Managed Path (Local Community)
- Managed Path SBC (Core Path, Promoted Route; Aspirational Core Path)
- Other (Right of Way; Permissive/ Customary Path; Longer term Aspirational Path)
- Path Link on SBC Adopted Road(No Pavement) (Core Path Link and Promoted routes)

Scale: 1:49,000

This map has been prepared by the Countryside Access Ranger Service of Scottish Borders Council.

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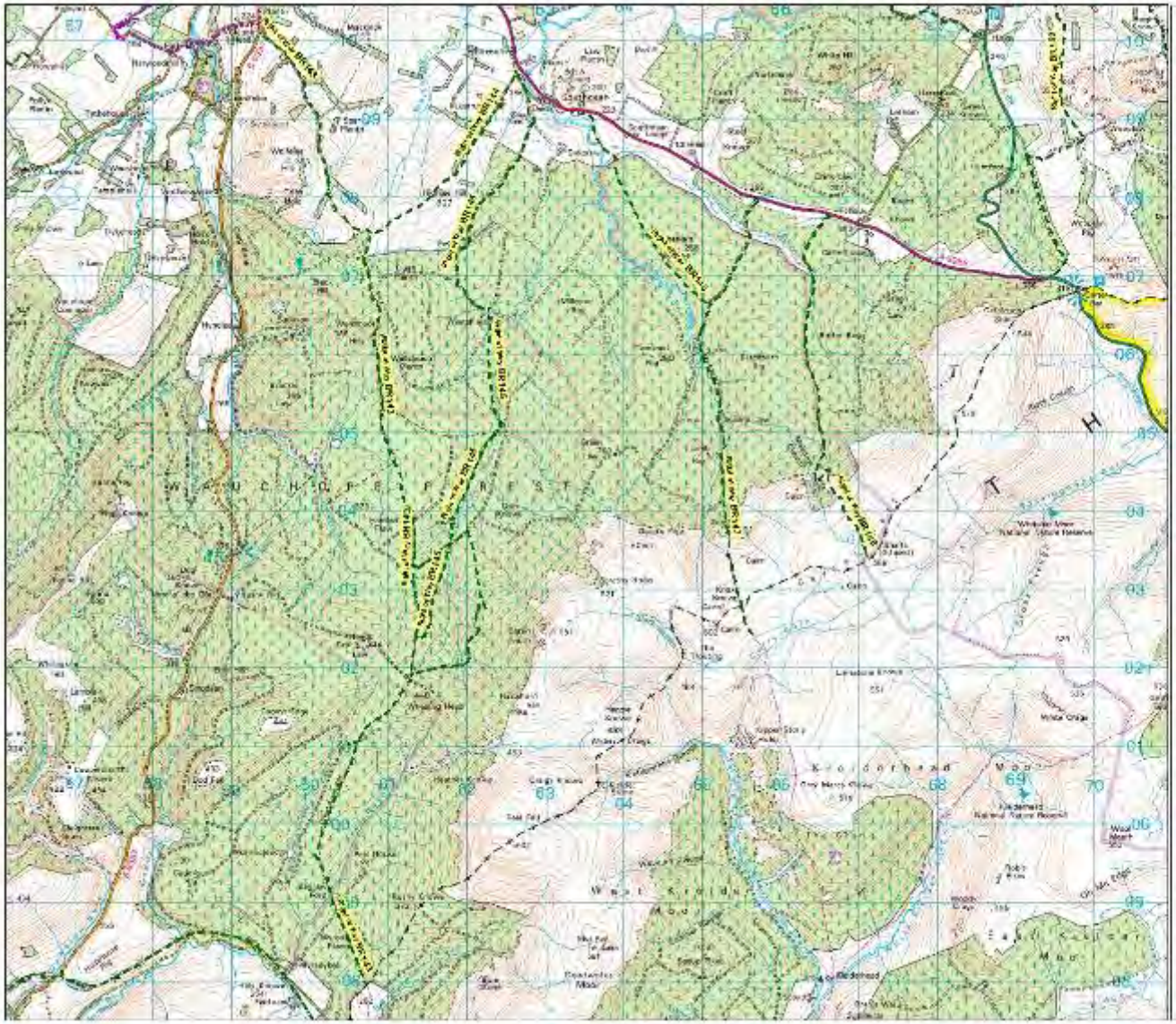
01835 826509



Scottish Borders COUNCIL

16/00037/SCO

Map 3.
Wauchope Forest (east)

Legend

- Managed Path (Local Community)
- Managed Path SBC (Core Path, Promoted Route; Aspirational Core Path)
- Other (Right of Way, Permissive/ Customary Path; Longer-term Aspirational Path)
- Path Link on SBC Adopted Road(No Pavement) (Core Path Link and Promoted routes)

Scale: 1:45,000

This map has been prepared by the Countryside Access Ranger Service of Scottish Borders Council.

For further details contact outdooraccess@scotborders.gov.uk 01835 826509

[i] Impacts on bats should be assessed in accordance with Hundt L (2012*) Bat Surveys: Good Practice Guidelines*, 2nd edition, Bat Conservation Trust (3rd Edition of guidance refers to 2nd ed for wind farm assessment)
[ii] *Recommended bird survey methods to inform impact assessment of onshore wind farms* SNH (2014).
[iii] *Assessing the cumulative impacts of onshore wind energy developments* SNH (2012) http://www.snh.gov.uk/docs/A675503.pdf
[iv] Soil Maps (1:25,000) Macaulay Maps, James Hutton Institute
[v] Bird Sensitivity Map to provide locational guidance for onshore wind farms in Scotland. J. A. Bright, R. H. W. Langston, R. Bullman, R. J. Evans, S. Gardner, J. Pearce-Higgins & E. Wilson. RSPB and SNH 2006.
[vi] *Guidelines for Ecological Impact Assessment in the United Kingdom*. IEEM 2006* 2nd Edition published in January 2016.
[vii] *A Handbook on Environmental Impact Assessment. Guidance for Competent Authorities, Consultees and others involved in the EIA process in Scotland.* SNH 2009.

Scottish Borders Council

Regulatory Services – Consultation reply

Planning Ref	**16/00037/SCO**
Uniform Ref	**16/00302/PLANCO**
Proposal	**Development comprising of 20 turbines at Newcastleton Forest, 50 turbines East & 20 turbines West of Wauchope Forest, formation of access track and associated ancillary works**
Address	**Wauchope Forest East And West And Newcastleton Forest Newcastleton Scottish Borders**
Date	**7/3/16**
Amenity and Pollution Officer	**David A. Brown**
Contaminated Land Officer	

Amenity and Pollution

Assessment of Application

Noise

The applicant intends to install up to 20 turbines at Newcastleton Forest and up to 70 turbines at Wauchope Forest together with various ancillary works and developments.

Sections 5.7 & 6.8 of the Environmental Impact Assessment Scoping Report, dated December 2015, outline the Developer's approach to noise assessment. The final Application, when made will in addition require the undernoted information.

1. Turbine co-ordinates.
2. Receptor co-ordinates and distances to receptors.
3. Turbine sound power levels utilised in the noise predictions including use of octave band data and uncertainty should be clearly highlighted.
4. The turbine model to be used for the assessment.
5. Reference to the Institute of Acoustics *Good Practice Guide on the application of ETSU-R-97*
6. Noise model input parameters.
7. A table of turbine noise immissions (at noise sensitive premises) at integer wind speeds.
8. A table of cumulative noise, and the methodology used to carry out the predictions
9. An explanation should also be regarding the financially involved properties, stating what involvement they have in this proposed development.

If the applicant has any questions please contact the above Officer in Environmental Health

If the applicant intends to carry out a background survey please contact me to agree a methodology before the commencement of monitoring.

The applicant should be aware that SBC will look to impose limits at the lower end of the ETSU limits.

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

Stephen McFadden
Senior Case Officer
Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

By Email: econsentsadmin@scotland.gsi.gov.uk

Our ref: A1869267
24 February 2016

Dear Mr McFadden

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000 (AS AMENDED)

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION FOR WAUCHOPE NEWCASTLETON WIND FARM LOCATED AT WAUCHOPE AND NEWCASTLETON FORESTS, SCOTTISH BORDERS.

Thank you for your request for our scoping opinion. We have previously provided pre-application advice to the applicant.

1. Summary

We advise development of this size and scale could be possible in Wauchope and Newcastleton Forests, however considerable mitigation and design will be required to avoid impacts on the natural heritage. If the proposal was to remain as presented in the scoping document, it could result in impacts on the natural heritage of national importance. If this is the case we may object to this proposal. We are happy to further engage in the design process to help advise on mitigation and design issues to reduce impacts on the natural heritage.

The proposal is for 90 turbines up to 132 metres to blade tip height separated into three discrete clusters of turbines. We advise that the environmental impacts of each cluster are assessed separately, in pairs and cumulatively as one. This should apply to all assessments on natural heritage interests.

a. Landscape and Visual Impact Assessment

Careful siting and design will be required in order to allow this large and complex proposal to be successfully accommodated into the landscape. We advise that 132 metres is likely to be the maximum height of turbine that the landscape is able to accommodate.

We advise that further consultations with key stakeholders will be required throughout the design iteration process.

Further advice is provided in section 2 below.

b. Protected Areas and Ecology

The Kielderhead Moors: Carter Fell to Peel Fell Site of Special Scientific Interest (SSSI) is within the site boundary and located immediately adjacent to the proposed cluster of 50 turbines in Wauchope Forest. The SSSI is notified as it contains natural heritage interests of national importance, including breeding birds and upland habitats. Based on the information received to date, the proposal could result in adverse effects on the site's integrity. If these cannot be overcome through siting, design or other mitigation **we may object to this proposal**.

Borders Woods Special Area of Conservation (SAC) is located immediately adjacent to the development boundary. The Environmental Statement (ES) should contain an assessment of any potential impact on the SAC including that from pollutants resulting from construction. The environmental statement should contain details of mitigation measures that could be used to avoid an adverse impact on the SAC.

The River Tweed SAC is located within the development boundary and many of the proposed turbines are within the catchment of the SAC. The ES should contain details of pollution prevention measures and other mitigation to avoid impacts on the SAC in an outline Construction and Environmental Management Plan (CEMP).

The Langholm – Newcastleton Hills Special Protection Area (SPA) and SSSI is located 3km from the edge of the proposed site boundary. The area is designated as it important for its breeding birds including several schedule 1 raptor species. Surveys should investigate any possible connectivity between the designated sites and the development. If the nearest turbine is beyond 3km from the nearest known nest site, connectivity with the designated site is unlikely and can be scoped out of the assessment.

Further advice is provided in section 2 below.

2. Key Advice

a. Landscape and Visual Impact Assessment

The scope of the landscape and visual assessment, as outlined in the scoping report, is broadly appropriate for this site. As with other aspects of the environmental assessment, and in order to avoid lack of clarity or over large visualisation images, we would advise that the LVIA should (in separate volumes) consider each development cluster individually and then cumulatively with each other.

With regard to the three clusters of turbines proposed we would advise that these should be clearly and separately identified in supporting visualisations. This would likely best be achieved through differential colouring of turbine clusters on wirelines, with numbering of individual turbines running concurrently between schemes (e.g. 0-90).

Given the separation between clusters and the potential for this overall development to establish a new pattern of wind farm development in this area, we would recommend that close attention is paid to SNH's guidance on "Siting and Designing Wind farms in the Landscape" (2014). Section 4 of the document sets out useful guidance for "Designing in landscapes with multiple wind farms" with paragraph 4.4 of particular relevance to the current scoping proposal:-

> *When designing an individual wind farm key design objectives should be developed as discussed in section 3. Where cumulative impacts are likely to occur within an area it is important to establish design objectives that can be consistently applied to all proposed developments. This should result in a similarity of design and wind farm image within an area that limits visual confusion, and reinforces the appropriateness of each development for its location. Cumulative design objectives should relate to ancillary infrastructure as well as wind turbines.*

With regard these issues we would advocate that a standalone design statement is provided to support the application and the communication of the landscape and visual assessment findings and the embedded mitigation strategy, as highlighted in paragraph 6.5.20 of the scoping report. As per the content of Scottish Government "PAN 68: Design Statements" the design statement should also be produced with the objective of enabling the applicant to explain the design rationale for the proposal and why the selected design solution is the most suitable in the circumstances.

We support the broad scope of the cumulative assessment set out in the scoping report and consider the routes for sequential assessment are appropriate at this stage in our understanding of the project details. Given, the relatively changeable nature of the cumulative baseline information we advise the applicant to remain in dialogue with regard to the methodology for the cumulative assessment.

We also welcome the intention to further consult on the proposed viewpoint locations.

b. Protected Areas and Ecology

Ornithology Surveys

The proposed site boundary either contains or is within connectivity of areas designated for to ornithological interest of national or international importance. The applicant should be aware of the legislative requirements for European sites and these are outlined the protected areas section below.

Specialist surveys should be included for species associated with protected areas. For the The Kielderhead Moors: Carter Fell to Peel Fell SSSI this should include merlin, hen harrier, peregrine falcon and golden eagle. Nest sites and territories should be identified and assessed in relation to the proposed development, including the proposed tree felling future scenarios. We advise golden eagle nest sites and territories should be located within 6km of the development site, if present. We note this SSSI is managed as part of the cross-border Kielderhead Conservation Area by the Forestry Commission who may hold records on the relevant species. Based on the layout presented in the scoping document we advise that a number of turbines may need to be re-located in order to mitigate the impacts on these species.

Please note we have recently published guidance on dissuading several schedule 1 raptor species from moving into previously afforested sites.

Moorland bird surveys should be included in areas of appropriate habitat within 500m of the development site. Several raptor species, especially species such as hen harriers, form communal roosts mostly outwith the breeding season. Any roost sites within 2km of a proposed wind farm site should be identified.

Due to the number of sensitive bird species present and connectivity with protected areas two years of surveys will be required to adequately assess the potential impacts of the proposed wind farm. An assessment should be made of the impacts of each of the three clusters individually, in combination and all together.

The scoping report does not contain viewsheds or other details of the vantange point surveys. We recommend these are submitted for comment, along with raw data and results to date in order to prevent any issues arising at the application stage. We advise that surveys should cover all areas of the proposed development, including the turbine envelope, any tracks and ancillary infrastructure and appropriate buffer zones as described in our recommended bird survey methods guidance document.

Further advice on mitigation and enhancement measures is provided below.

Protected Areas
As a result of the connectivity between the proposal and the qualifying interests of Special Areas of Conservation and a Special Protection Areas the legislative requirements for European sites as detailed in http://www.snh.gov.uk/docs/A423286.pdf applies. Before determining an application, the determining authority would be required to undertake an appropriate assessment of the implications of the proposal in view of the site's conservation objectives. The appropriate assessment should be informed by pollution prevention measures contained within a construction method statement clearly outlined in the ES.

Full details for protected areas, including their conservation objectives/management statements, can be found in Sitelink via SNHi on our website http://www.snh.org.uk/snhi/ The developer should assess the direct and indirect impacts on these protected areas and their qualifying interests/notified features in the context of their conservation objectives/management statements. The assessment should be for the proposal on its own and cumulatively with other plans or projects also affecting the protected area.

Ecology (excluding birds)

In relation to deep peat, carbon rich soils and priority peatland habitat we recommended watching the SNH website for future updates on the national peat map. Should guidance be published to accompany the final version of the map before an application is made for the proposed wind farm, the ES should take this into account.

Commercial forestry in this region forms part of a red squirrel priority area for conservation. Forestry Commission have developed methods to mitigate the impacts on red squirrel during felling regimes in Keilder Forest. We recommend the South Scotland project officer is consulted, contact information is available at www.red-squirrels.org.uk.

Further advice on natural heritage interests is provided in Annex 1.

Mitigation and enhancement measures
The scoping report refers to various suggestions and opportunities to mitigate against the potential natural heritage impacts resulting from the proposal.

We recommend details of the proposed habitat management plan are included within the Environmental Statement. With clear felling proposed there is the opportunity to provide

ecological benefits as part of a compensating planting plan, details of which should be provided within the ES.

The ES should also identify opportunities to minimise impacts, such as borrow pits and we refer the applicant to Scottish Planning Policy paragraph 243 which states that *"Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries; they are time limited; tied to a particular project and appropriate reclamation measures are in place."* If borrow pits are required there may be opportunity to limit them to one or two larger sites rather than numerous smaller sites.

3. Concluding remarks

While we are supportive of the principle of renewable energy, our advice is given without prejudice to a full and detailed consideration of the impacts of the proposal if it is submitted as a formal application.

Should you have any queries about this letter, please contact Matthew Burnett (Renewable Energy Casework Advisor) at [redacted]SNH, Battleby, Redgorton, Perth, PH1 3EW [redacted]

Yours sincerely

[by email]

Matthew Burnett
Renewable Energy Casework Adviser

Appendix 1: SNH general advice, sources of guidance and information for onshore wind farms

1. Service Level Statement (SLS) and further advice

We refer developers and their consultants to our SLS (http://www.snh.gov.uk/planning-and-development/approach/), which sets out the level of engagement they may expect from us during the planning process. In line with our SLS, where the impacts on the natural heritage warrant additional input we are happy to provide further advice prior to the submission of an Environmental Statement (ES). We ask that the developer/their consultants allow sufficient time in their project plan to accommodate our advice, which may take some time to compile. (Our customer care response deadline is 20 working days, but on some occasions statutory casework will take priority and cause delays in responding to requests for advice.) Initially developers/their consultants should contact the SNH Area Office relevant to the location of the development for advice on new sites. Information on the SNH Areas and contact details for our offices can be found via http://www.snh.gov.uk/about-snh/snh-in-your-area/. Thereafter developers/their consultants should direct all development specific queries to the SNH case officer assigned to their case.

2. Contents and format of the Environmental Statement (ES)

Full survey details including raw data, workings for calculations, results, and for birds the viewshed maps (including Vantage Point locations) and flight maps with labelled flight lines (showing the flights banded into below, at and above collision risk height) referenced to a table of flight data, etc, should be presented in the ES. Information and assessment of direct and indirect impacts (including cumulative), along with details of any mitigation should also be presented.

We recommend that the ecological chapters are split into sections on protected areas, species (avian, non-avian), habitats (terrestrial, freshwater), etc. Sensitive species information can be presented in a confidential annex with restricted circulation. Advice on how to deal with sensitive information can be found via http://www.snh.gov.uk/docs/A285693.pdf

As a general rule, we request one full copy of the ES, including confidential annexes, on cd with file sizes of <10MB per document, plus a full duplicate hard copy. This also applies to any subsequent Addendum or Further Environmental Information submissions. This is so that we can be sure that LVIA visualisations in particular are presented as the developer intends, and can circulate the files to the relevant specialist SNH advisors. **(Other reports submitted prior to the ES, eg scoping and other pre-application reports, should also be provided with file sizes of <10MB per document.)**

3. General advice, guidance and information

It is the developer's responsibility to identify and assess which activities associated with the construction, operation and decommissioning of their development are likely to have a significant environmental effect on natural heritage receptors (including landscape and visual), based on their own site investigations and the scoping advice they may receive.

Where an assessment has been carried out, it is useful for that information to be presented in the ES even if the conclusion is that there will not be significant effects. This is to demonstrate that all relevant interests have been adequately considered.

A host of guidance and advice for wind farm developments is available on our website, covering topics such as landscape, birds and protected species:

a. Guidance for assessing impacts on the natural heritage
Our advice is that the developer/their consultants should refer to, but not be limited to, the following sources of SNH guidance and information to ensure they undertake a robust Environmental Impact Assessment (EIA):

- http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/ (this page also has links to topic specific guidance, eg birds, landscape, etc, that should be referred to)

  http://www.snh.gov.uk/planning-and-development/advice-for-planners-and-developers/protected-animals/

- http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/

We would expect the developer/their consultants to follow the latest guidance. Our guidance is constantly under review - we would expect developers/their consultants to follow the latest guidance, appropriate to the time of ES submission. They should note that non-avian species surveys should be completed no more than 18 months prior to submission of the application, to ensure that the survey results are a contemporary reflection of species activity at and around the site. If significant land use, habitat or population changes have occurred during this time, advice should be sought from us prior to application submission to ensure the surveys will be adequate.

Where survey methods or other work deviates from the published guidance, this should be agreed with us in advance of survey work being carried out to ensure that any deviations still meet our needs. A full explanation of why any deviations are considered appropriate should also be provided in the ES for the benefit of others. The results of the surveys should be used to avoid or minimise impacts, thereby informing the iterative layout and design of the wind farm.

It should be noted that the absence of records for a particular location does not necessarily mean that protected species are not present, so species surveys should not be ruled out for this reason. (It could just be because that location has not been formally surveyed before. In addition some species have been found in unexpected places, for example remnant freshwater pearl mussel populations above impassable fish obstacles.)

b. Terrestrial habitats, peat and forestry
With regard to terrestrial habitats (including peatlands), our general advice is that the whole area likely to be affected by the development and an appropriate buffer (eg to allow for redesign and micro-siting) should be surveyed to Phase 1 standard. In addition to a Phase 1 survey, where habitats consistent with those on Annex 1 of the EC Habitats Directive together with UKBAP Priority Habitats are present, they should be mapped to NVC standard and accompanied by supporting quadrat information. Rare and scarce associated plant species should also be recorded.

In line with Scottish Government guidance, where peat is likely to be present, thorough peat probing should be carried out of the proposed locations of turbines, tracks and other infrastructure, and used to inform a peat slide risk assessment. (The Scottish Government peat guidance can be found via: http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings/PSG2011) The survey results should be used to inform the design and layout process, so that the development avoids, where possible, fragile and priority habitats and other sensitive areas (eg blanket bog and deep peat). Where this is not possible, suitable restoration and/or compensation will require to be carried out, and draft details of how this will be done should be presented in the ES.

We have published advice on what to include and consider in Habitat Management Plans (http://www.snh.gov.uk/docs/B1159444.pdf), which should be referred to. We also strongly recommend early engagement with SEPA with regard to excavated peat reuse and disposal. An assessment of impacts of hydrological changes (particularly related to groundwater) on habitats should also be included. Access tracks are the elements that will result in the greatest land take, habitat fragmentation and, potentially hydrological disruption. It is therefore important that the track construction methods are clearly described in the ES, along with the rationale for their type and location, and all direct and indirect impacts assessed.
If tree felling/woodland clearance will be required as part of the proposed development, we recommend that the developer/their consultants contact Forestry Commission Scotland at as early a stage as possible to discuss the Control of Woodland Removal Policy and the implications it may have on the development. Developers/their consultants should also refer to the SEPA, SNH and FCS joint guidance on how to approach development that will require felling of trees. The *Use of trees cleared to facilitate development on afforested land* guidance can be found under "Planning Guidance Notes" section of the SEPA website http://www.sepa.org.uk/planning.aspx.

c. Reptiles
Our advice is that provided appropriate mitigation measures for reptiles are put in place pre-construction and during construction works, then a reptile survey would not be required prior to application submission. The proposed mitigation plan should be provided in the ES/as part of the application submission. The exception to this would be developments on the Isle of Coll where sand lizards, a European Protected Species, are present. Developments here are likely to require sand lizard surveys to inform the ES/as part of the planning submission.
An example mitigation plan for a large scale development that may be useful to refer to is the plan produced for the Beauly-Denny power line, available in the SSE Construction Procedures Handbook, Appendix 13 Species Protection Plans, section 8 Common Reptiles, via the SSE website http://www.sse.com/BeaulyDenny/ConstructionProceduresHandbook/. However our advice is that it would be appropriate to scale down the survey effort for developments of a smaller scale than the Beauly-Denny line.

d. Freshwater
Where the proposed development site has permanent watercourses or water bodies in it or connected to it, we strongly recommend that the advice of SEPA is sought regarding water crossings and the adequacy of any hydrological work undertaken as part of the EIA.

With reference to potential impacts on the natural heritage, as a minimum we would expect all areas directly (eg watercourse crossings) or indirectly (eg sediment run off) affected by the development and appropriate buffers up and downstream to have a habitat survey following the Scottish Fisheries Coordination Centre method referenced below. This should inform the likelihood of the presence of salmonids, eels, freshwater pearl mussel and other freshwater protected species and so the need or otherwise for species specific surveys. The developer/their consultants should however note that where there is connectivity to protected areas (eg river or loch Special Areas of Conservation), then a higher level of survey effort and assessment targeted to the interest of the protected area may be needed to inform the required appraisals for the protected area.

SNH guidance on freshwater pearl mussel survey methods can be found on our website via http://www.snh.gov.uk/docs/A372955.pdf. The Scottish Fisheries Coordination Centre (SFCC) webpage http://www.sfcc.co.uk/resources/habitat-surveying.html provides links to the recommended SFCC habitat survey method (*Habitat Surveys Training Course Manual, Revised August 2007),* as well as other useful survey method information for fish. Note that where there is suitable habitat for freshwater pearl mussel, and particularly where salmonids are present, we would expect a freshwater pearl mussel survey to be carried out following

our guidance. The exceptions for this would the Scottish Borders, Lothian and some parts of Fife where freshwater pearl mussel are unlikely to be present. Advice on the need or otherwise for freshwater pearl mussel surveys should be sought from the SNH case officer for developments in Fife.

e. Wild deer

If wild deer are present on or will use the development site, an assessment of the potential impacts on deer welfare, habitats, neighbouring and other interests (eg access and recreation, road safety, etc) will be required as part of the ES/information supporting a planning submission. Where significant impacts may be caused, a draft deer management statement will also be required to address the impacts. We refer developers/their consultants to the advice found in *What to consider and include in deer assessments and management at development sites*, available via the link found within webpage http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/.

f. Access & Recreation

Our advice is that the Landscape and Visual Impact Assessment (LVIA) should include consideration of impacts on the landscape setting of the site and the surrounding area and how this may affect the enjoyment of existing outdoor recreational users. Consideration must also be given to the existing and potential use of the area for recreation by the general public, with reference to Scottish access rights under the Land Reform (Scotland) Act 2003 and rights of way.

Planning and National Park Authorities (known as “access authorities”) have a duty to uphold access rights within their areas. The relevant access authority has a lead role in discussing access management within the development site, including the effects of the development on existing access and opportunities for improved access provision.

We recommend that the developer/their consultants engage with the access authority and prepares an access management plan identifying the current recreational activities in the area and any positive or negative impacts that may occur as a consequence of the development (both during construction and operation). Where impacts on nationally important recreation interests are identified, we may also wish to be involved.

Regardless of the level of our involvement, our advice is that access should be managed actively during the construction phase, with restrictions kept to the minimum area and duration that is practical and reasonable, and adapted as the site develops to focus on where actual risks are present. This approach is likely to encourage greater compliance by the public and will therefore be more effective in meeting safety needs, including obligations under the Construction (Design & Management) Regulations. Further information about access provision and management can be found in *Good Practice during Wind Farm Construction* (http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/good-practice-during-windfarm-const/)

g. Grid connection

With regard to grid connection, we recommend that if the developer has confirmed or firm draft details of all or part the grid connection at the time of ES submission, these details are provided in the ES along with assessments of the impacts of the grid connection on the natural heritage (in particular, the nearby protected areas). As there may be impacts on the natural heritage from the grid connection, we would be happy to advise the relevant authority in due course on any grid connection, in line with our Development Management guidance (http://www.snh.gov.uk/docs/B699305.pdf).

h. Decommissioning

As decommissioning and redevelopment of wind farm sites are potential options, the EIA process should consider the implications and assess the likely impacts of both, as these are likely to be very different and may influence how the current proposal is developed. For example, our advice is that there should be a presumption that new tracks will be removed and current tracks restored to the current width during the decommissioning process, to return the site to the same or better state than pre-construction. However, we recognise that there could be situations where retention of some tracks might be beneficial (eg for access and recreation where they provide links to important routes, where removal may cause damage to important natural heritage interests, etc). We therefore recommend that there is a presumption during the EIA for new track removal/existing tracks reinstatement to their previous width plus restoration as part of decommissioning, but that the pros and cons of track removal/retention for each individual site are considered more fully in the 3-5 years prior to decommissioning/repowering. This should be done in consultation with the Planning Authority (and others such as SNH and SEPA, as appropriate).

An outline Decommissioning/Repowering Plan (DRP), following our guidance, should be submitted as part of the Environmental Statement (or other environmental report supporting a planning application). Guidance on decommissioning/repowering can be found on our website via the first link in section 3.a above. As it is anticipated that there would be some 25 years between construction and decommissioning/repowering, we recommend that the outline DRP is brief. However, it should still provide an appropriate level of detail about how the site infrastructure may be removed and how the site is intended to be restored. In the 3-5 years prior to the year of decommissioning/repowering, the DRP should be revised and completed to provide full details of decommissioning/repowering, and then submitted to the Planning Authority for approval. This is because environmental conditions, laws and techniques will invariably change over that time period. Further survey work may be required to inform the final DRP. As a guide, the final DRP should contain a similar level of detail to a Construction and Environmental Management Plan.

Appendix 2 Scoping Checklist

Checklist of <u>minimum</u> SNH requirements for what to include in an Environmental Statement (or environmental report accompanying a planning application) - applicants should also refer to the published SNH guidance referred to in section 2.a of the general advice document, as well as any development specific pre-application advice provided by SNH.		***Included? (or record of agreement with SNH for non-inclusion)***
SNH scoping and pre-application advice	1. Developers should ensure that they demonstrate that they have taken account of specific SNH scoping and other pre-application advice. It is useful for the developer to provide a table summarising the key points raised at scoping/during pre-application, alongside how they have addressed them.	
Figures – general advice *("figures" includes maps, figures, photographs and other visualisations)*	2. All figures should be clear and of good quality, of an appropriate scale, with distinct legends and scale bar (where appropriate).	
	3. Unless otherwise agreed in writing with SNH, the ZTVs and figures used in support of the landscape and visual impact assessment should follow the national standards set out in *Visual Representation of Wind Farms (December 2014)* guidance http://www.snh.gov.uk/planning-and-development/renewable-energy/visual-representation/.	
	4. All ecological figures should show the application boundary, proposed turbines, tracks and other infrastructure locations, as well as the relevant ecological information/survey results.	
Collecting and presenting information – general advice	5. We recommend that the ecological chapters are split into topics, e.g. protected areas, species (birds, bats, otter, etc.), habitats (terrestrial, freshwater), etc. Information and assessment of which activities associated with the construction, operation and decommissioning of the development are likely to have direct and indirect (including cumulative) significant environmental effects on the relevant natural heritage receptors, along with clear details of any mitigation, should be presented.	
	6. A table of issues/interests initially considered but then scoped out of further assessment should be provided in an annex, along with a short justification for each issue/interest.	
	7. A schedule of environmental mitigation should be provided in an annex for developments with impacts on multiple natural heritage interests. The schedule should compile all the environmental mitigation/enhancement measures into one list/table, for ease of reference.	
	8. Sensitive species information can be presented in a confidential annex with restricted circulation. Advice on how to deal with sensitive information can be found via http://www.snh.gov.uk/docs/A285693.pdf.	

	9. In addition to the specific requirements detailed in the sections below, full survey details including raw data, workings for calculations and results should be presented in the ES. Technical appendices should be used for this where appropriate.	
	10. Non-avian species surveys should have been completed no more than 18 months prior to submission of the application, to ensure that the survey results are a contemporary reflection of species activity at and around the site.	
	11. Two complete years of bird survey data should have been collected within the last 5 years (unless it can be demonstrated that a shorter period of survey is sufficient and this has been agreed in writing with SNH). Advice should also have been sought from SNH if some or all of the survey data has been collected more than 3 years ago *and* local or wider populations of key bird species are known to be changing rapidly. This also applies if there have been significant habitat changes between the survey being carried out and application submission that are likely to affect the level of bird activity in the area (e.g. the baseline has changed say from large area of mature plantation to clear felled open ground).	
	12. Bat surveys should follow the recommended levels of survey effort set out in the Bat Conservation Trust *Bat Surveys Good Practice Guidelines* (2nd edition, http://www.bats.org.uk/pages/batsurveyguide.html). Note that increased survey effort is required where *Nyctalus* bats or Nathusius' pipistrelle are likely to occur on a site, or if these species are recorded during initial surveys.	
	13. Full survey methodologies need not be presented in the ES where they have followed recognised methodologies that are publicly available (e.g. via the SNH website). A figure (see point 14 below) along with an outline description including dates, weather conditions (where relevant to the survey type) and how the survey was undertaken, along with a link to the methodology is sufficient. (E.g. "*A habitat suitability survey following the Scottish Fisheries Coordination Centre methodology (http://www.sfcc.co.uk/resources/habitat-surveying.html) was undertaken on 12 July 2015 along the watercourses shown in figure X. Watercourses A and B were identified as having potential freshwater pearl mussel habitat, so were surveyed for freshwater pearl mussel on 13 July 2015 following the SNH methodology (http://www.snh.gov.uk/docs/A372955.pdf). The weather when the surveys were carried out was dry, with little rain in the preceding week. Consequently the water was considered to be at normal level.*")	

	14. Where survey methods or other work deviates from published guidance, deviations should have been agreed in writing with SNH in advance of carrying out survey work. A full description of the methodology used should be provided in the ES (technical appendices should be used for this where appropriate), along with an explanation of why any deviations are considered appropriate.	
	15. Figures should be used to show the area surveyed/transects/quadrat locations etc., for each survey undertaken. (It may be possible to include this information on the results map (see point 22 below), where doing so will not obscure the results. For whole development site surveys, it may be appropriate to refer to the boundary shown on the site layout map, rather than provide multiple figures showing the same thing.)	
	16. An outline Decommissioning/Repowering Plan (DRP) should be submitted as part of the ES. It should provide an appropriate level of detail about how the site infrastructure is intended to be removed and how the site will be restored.	
	17. If the developer has confirmed or firm draft details of all or part the grid connection at the time of ES submission, these details should be presented in the ES along with assessments of the impacts of the grid connection on the natural heritage (in particular, the nearby protected areas).	
Bird survey figures	18. A viewshed map should be presented, showing numbered vantage point locations, the 180 degree arc of view/visibility from each vantage point, and areas of overlap. The arc of views should be coloured in such a way that they are distinct from each other, and any overlaps are obvious (without obscuring the underlying topography and site detail).	
	19. Flight maps with labelled or otherwise defined (by colour and/or line type) flight lines, showing the flights banded into below, at and above collision risk height, referenced to a table of flight survey data. Depending on the amount of flight activity, it may be beneficial to present figures by species and/or breeding season (e.g. non-breeding season greylag geese flights on one figure, breeding greylag geese flights on another figure, breeding golden eagle flights on another figure, etc.).	
	20. Nest/territory locations for target species (see also the *Guidance on Environmental Statements and Annexes of Environmentally Sensitive Bird Information* available via http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/windfarm-impacts-on-birds-guidance/).	
	21. All raw bird survey data should be included in an annex and should include the, dates, times and weather conditions of surveys.	

Advice for other ecological surveys and presentation of information	22. Peat: For sites with peat, a peat probe location, depth and peat slide risk maps should be presented. See section 2.b for further information.	
	23. Habitat maps: A habitat/NVC map should be presented, including locations of target notes, overlaid with the site detail as described in point 4 above.	
	24. Species survey figures: Species survey areas/transect, locations of results (e.g. otter couches, pine marten scats, etc.) and target notes, overlaid with the site detail as described in point 4 above.	
	25. Reptiles: The proposed mitigation plan for reptiles should be provided in the ES/as part of the application submission, where reptiles are likely to be present on site. See section 2.d for further information.	
	26. Wild deer: If wild deer are present on or will use the development site, an assessment of the potential impacts on deer welfare, habitats, neighbouring and other interests (e.g. access and recreation, road safety, etc.) should be presented. Where significant impacts may be caused, a draft deer management statement will also be required to address the impacts. We refer developers/their consultants to the advice found in *What to consider and include in deer assessments and management at development sites*, available via the link found within webpage http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/.	
	27. Trees and forestry: If tree felling/woodland clearance will be required as part of the proposed development, we recommend that the developer/their consultants contact Forestry Commission Scotland at as early a stage as possible to discuss the Control of Woodland Removal Policy and the implications it may have on the development. Developers/their consultants should also refer to the SEPA, SNH and FCS joint guidance on how to approach development that will require felling of trees. The *Use of trees cleared to facilitate development on afforested land* guidance can be found under the "Planning Guidance Notes" section of the SEPA website http://www.sepa.org.uk/planning.aspx.	
	28. Recreation and access: Our advice is that the Landscape and Visual Impact Assessment (LVIA) should include consideration of impacts on the landscape setting of the site and the surrounding area and how this may affect the enjoyment of existing outdoor recreational users. Consideration must also be given to the existing and potential use of the area for recreation by the general public, with reference to Scottish access rights under the Land Reform (Scotland) Act 2003 and rights of way.	
	29. Decommissioning/repowering: As decommissioning and redevelopment of wind farm sites are potential options, the EIA process should consider the implications and assess the likely impacts of both.	

	This is because these are likely to be very different and may influence how the current proposal is developed. Guidance on decommissioning/repowering can be found on our website via the first link in section 2.a. As it is anticipated that there would be some 25 years between construction and decommissioning / repowering, we recommend that the outline decommissioning and restoration plan presented in the ES is brief. However, it should still provide an appropriate level of detail about how the site infrastructure may be removed and how the site is intended to be restored.	
Format of the ES and where to send it	30. For ease of use, it is preferable for the text chapters and appendices of Environmental Statements to be presented on A4 paper (rather than A3). 31. It is also preferable for landscape figures to be provided in a ring binder (rather than being spiral or otherwise bound), for ease of use during site visits. 32. Unless otherwise advised by SNH, **a full hard copy of the entire Environmental Statement (including confidential annexes), plus a copy of the same on cd with file sizes of <10MB per pdf, should be sent direct to the SNH case officer. Electronic file names should clearly indicate their content** (e.g. "*LVIA Figure 6.18a - VP8 Bonar Bridge*"). (Where a SNH case officer has not been assigned or is unknown, the developer should contact the relevant SNH Area office to where their development is located, to ask who and where to send the ES. Contact details for SNH Areas and offices can be found via http://www.snh.gov.uk/about-snh/snh-in-your-area/)	

A35

Our ref: PCS/144705
Your ref: Wind Farm Proposal

Stephen McFadden
Scottish Government
4th Floor
5 Atlantic Quay
140 Broomielaw
Glasgow
G2 8LU

If telephoning ask for:
Jess Taylor

24 February 2016

By email only to: econsentsadmin@scotland.gsi.gov.uk

Dear Stephen McFadden

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011
Wind Farm proposal - Scoping Opinion request
Wauchope Newcastleton Wind Farm

Thank you for consulting SEPA on the scoping opinion for the above development proposal by way of your letter of 12 January 2016 which we received on 14 January 2016. We would welcome engagement with the applicant at an early stage to discuss any of the issues raised in this letter.

We consider that the following key issues must be addressed in the Environmental Impact Assessment process. To **avoid delay and potential objection** the following information must be submitted in support of the application.

Carbon Balance
Disruption to wetlands including peatlands and Groundwater Dependant Terrestrial Ecosystems
Disturbance and re-use of excavated peat
Forest Removal and forest waste
Existing groundwater abstractions
Engineering activities in the water environment
Water abstraction
Pollution prevention and environmental management
Borrow pits
Flood risk
Construction compounds
Decommissioning/Repowering

Windfarm developments can make a valuable contribution to achieving Scotland's renewable targets and help fulfil public sector duties under the Climate Change (Scotland) Act 2009. However, even small windfarms can potentially have an adverse environmental impact. While all of the issues below should be addressed in the Environmental Statement (ES), there may be opportunities for several of these to be scoped out of detailed consideration. The justification for this approach in relation to specific issues should be set out within the ES. We would welcome the opportunity to comment on the draft ES. Please note that we can process files only of a maximum

size of 25MB and therefore, when the ES is submitted, it should be divided into appropriately sized and named sections.

1. Carbon balance

1.1 Scottish Planning Policy (SPP) states (Paragraph 205) that "Where peat and other carbon rich soils are present, applicants should assess the likely effects of development on carbon dioxide (CO2) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO2 to the atmosphere. Developments should aim to minimise this release." The ES or planning submission should include a) a summary demonstrating how the development has been designed with regards to layout and mitigation to minimise release of CO2 and b) preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. A detailed peat management scheme setting out these measures may be required through a planning condition to ensure that the carbon balance benefits of the scheme are maximised. We do not validate carbon balance assessments, but our advice on peat management options may need to be taken into consideration when you consider such assessments.

2. Disruption to wetlands including peatlands and Groundwater Dependant Terrestrial Ecosystems (GWDTE)

2.1 SEPA has a responsibility to protect GWDTE, which are types of wetland protected under the Water Framework Directive. Foundations, borrow pits and linear infrastructure such as roads, tracks and trenches can disrupt groundwater flow and impact upon these sensitive receptors.

2.2 Mapping and subsequent avoidance of GWDTE in development proposals will avoid delay and expense to the developer both during the project and after construction. Avoidance removes the need for further assessment, mitigation, monitoring and potential remediation.

2.3 Please refer to Appendix 3 of guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for the minimum mapping information we require to be submitted. Unless the overlaid maps identified in Appendix 3 are submitted it is likely that the scheme will be subject to an objection.

2.4 In order to assess the potential risk to GWDTE a Phase 1 habitat survey must be carried out within the following distances of development as a minimum:

a) within 100m radius of all excavations shallower than 1m
b) within 250m of all excavations deeper than 1m

If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it. The guidance SNIFFER (2009) WFD95 - A Functional Wetland Typology for Scotland can be used to help identify wetland types.

2.5 A National Vegetation Classification (NVC) survey should be completed for any wetlands identified (it may be that an NVC survey has been requested by, for example, SNH). A list of NVC communities that may be dependent on groundwater can be found in Appendix 4 of the guidance note Guidance on Assessing the Impacts of Development Proposals on

Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.

2.6 A detailed site specific qualitative and/or quantitative risk assessment will be required within the ES or supporting information in the following higher risk situations:-

a) for proposed infrastructure within 250 m of GWDTE, where the infrastructure will require excavation deeper than 1m. Typically, this includes borrow pits and turbine foundations but may include access roads and other infrastructure.

b) for excavations within 100 m of GWDTE but shallower than 1m if the applicant will not accept a detailed long term monitoring planning condition.

Refer to guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further information on carrying out a detailed risk assessment and the requirements of the detailed long term monitoring condition.

2.7 The checklist form provided in Appendix 2 of this letter must be completed and submitted with the above information.

3. Disturbance and re-use of excavated peat

3.1 We understand that there are some peat deposits, including some at depth in Wauchope Forest, albeit at a less frequent level than Newcastleton Forest, across the Border. It is not clear at this stage, with the documents/maps provided if the turbine layout design has tried to or fully avoided areas of deep peat within Wauchope Forest. A peat management plan is required.

3.2 Where the proposed infrastructure will impact upon peatlands it is important to limit the volume of peat being disturbed so that commonly experienced difficulties in dealing with extracted surplus peat are reduced. The submission must include:

a) A detailed map of peat depths (this must be to full depth) with all the built elements (including peat storage areas) overlain so it can clearly be seen how the development avoids areas of deep peat and other sensitive receptors such as GWDTE.

b) A table which details the quantities of acrotelmic, catotelmic and amorphous peat which will be excavated for each element and where it will be re-used during reinstatement. Details of the proposed widths and depths of any peat to be re-used and how it will be kept wet must be included.

3.3 To avoid delay and potential objection proposals must be in accordance with Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste and our Regulatory Position Statement – Developments on Peat.

3.4 Dependant upon the volumes of peat likely to be encountered and the scale of the development, applicants must consider whether a full Peat Management Plan (as detailed in the above guidance) is required or whether the above information would be best submitted as part of the schedule of mitigation identified below.

4. Forest removal and forest waste

4.1 It is anticipated that some forestry will need to be felled. This has not been discussed in any

detail within the scoping report and should be considered further. This should be included with the Construction Environmental Management Plan and hydrology chapter of the ES.

4.2 We would support the approach of key-holing wherever possible as large scale felling can result in a peak release of nutrients which can affect local water quality. We may, however, be supportive of clear felling in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats. This should be specifically referenced in the ES.

4.3 We would be especially interested in and are likely to have significant concerns relating to any proposals to fell to waste where the waste generated by the process will be managed by techniques such as chipping, mulching or spreading. This is because where material is classed as waste then appropriate waste management options require consideration and, where appropriate, adoption. In such cases we would wish the ES to include information which explains how the waste hierarchy has been applied in a way which delivers the best overall environmental outcome and if this is not demonstrated we are likely to be object to the application.

4.4 It has previously been argued that using waste on the site could yield an ecological improvement and so has been considered as an exemption under waste management licensing. However, this approach is now being questioned as the results of early research show there is a lack of clarity and evidence to support the claim that this practice delivers overall ecological improvement for the main target vegetation types (blanket bog or wet heath).Currently, this restoration practice is being tested and researched at a number of sites across Scotland. This research will provide greater clarity on the benefits and risks associated with the practice. If ecological benefit from use of waste is to be claimed, then reliable site-specific evidence must be provided. For avoidance of doubt, where it is sought to claim ecological benefit from deposition of forestry waste a) the ecological benefit must relate to the land to which the waste is applied rather than off-site benefits and b) there must not be an ecological harm also associated with the deposition of the waste. Note that if there are likely to be significant amounts of surplus forestry material without a clear use, and if scope for an exemption under waste management is unclear, then unfortunately we may need to object to an application due to our inability to advise on consentability under our regulatory regime and hence it is essential that these issues are addressed at an early stage.

4.5 Nationally we are working with our SEARS partners to agree common principles for considering the use of forest material / waste wood on peatland sites for restoration projects. This work is currently being agreed and will soon be published on our website as *Principles for Use of Forest Residue for Peatland Restoration.* The draft principles within it which should be applied are as follows:

- Full justification for using the material on-site must be provided. Evidence must be provided to show that all options for use of the material off-site have been considered;
- The proposed use of the material must be beneficial in reaching the objectives of the Habitat Management Plan (HMP) as agreed by the local authority in consultation with statutory agencies (SNH and SEPA). Detailed monitoring proposals should be included in the HMP;
- Material used on site should not have any negative impact on the water environment or other sensitive receptors (e.g. protected species);

- Details of the size, volume, and depth of material to be used on site must be provided. A detailed map showing areas where the material will be used and extent of cover should also be provided;

- A clear specification for contractors is required to ensure the correct machinery is used, and that any material left on site is used in line with the HMP. The quality of the material is an important factor; maximum chip size (or other criteria) should be defined and agreed with the contractor. A maximum depth of material should also be agreed with the contractor.

4.6 Where the ecological benefit proposed by the fell to waste activity does not relate to improvement of peatland habitats, then the expected environmental benefit must be set out and fully justified in the ES.

5. Existing groundwater abstractions

5.1 SEPA has a responsibility to protect groundwater abstractions. Foundations, borrow pits and linear infrastructure such as roads, tracks and trenches can disrupt groundwater flow.

5.2 Mapping and subsequent avoidance of groundwater abstractions in development proposals will avoid delay and expense to the developer both during the project and after construction. Avoidance removes the need for further assessment, mitigation, monitoring and potential remediation.

5.3 All groundwater abstractions within the following distances of development need to be identified, in order to assess potential risk:

a) within 100m radius of all excavations shallower than 1m
b) within 250m of all excavations deeper than 1m

5.4 Please refer to Sections 2.6-2.9 and Appendix 3 of guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for the minimum mapping information we require to be submitted. Unless the overlaid maps identified in Appendix 3 are submitted it is likely that the scheme will be subject to an objection.

5.5 A detailed site specific qualitative and/or quantitative risk assessment will be required within the ES or supporting information in the following higher risk situations:-

a) for proposed infrastructure within 250 m of groundwater abstractions, where the infrastructure will require excavation deeper than 1m. Typically, this includes borrow pits and turbine foundations but may include access roads and other infrastructure.

b) for excavations within 100 m of groundwater abstractions but shallower than 1m if the applicant will not accept a detailed long term monitoring planning condition.

Refer to guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further information on carrying out a detailed risk assessment and the requirements of the detailed long term monitoring condition.

5.6 The checklist form provided in Appendix 2 of this letter must be completed and submitted with the above information.

6. Engineering activities in the water environment

6.1 In order to meet the objectives of the Water Framework Directive of preventing any deterioration and improving the water environment, developments should be designed to avoid engineering activities in the water environment wherever possible. The water environment includes burns, rivers, lochs, wetlands, groundwater and reservoirs. We require it to be demonstrated that every effort has been made to leave the water environment in its natural state. Engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams should be avoided unless there is no practicable alternative. Paragraph 255 of SPP deters unnecessary culverting. Where a watercourse crossing cannot be avoided, bridging solutions or bottomless or arched culverts which do not affect the bed and banks of the watercourse should be used. Further guidance on the design and implementation of crossings can be found in our Construction of River Crossings Good Practice Guide. Other best practice guidance is also available within the water engineering section of our website. Any unavoidable culverting should be considered in the hydrology chapter of the ES and Construction Environmental Management Plan.

6.2 If the engineering works proposed are likely to result in increased flood risk to people or property then a flood risk assessment should be submitted in support of the planning application and we should be consulted as detailed below.

6.3 A site survey of existing water features and a map of the location of all proposed engineering activities in the water environment should be included in the ES or planning submission. A systematic table detailing the justification for the activity and how any adverse impact will be mitigated should also be included. The table should be accompanied by a photograph of each affected water body along with its dimensions. Justification for the location of any proposed activity is a key issue for us to assess at the planning stage.

6.4 Where developments cover a large area, there will usually be opportunities to incorporate improvements in the water environment required by the Water Framework Directive within and/or immediately adjacent to the site either as part of mitigation measures for proposed works or as compensation for environmental impact. We encourage applicants to seek such opportunities to avoid or offset environmental impacts. Improvements which might be considered could include the removal of redundant weirs, the creation of buffer strips and provision of fencing along watercourses. Fencing off watercourses and creating buffer strips both helps reduce the risk of diffuse water pollution and affords protection to the riparian habitat.

6.5 Appendix 3 of the Scoping Report was used to determine turbine locations with Wauchope Forest because the plans provided made it difficult to assess potential impacts on the water environment. The site cuts across catchments associated with the Siltrig Water, Rule Water and Jed Water.

6.6 The site is likely to be wet and has reasonably sloped ground, in parts. An initial comment is that the turbines appear to be very close to inland waters and indeed some appear to be located are top of watercourses.Turbine numbers on sikes or burns include, but not limited to, 26, 43, 44, 45, 47, 49, 52, 63, 81, 88 and 89. There are numerous other turbine locations close to watercourses too. This suggests that the design needs to be modified to protect the watercourses from polluted run-off, which will be generated during the construction phase because pollution prevention control and mitigation would be very difficult to achieve at such close proximity.

7. Water abstraction

7.1 Where water abstraction is proposed we request that the ES, or planning submission, details if a public or private source will be used. If a private source is to be used the information below should be included. Whilst we regulate water abstractions under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), the following information is required at the planning stage to advise on the acceptability of the abstraction at this location:

- Source e.g. ground water or surface water;
- Location e.g. grid reference and description of site;
- Volume e.g. quantity of water to be extracted;
- Timing of abstraction e.g. will there be a continuous abstraction;
- Nature of abstraction e.g. sump or impoundment;
- Proposed operating regime e.g. details of abstraction limits and hands off flow;
- Survey of existing water environment including any existing water features;
- Impacts of the proposed abstraction upon the surrounding water environment.

7.2 If other development projects are present or proposed within the same water catchment then we advise that the applicant considers whether the cumulative impact upon the water environment needs to be assessed. The ES or planning submission should also contain a justification for the approach taken.

8. Pollution prevention and environmental management

8.1 One of our key interests in relation to major developments is pollution prevention measures during the periods of construction, operation, maintenance, demolition and restoration. The construction phase includes construction of access roads, borrow pits and any other site infrastructure.

8.2 We advise that the applicant should, through the EIA process or planning submission, systematically identify all aspects of site work that might impact upon the environment, potential pollution risks associated with the proposals and identify the principles of preventative measures and mitigation. This will establish a robust environmental management process for the development. A draft Schedule of Mitigation should be produced as part of this process. This should cover all the environmental sensitivities, pollution prevention and mitigation measures identified to avoid or minimise environmental effects. Please refer to the Pollution prevention guidelines.

8.3 A Construction Environmental Management Document is a key management tool to implement the Schedule of Mitigation. We recommend that the principles of this document are set out in the ES outlining how the draft Schedule of Mitigation will be implemented. This document should form the basis of more detailed site specific Construction Environmental Management Plans which, along with detailed method statements, may be required by planning condition or, in certain cases, through environmental regulation. This approach provides a useful link between the principles of development which need to be outlined at the early stages of the project and the method statements which are usually produced following award of contract (just before development commences).

8.4 It is noted that there is a Scottish Water drinking water supply in the Newcastleton Forest area. This needs to be taken into account.

8.5 We would refer you to best practice advice prepared by SNH, SEPA and the windfarm

industry Good Practice During Windfarm Construction. Additionally, the Highland Council (in conjunction with industry and other key agencies) has developed a guidance note Construction Environmental Management Process for Large Scale Projects.

9. Borrow pits

9.1 Scottish Planning Policy (SPP) states (Paragraph 243) that "Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries, they are time-limited; tied to a particular project and appropriate reclamation measures are in place." The ES or planning submission should provide sufficient information to address this policy statement.

9.2 It is noted that there are a number of new tracks as well as modifications to existing tracks required. A borrow pit at Note of The Bairns is mentioned but details not discussed. Borrow pits can result in significant pollution and so this should be scoped into the hydrology and ground conditions assessment.

9.3 Additionally, a map of all proposed borrow pits must be submitted along with a site specific plan of each borrow pit detailing the:

a) Location, size, depths and dimensions of each borrow pit;

b) Existing water table and volumes of all dewatering;

c) Proposed drainage and settlement traps, turf and overburden removal and storage areas;

d) Restoration profile, nature and volume of infill materials, and, if wetland features form part of the restoration, 25 year management proposals.

9.4 The impact of such facilities (including dust, blasting and impact on water) must be assessed in accordance with Planning Advice Note PAN 50 Controlling the Environmental Effects of Surface Mineral Workings (Paragraph 53). In relation to groundwater, information (Paragraph 52 of PAN 50) only needs to be provided where there is an existing abstraction or GWDTE within 250 m of the borrow pit.

10. Flood risk

10.1 The site should be assessed for flood risk from all sources in line with Scottish Planning Policy (Paragraphs 254-268). The Flood Maps for Scotland are available to view online and further information and advice can be sought from your local authority technical or engineering services department and from our website.

10.2 If a flood risk is identified then a Flood Risk Assessment should be carried out following the guidance set out in the document Technical flood risk guidance for stakeholders.

11. Construction Compounds

11.1 It is noted that construction compounds are referred to in the scoping report although locations are not clarified. An assessment of the impact of the site compounds, including welfare arrangements and site drainage, should be scoped into the hydrology section of the Environmental Statement.

12. Decommissioning / Repowering

12.1 SEPA is currently considering the waste regulatory position of material such as rubble, foundations and cabling which may be reused or abandoned on site during decommissioning or repowering. Any proposal to discard materials that are likely to be classed as waste would be unacceptable under current waste management licensing and under waste management licensing at time of decommissioning if a similar regulatory framework exists at that time. Further guidance on this may be found in the document Is it waste - Understanding the definition of waste.

12.2 The EIA process should take this waste regulatory position, and the need to demonstrate waste minimisation, into account from the outset in designing the layout and in developing the general principles for the site of decommissioning or repowering.

13. Regulatory advice for the applicant

13.1 Details of regulatory requirements and good practice advice for the applicant can be found on the Regulations section of our website. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the operations team in your local SEPA office at: SEPA Galashiels Office, Burnbrae Mossilee Road, Galashiels TD1 1NF, Tel: 01896 754797

If you have any queries relating to this letter, please contact me by [redacted] e-mail at Planning.SE@SEPA.org.uk

Yours sincerely

Jess Taylor
Planning Officer
Planning Service
[redacted]

Disclaimer
This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at the planning stage. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. If you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found in How and when to consult SEPA, and on flood risk specifically in the SEPA-Planning Authority Protocol.

Appendix 1: Example Peat Balance Table Example

		Upgraded access tracks	New 'cut' access tracks	Turbine bases	Hardstandings	Borrow pit	Substation	Construction compound	Cabling	Total
Excavation	Plan area									
	Depth of acrotelm excavated									
	Depth of catotelm excavated									
	Volume of Acrotelm excavated									
	Volume of Catotelm excavated									
	Total excavation/ volume									
Re-Use Requirement	Length or depth									
	X-area or plan area									
	Vol									
Construction Re-use/Reinstatement	Acrotelm re-used inc width and depth									
	Catotelm re-used inc width and depth									
	Total initial re-use									
Temporary storage	Acrotelm stored									
	Catotelm stored									
	Total stored									
Final re-use	Acrotelm re-used inc width and depth									
	Catotelm re-used inc width and depth									
	Total initial re-use									
Balance	Acrotelm balance									
	Catotelm balance									
	Overall balance									

Appendix 2: Checklist for Submitted Information - Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (GWDTE)

	Information Requirements	Circle to confirm	ES reference: Figure / Section	SEPA Actions
1	Plans showing all proposed infrastructure, including temporary works	Yes		If not provided – SEPA will object due to lack of information and request the required plans
2	Plans overlain with details of the extent and depths of all proposed excavations	Yes		If not provided – SEPA will object due to lack of information and request the required plans
3	Plans show the relevant specified buffer zones (100m and 250m)	Yes		If not provided – SEPA will object due to lack of information and request the required plans
4	Plans overlain with source of groundwater abstractions: - all groundwater abstractions within 100m radius of all excavations shallower than 1m - all groundwater abstractions within 250m of all excavations deeper than 1m Or statement provided to confirm none	Yes		If not provided - SEPA will object due to lack of information and request the required plans
5	Plans overlain with GWDTE (Phase 1 habitat survey) data: - within 100m radius of all excavations shallower than 1 m; - within 250m of all excavations deeper than 1m. Or statement provided to confirm none	Yes		If not provided – SEPA will object due to lack of information and request the required plans
6	Applicant confirmation of one of following (as shown on above plans): i) no groundwater abstractions and GWDTE on site; ii) groundwater abstractions and/or GWDTE identified and 250m buffer zones implemented iii) confirmation that the groundwater abstraction owners have agreed contingency plans including temporary or permanent replacement of a groundwater supply.	Yes		If confirmed SEPA will request condition A (maintenance of buffer zones) as specified in SEPA guidance note Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems
7	Applicant can confirm above plans show excavations or intrusions within 100m buffer zone are shallower than 1m	Yes		If confirmed SEPA will request condition B (monitoring) as set out in above guidance
8	Applicant can confirm above plans show excavations or intrusions are on/in a groundwater abstraction or GWDTE	Yes		If confirmed SEPA will require a bespoke risk assessment
9	Applicant can confirm infrastructure involves excavations deeper than 1m within 250m of sensitive receptors or unable to comply with monitoring requirements of Condition B	Yes		If confirmed SEPA will require a bespoke risk assessment
10	Bespoke risk assessment provided	Yes		SEPA will provide a bespoke response

Signature:	Organisation:	Date:

Historic Environment Scotland
Àrainneachd Eachdraidheil Alba

By email: econsentsadmin@scotland.gsi.gov.uk

Mr Stephen McFadden
Energy Consents Division
Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
GLASGOW
G2 8LU

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

[redacted]
Switchboard: 0131 668 8600
[redacted]

Our ref: AMN/16/B
Our Case ID: 201506476
24 February 2016

Dear Mr McFadden

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
Proposed Section 36 Application for Wauchope Newcastleton Wind Farm Located at Wauchope and Newcastleton Forest, Scottish Borders
Scoping Opinion Request

Thank you for your correspondence dated 13 January 2016 and the accompanying scoping report, which we received for our role as a statutory consultee under the terms of the above regulations. This letter contains our comments for our historic environment interests. That is scheduled monuments and their settings, category A listed buildings and their settings, Inventory gardens and designed landscapes (GDL), Inventory battlefields and World Heritage Sites. Please also seek information and advice from the relevant local authority's archaeology and conservation service if you have not already done so.

Proposed Development
We understand that the proposed development relates to the construction of up to 90 no. wind turbines located at two sites on land at Wauchope Forest (70 turbines) and at Newcastleton Forest (20 turbines), Scottish Borders. The proposed turbines have a maximum blade tip height of 132m. Proposed locations for the turbine have been provided.

Potential Direct Impacts
There are a number of scheduled monuments within the boundaries of the proposed development. I note that the current turbine layout appears to suggest that there will not be a direct impact to these monuments, however there is no indication of ancillary infrastructure and development such as access tracks etc. Without further detail it is not possible to ascertain whether there will be a direct impact to the scheduled monuments. I can confirm that there are no category A listed buildings, Inventory battlefields or gardens and designed landscapes within the proposed development site. Detailed comments are provided in the attached annex.

Potential Setting Impacts
There are also a large number of heritage assets within our remit in the wider vicinity of the development whose settings have the potential to be adversely impacted by it. The annex to this letter gives details of a number of assets which appear likely to experience impacts.

This list should not be treated as exhaustive, and is only intended as a reference to those assets which at this stage appear most likely to be impacted.

Potential Cumulative Impacts
There are other proposed wind farms within the surrounding area. We would recommend that the potential cumulative impacts of the proposed development in combination with other developments in the vicinity be assessed, particularly the proposed wind farm at Highlee Hill, Chesters. This should assess the incremental impact or change when the proposal is combined with other past, present and reasonably foreseeable developments. There is the potential that designated sites such as Tamshiel Rig, fort, settlement and field system (Index no. 10605) would be affected by the combined developments.

The Scoping Report
We are generally content with the overall methodology set out in the Scoping Report, further details regarding specific assets for assessment are provided in the attached annex. We strongly welcome the aim of the development to mitigate any significant adverse impacts by design. We also welcome the reference to our Managing Change guidance note on setting and recommend its use when assessing setting impacts.

In terms of using the ZTV to assist in establishing which historic environment assets should be assessed in the ES, we broadly agree. However, we would note that even where a detailed ZTV indicates that no intervisibility would be possible from any such assets identified, the potential may remain for turbines to appear in the background of key views towards these assets, and this should be considered as part of the assessment. We would also note that although visual impacts can form part of the indirect impacts to the setting of cultural heritage assets, we consider that setting has a wider range of contributing factors.

General considerations
Our website provides general information on a number of issues the applicant may find helpful. This includes our role in the Environmental Impact Assessment (EIA) process, advice about pre-application consultations and general recommendations about the Scoping and Environmental Statement stages: http://www.historic-scotland.gov.uk/index/heritage/policy/environmental-assessment/eiafaqs.htm

Please do not hesitate to contact me should you wish to discuss any of the above.

Yours sincerely

Victoria Clements
Senior Heritage Management Officer, EIA

Annex

Our view on the principal of the proposal
On the basis of the information supplied, we are concerned that the proposed development may have an adverse impact on the setting of several scheduled monuments in the Scottish Borders. The development is likely to have potential significant impacts on the historic environment. In particular there are a number of prehistoric hill forts in the vicinity that have intervisibility with one another, and this could be adversely impacted by the development.

At this stage we would like to raise the potential impact on Rubers Law, fort (Index no. 2129) when viewed from the north. There is the potential that the development will disrupt the distinctive profile of the hill on which the scheduled monument is located. Additionally, we wish to highlight the potential cumulative impact of this development and other wind farms in the area, in particular the proposed wind farm at Highlee Hill, Chesters. There is the potential that sites such as Tamshiel Rig, fort, settlement and field system (Index no. 10605) would be affected by the combined developments.

Some of the monuments are currently located within forestry; future management of the forestry and the resultant change in setting should be considered within any future Environmental Statement (ES).

Historic Environment Scotland's interest
We consider that this proposed development has the potential to have an adverse impact on the setting of a large number of scheduled monuments as well as potential direct impacts on a number of scheduled monuments. We recommend that all of the scheduled monuments within the red line development boundaries, as listed below, are assessed for both direct and setting impacts and that visualisations are provided for all of these assets in any future Environmental Statement (ES). Direct impacts on nationally important designated assets by either turbines or ancillary infrastructure should be avoided.

<u>Scheduled monuments within the development boundaries:</u>

- The Catrail, linear earthwork, Robert's Linn Bridge to Leap Burn (Index no. 3466)
- The Catrail, linear earthwork, W of Leap Burn to 100m E of Langside Burn (Index no. 3468)
- Black Hill, settlement (Index no. 2319)
- Wheel Causeway, section 640m long on S slope of Wardmoor Hill (Index no. 3423)
- Westshiels, spur earthwork 1550m SW of (Index no. 3425)
- Tamshiel Rig, fort, settlement and field system (Index no. 10605)
- Nine Stones, stone circle, Ninestone Rig (Index no. 1688)
- Long Knowe, long cairn (Index no. 2154)
- Dykeraw Tower, Southdean (Index no. 3848)

In addition to the monuments within the development boundaries there is the potential that the wind farm will have an adverse impact upon the setting of other monuments. We would recommend that the applicant assess the following as a minimum:

<u>Scheduled monuments</u>

- Rubers Law, fort (Index no. 2129)
- Carby Hill, settlement (Index no. 1690)

- Kirk Hill, enclosure (Index no. 2149)
- Liddel Castle (Index no. 1716)
- Riccarton Tower (Index no. 4007)
- Hermitage Castle and chapel (Index no. 90161)
- Wheel Village, deserted settlement 1400m NE of Wormscleugh (Index no. 3424)
- Penchrise Pen, fort 635m SW of Penchrise Farm Cottage (Index no. 2296)
- Blakebillend, fort (Index no. 2297)
- Bonchester Hill, fort (Index no. 2173)
- Southdean Law, fort and settlement (Index no. 2211)

We would recommend that, in particular, the applicant should assess the impact upon Rubers Law, fort and Roman signal station (Index no. 2129) with regard to potential impacts upon the setting of the monument when viewed from the north. Visualisations should be provided, for example, from the A7 north of Hawick where both Rubers Law and the Cheviot Ridge, which forms the national border, are visible in views along with the proposed development.

This list is not exhaustive, we would expect any future ES to assess impacts on all scheduled monuments within 5km of the development.

Advisory Note
Although not part of our remit, we would highlight to the applicant that they may wish to assess the impact of the proposed development on the line of the national border. At this point the border follows a very distinct topographical line along the Cheviots. While this is primarily a landscape and visual impact we would highlight the cultural / historical dimension of this landscape. The Scottish / English Border was established by the Treaty of York in 1237 and as such is one of the oldest extant borders in the world. The border has a strong socio-cultural significance and we would suggest that any Environmental Statement assesses the impact of the proposed wind farm on the border.

Historic Environment Scotland

24 February 2016

McFadden S (Stephen)

From: Dougan, John [redacted]
Sent: 18 January 2016 10:41
To: Econsents Admin
Subject: Request for Scoping Opinion - Proposed Wauchope Newcastleton Wind Farm

Thank you for requesting our opinion on this Scoping Report.

I would make the following Comments:

The site proposed is almost exclusively contained within existing woodland, as such it's impacts upon that woodland will be a significant consideration in assessing the appropriateness of the proposed development.

However, with the exception of section 6.12, forestry is barely mentioned within the document. Neither could I find any reference to the Scottish Governments Policy on the control of Woodland Removal, which should be a key policy document in the consideration of this proposal.

The developer should create a specific chapter within the ES on Forestry which clearly lays out the potential impacts that the proposed development will have. This should identify any woodland losses resultant from the development and how the developer proposes to address those losses. Typically such a chapter should consider the existing woodland cover, how that would evolve over time without the windfarm, and then consider how this would differ if the development were to go ahead. Such consideration should cover both felling and restocking activities and be laid out clearly to show how these would differ in the two scenarios. Any other wider impacts on the woodland, such as road construction, "borrow pits" and any other infrastructure, should also be considered.

Whilst the approach laid out in Section 6.12 give some suggestion of such considerations, I currently find it to be rather unclear and vague as drafted. I would appreciate greater clarity around the points and approach to be adopted in respect to Forestry matters, and would be happy to liaise with the developer in this respect.

As a final point, which I think helps with clarity for other interested parties, it would be helpful if the developer made it clearer in the document that they are working with Forest Enterprise Scotland (FES) in bringing forward this development**. Forest Enterprise Scotland** being the government agency that's responsible for managing Scotland's National Forest Estate.

Quite separately, **Forestry Commission Scotland** (FCS) acts as the Scottish Governments forestry department, advising and implementing forestry policy to protect and expand Scotland's forests and to increase their value to society and the environment.

It is FCS which is the competent authority in respect to forestry matters, and which will give consideration and comment upon the EIA when presented. As currently worded it reads somewhat along the lines that FCS is both a party to the proposed development and a consultee, which is not the case.

FCS (as represented by myself and this Conservancy)have no direct relationship or input to this development and would wish for that matter to be better clarified within the ES.

Thank you

John

John Dougan
Conservator
South Scotland Conservancy

A51

Forestry Commission Scotland
Greystone Park
Moffat Road
Dumfries
DG1 1NP

RSPB Scotland

Energy Consents Unit
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

04 March 2016

Att'n Mr Stephen McFadden, Senior Case Officer

Stephen.McFadden@gov.scot

Dear Sir

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000 (AS AMENDED)

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION FOR WAUCHOPE NEWCASTLETON WIND FARM LOCATED AT WAUCHOPE AND NEWCASTLETON FORESTS, SCOTTISH BORDERS

Thank you for consulting RSPB Scotland in regard to the above. The proposed development will comprise up to 70 turbines at Wauchope Forest and up to 20 at Newcastleton Forest, together with associated infrastructure on the land near Newcastleton in the Scottish Borders. The sites are part of the Forestry Commission Scotland estate and currently comprise conifer plantation.

In general, RSPB Scotland is supportive of the use of renewable energy developments, but believes that the locations of windfarms must be carefully selected to avoid negative impacts on sites and species of conservation importance.

An Environmental Impact Assessment (EIA) would be required to establish the potential impacts of the proposed developments on birds, other wildlife and habitats. Such an assessment should involve a full survey of breeding and non-breeding birds and flight activity on and around the site, following the updated SNH guidance 'Recommended bird survey to inform impact assessment of onshore wind farms' (May, 2014).

We have the following observations to make on aspects of the scoping report, the numbers referring to the sections in the report.

Site access

4.5.5. Track edges should not be "encouraged" to re-vegetate but actively restored and managed for biodiversity benefit.

Lothian and Borders Office
Lindean Mill
Galashiels
TD1 3PE

Tel & fax 01750 725 323
rspb.org.uk

Peat

5.3.4-5. The presence of deep peat is of concern. Active blanket bog is an internationally important habitat and a priority UK Biodiversity Action Plan (UKBAP) habitat. Active blanket bog is also a priority habitat listed under Annex I of Directive 02/43/EEC on the Conservation of Natural habitats and of Wild Fauna and Flora (the Habitats Directive). As such, the UK government has an obligation under Article 2 of the Directive to maintain or restore active blanket bog at favourable conservation status. Consideration should be given as to whether this proposal allows this obligation to be fulfilled.

Furthermore, Scottish Planning Policy (SPP) sets out the need for "significant protection" of "carbon rich soils, deep peat and priority peatland habitat", where "further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation".

Peat is traditionally considered to be "deep" when it exceeds 50 cm. We note that the peat depth at the development site has been recorded as being up to 4.6 m. The turbines (and any new sections of access track) should, therefore, be located on areas that do not have deep peat (such as Wauchope West) and individual turbines should be microsited to avoid peat.

We note from Section 6.4.11 that "A comprehensive peat depth study will be completed as part of the EIA, and used to inform the scheme design in order to minimise peat disturbance and to avoid areas of deep peat as far as possible." To avoid deep peat "as far as possible" is unacceptable; it should be avoided entirely.

Where the plantation trees are removed across the site, a peat restoration and management plan should be drawn up such that there is no net loss of peat nor damage to undisturbed peat through drying out. A carbon budget should include the impact of removing, disturbing or drying of peat at any point across the development site. Section 6.2.3 of the scoping report makes reference to calculation of the carbon balance of the project. This should be undertaken using the latest version of the Scottish Government's carbon calculator.

5.3.6-8. The distribution and depth of peat on the development site, particularly where turbines are to be positioned, should be determined in detail. As stated above, deep peat (> 50 cm) should be avoided entirely by the development and a peat management plan should be drawn up for the site as a whole.

Designated sites

Table 5.1. We note the distribution of nationally and locally designated sites of nature conservation interest. These include a number of Sites of Special Scientific Interest (SSSI) that are directly adjacent to or, in the case of Kielderhead Moors: Carter Fell to Peel Fell SSSI, within the development boundary. We note that the provisional turbine layout will narrowly avoid construction on the latter. It should be clearly demonstrated that the proposed development has no direct or indirect impact on the integrity of these designated sites, including hydrology, and that a suitable buffer is provided between the development and the SSSIs.

The Langholm Special Protection Area (SPA) (2.3 km west of Newcastleton Forest) and its population of breeding hen harriers is of particular interest. The survey work and other assessments should be designed and carried out in such a way that any

potential impact on the birds of this SPA is identified and mitigated against. This should include winter roost surveys for hen harrier carried out according to SNH guidance. We would expect to see a Habitats Regulations Assessment (HRA) carried our in relation to the SPA.

The site of the proposed wind farm lies next to two components (Wolfhopelee Hill and Cragbank) of the Borders Wood Special Area of Conservation (SAC). Again, it should be demonstrated that the proposed development has no direct or indirect impact on these designated sites and an HRA should be carried out. The developer should also draw up a habitat management plan (HMP) detailing measures that contribute to the consolidation of the SAC and enhancement through native planting and connectivity of its constituent parts. Any biodiversity offset work should be aimed at enhancing these sites, in particular, the Cragbank and Wolfhopelee Woods.

Survey work

5.6.1 and 3. The latest information on breeding raptors should also be obtained from the South-east Scotland Raptor Study group.

5.6.5-10. We note the survey work already carried out or still in progress in respect of breeding and wintering birds. The methodology and duration of the surveys should satisfy the requirements of SNH guidance. We note that breeding bird surveys are due for completion in July 2016 (6.7.4). We also note the extent of Vantage Point Surveys to be undertaken, including those dedicated to the historic golden eagle range at the site.

We are aware of the presence of black grouse in the general area. This is a species of local and national conservation concern and should be taken into account in the ES. Information on the current distribution and size of black grouse leks should be obtained from the Southern Uplands Partnership which has undertaken annual lek surveys throughout the Borders.

Table 6.3 is captioned ‘Breeding Bird Surveys’ but includes non-breeding species such as barnacle goose and whooper swan.

Forestry

Details and mapping of planned tree felling to accommodate the turbines should be provided in the ES. Will there, for example be a wide buffer of trees retained between the cleared areas and the open habitat on the outside of the forests, notably to the east and south-east of both sites? Opening up the forest to the open country would provide corridors for species such as hen harrier (an open-country feeder) and potentially attract them into the wind farm site. Ways of mitigating against this should be presented by the developer. The SNH document ‘Wind farm proposals on afforested sites – advice on reducing suitability for hen harrier, merlin and short-eared owl’ (January 2016) should be consulted in this regard.

Where removal of plantation trees is undertaken, a schedule of felling should be drawn up that avoids the birds’ breeding season (April to July, inclusive). Ornithological survey work should also be carried out immediately prior to felling in other months to determine if crossbill, a Schedule 1 species, are nesting. This species’ breeding regime is regulated by cone cropping rather than the abiotic factors that typically trigger breeding in other species. If breeding activity by crossbills is detected, nests should be located and protected by an appropriate buffer.

Every effort should be made to retain native tree species. If native trees or shrubs are removed, then the above felling schedule should also be followed. Mitigation in the form of new native species planting should also be undertaken on the property or at some other suitable site in the region. The Borders Woods SAC (see Designated Sites, above) should be considered in this regard and consultation undertaken with SNH to identify the best approach.

Other sources of information

Reference should be made to the Borders Birds Report, published annually by the Borders branch of the Scottish Ornithologists' Club (SOC) and available from the SOC (www.the-soc.org.uk). The regional bird atlas (*The Breeding Birds of South-east Scotland,* Murray RD *et al* 1998) is now dated but may still be referred to. Work on the new regional atlas is, however, progressing. As soon as this becomes available or any pre-publication data are accessible, they should be consulted by the developer to obtain fine-scale contextual information regarding the bird populations of the area.

Please contact me if I can be of any further help.

Yours faithfully

[submitted electronically]

Mike Fraser
Conservation Officer

22 February 2016

SCOTTISH WATER
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
G33 6FB

0141 414 7444
www.scottishwater.co.uk
EIA@scottishwater.co.uk

Stephen McFadden
Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

By email to: econsentsadmin@scotland.gsi.gov.uk

Dear Stephen

Wauchope Newcastleton Wind Farm proposal – Scoping Opinion Request

Thank you for consulting with Scottish Water regarding the above proposed development.

Advice to the Scottish Government

A review of our records indicates that there are Scottish Water drinking water catchments close to Wauchope and within the site boundary of Newcastleton. It is unlikely that these drinking water catchments will be affected by the proposed development however we request further detail from the developer to confirm this as indicated below. Scottish Water drinking water abstraction sources are designated as Drinking Water Protected Areas (DWPA) under Article 7 of the Water Framework Directive.

As detailed below, we recommend that the developer contacts Scottish Water Asset Plan Providers to confirm the location of Scottish Water assets (including water supply and sewer pipes, water and waste treatment works, reservoirs etc.) in the vicinity of the proposed development site boundary or access routes.

Advice for the Developer

Drinking Water Protected Areas

A review of our records indicates that there are Scottish Water drinking water catchments located to the west of the Wauchope site boundary at Dodburn, Preisthaugh Burn and Skelfhill. These drinking water catchments are unlikely to be affected by the proposed development. The Newcastleton site boundary is partly within the drinking water catchment within which a Scottish Water abstraction from Newcastleton Springs is located. Scottish Water abstractions are designated as DWPAs under Article 7 of the Water Framework Directive and it is essential that water quality and water quantity in the area are protected.

A review of the indicative turbine layout illustrated in the Scoping Report indicates that the Newcastleton turbines will be located to the east of the site boundary, approximately 3.5km away from the Newcastleton Springs, and separated from them by a geological fault. As such, it is considered unlikely that the Newcastleton Springs will be affected by the proposed development. However, we request to see any changes to the proposed turbine layout along with details of the proposed access and infrastructure layout before this is finalised to ensure that the Newcastleton Springs will not be affected. The enclosed plan indicates the location of the drinking water catchments and Annex 1 details a list of precautions and protection measures to be taken within a DWPA and the wider drinking water catchment.

The location of the drinking water catchments is illustrated on the enclosed figures.

Scottish Water Assets

A review of our records indicates that there is a Scottish Water water treatment works and raw water supply main located close to the western boundary of Newcastleton at Priest Hill. The location of this infrastructure and any other Scottish Water assets should be confirmed through obtaining detailed plans from our Asset Plan Providers. Details of our Asset Plan Providers are included in Annex 1.

All Scottish Water assets potentially affected by the development should be identified, with particular consideration being given to access roads and pipe crossings. If necessary, local Scottish Water personnel may be able to visit the site to offer advice. All of Scottish Water's processes, standards and policies in relation to dealing with asset conflicts must be complied with.

In the event that asset conflicts are identified then early contact should be made with the Scottish Water Asset Impact Team (AIT) at **service.relocation@scottishwater.co.uk**. All detailed design proposals relating to the protection of Scottish Water's assets should be submitted to the AIT for review and written acceptance. Works should not take place on-site without prior written acceptance by Scottish Water.

In addition to the precautions and protection measures to be undertaken when works are to take place within a DWPA or drinking water catchment, Annex 1 also includes a list of precautions to be taken when working within the vicinity of Scottish Water assets. This list of precautions is not exhaustive but should be taken into account as the development progresses through the planning and development process.

If you have any questions relating to the above, or in relation to the information presented in Annex 1, please do not hesitate to contact me.

Yours sincerely

Joanna Cottin
Strategic Planner – Environmental Impact Assessment
EIA@scottishwater.co.uk

Encs.

Annex 1: Precautions to protect drinking water and Scottish Water assets during windfarm construction and operational activities

General requirements

1. The proposed timing of the works, including planned start and completion dates, should be submitted to Scottish Water in advance of any activities taking place on-site. This information should be submitted to **EIA@scottishwater.co.uk**.

2. If a connection to the water or waste water network is required, a separate application must be made to the Scottish Water Customer Connections Team for permission to connect. It is important to note that the granting of planning consent does not guarantee a connection to Scottish Water assets. The Customer Connections Team can be contacted by telephone on **0800 389 0379** or via email at **customerconnections@scottishwater.co.uk**.

3. In the event of an incident occurring that could affect Scottish Water we should be notified without delay using the Customer Helpline number **0800 0778 778** and the local contact if known.

Protecting drinking water quality

Regulatory requirements

4. Scottish Water is required to ensure that any activity within a drinking water catchment does not affect the ability of Scottish Water to meet its regulatory requirements.

5. Water Treatment Works are designed to treat the specific parameters of the raw water source they receive (i.e. the specific chemical, biological and other characteristics of natural, untreated water). If the characteristics of the raw water change or deteriorate, it can affect the ability of the works to supply drinking water to customers at the required standards.

6. The regulations relating to the quality of drinking water supplied by Scottish Water are the Water Supply (Water Quality) (Scotland) Regulations 2001. Quality Standards are derived from the European Drinking Water Directive 98/83/EC.

7. Drinking water catchments feed Scottish Water abstractions which supply water to water treatment works. Under Article 7 of the Water Framework Directive, waters used for the abstraction of drinking water are designated as Drinking Water Protected Areas (DWPA). The objective of the Water Framework Directive is to ensure that no activity results in the deterioration of waters within the DWPA. If an activity falls within a DWPA or drinking water catchment, it is essential that water quality and quantity are protected.

Specific precautions for drinking water protection during windfarm activities

8. A detailed, site specific Construction Method Statement including e.g. Construction Environmental Management Plan, Risk Assessment, Pollution Prevention and Contingency Plan must be submitted to Scottish Water at least three months prior to the works commencing. This should be agreed with Scottish Water prior to any operations taking place. Any other associated documents (e.g. Drainage Plan, Peat Management Plan etc.) should also be submitted and agreed with Scottish Water at least three months prior to works commencing. In the first instance, this information should be supplied to **EIA@scottishwater.co.uk**.

9. Where possible, infrastructure and activities should be located outside of the drinking water catchment. If this can be demonstrated to be impracticable then all infrastructure and activities should be located 100m from any watercourse where possible, and a minimum of 50m distant where 100m can be demonstrated to be undeliverable. This includes turbine locations, crane hard standing areas, cable trenches, access tracks and temporary construction related activities such as borrow pits, plant stockpiled materials, cement batching, wheel washing and construction compound areas.

10. Any potential effect on the hydrology of the area resulting from the construction and operation of the proposed development should be assessed and the findings presented in the Environmental Statement or environmental appraisal accompanying the planning application. This should include consideration of natural drainage patterns, base flows/volume, retention/run-off rates and potential changes to water quantity. Any required mitigation measures and proposed monitoring should also be detailed in the Environmental Statement or environmental appraisal accompanying the planning application.

11. When constructing roads, drainage ditches and trenches, drainage should not be directed into adjacent catchments but retained within the existing catchment.

12. Any potential pollution risk which could affect water quality should be considered and mitigation measures implemented to prevent deterioration in water quality and pollution incidents. This includes sediment run-off, soil or peat erosion, management of chemicals and oils, etc. (see also point 17 below). This should be considered for operations at all stages of development including pre- and post-construction.

13. Mitigation measures to prevent pollution to watercourses should be outlined in the Environmental Statement or environmental appraisal accompanying the planning application, and adopted in the Construction Method Statement/Construction Environmental Management Plan prior to work starting on-site. Any measures implemented should be regularly checked, maintained and improved if pollution occurs.

14. Consideration should be given to the use of food grade oils within turbines in close proximity to watercourses. The use of food grade oils within other plant and vehicles should also be considered depending on the risk to the drinking water catchment.

15. Watercourses that feed into any watercourses or reservoirs that Scottish Water abstracts from should be considered when developing new road or access infrastructure. Any crossing of these watercourses should be kept to a minimum. Pollution prevention measures should be put in place at each crossing point and silt traps, or equivalent, should be installed at regular intervals to minimise the risk from pollution.

16. Once constructed, site roads and access routes should be regularly maintained to ensure minimal erosion, and hence run-off and pollution, from the road surface. Site roads should be constructed from inert, non-metalliferrous material, with low erodibility and low sulphide content.

17. No refuelling or storage of fuel or hazardous materials should take place within the drinking water catchment area. If this can be demonstrated to be impracticable, then the appropriate Scottish Environment Protection Agency (SEPA) Pollution Prevention Guidelines (PPG) should be followed (PPG 2: Above ground oil storage, PPG 6: Working at construction and demolition sites, PPG 8: Safe storage and disposal of fuel oils, PPG 21: Pollution incident response planning and PPG 22: Incident response – dealing with spills). 50m buffers should be applied to all surface watercourses, groundwater borehole abstraction points and springs. Oil storage should be in accordance with The Water Environment (Oil Storage) Regulations (Scotland) 2006. There should be dedicated oil storage areas created. Spill kits should be located within all vehicles, plant and high risk areas.

18. Waste storage, concrete preparation and all washout areas should not be within the drinking water catchment area. If this can be demonstrated to be impracticable then this should be in dedicated areas 50m from a watercourse and designed to be contained and to prevent escape of materials/run-off to the environment.

19. Welfare/waste water facilities should preferably be located outside the drinking water catchment. If not practicable, then portable toilets should be used and waste disposed of off-site. Alternatively secondary treatment and soakaways should be used and, if required, a sampling chamber installed and sampling programme agreed. The proposed method of managing welfare and waste water facilities should be detailed in the Environmental Statement or environmental appraisal accompanying the planning application. If sampling is required, Scottish Water should be contacted via **EIA@scottishwater.co.uk** in the first instance.

20. Any proposed abstractions for activities such as welfare facilities or cement batching plants should be detailed in the Environmental Statement or environmental appraisal accompanying the planning application.

21. Induction training should be given to all personnel on-site and should include Scottish Water site sensitivities in relation to drinking water catchments and assets (see below), as well as spill response as outlined in PPG 22: Dealing with spills.

22. Construction and Environmental Management Plans, Pollution Prevention and Contingency Plan and associated documents should include the Scottish Water Customer Helpline Number **0800 0778 778** and the local contact details.

Protecting drinking water in peatland areas

23. When peat is present within the proposed area of activity the Environmental Statement or environmental appraisal accompanying the planning application should include an assessment on the potential release of colour, dissolved organic carbon and total organic carbon as a result of changes to hydrology and/or physical disturbance. This should cover the construction and post-construction phases.

24. Excavations and ground disturbance in areas of deep peat should be avoided. Deep peat is considered to be peat greater than 0.5m deep as stated in Good Practice During Windfarm Construction, 2015 (joint publication by Scottish Renewables, Scottish Natural Heritage, SEPA, Forestry Commission Scotland and Historic Environment Scotland).

25. The natural hydrology within peat should be maintained and/or restored. This should be taken into account when designing the turbine foundations, crane hardstanding areas, access tracks and cable trenches, etc. Any necessary measures to maintain natural drainage of peat and sub-surface hydrology, such as tailored drain spacing on access tracks, should be implemented as part of the design of the development.

26. Scottish Water requests that, where possible, access tracks in the drinking water catchment are constructed as floating tracks with adequate provision for maintaining existing drainage patterns.

27. Exposed soils and peat can release sediment, colour and dissolved organic carbon. The use of geotextiles, turf replacement and/or reseeding, should be undertaken as soon as possible.

28. Restoration of any degraded peat should be considered for areas within the drinking water catchment.

Protecting drinking water due to forestry activity

29. An assessment of any forestry activity, including felling, planting or other activity, likely to affect the drinking water catchment should be included in the Environmental Statement or environmental appraisal accompanying the planning application. Any specific mitigation measures should be identified and incorporated into the Construction Environmental Management Plan for the site prior to works commencing.

30. The Environmental Statement or environmental appraisal accompanying the planning application should include details on the harvesting/clearance process for any felling/woodland removal. The least disturbing method/s should be selected where possible.

31. Any historic drains or ditches within the windfarm area that discharge directly to a watercourse in the drinking water catchment should be blocked and slowly discharged to a buffer area in line with current Forestry Commission Forest and Water Guidelines. Where possible, this should be undertaken in advance of any work being carried out on-site, to provide protection for watercourses during site activities.

Monitoring requirements to protect drinking water quality

32. During construction, a programme of daily visual inspection of the watercourses, flow conditions (i.e. high, medium, low, or no flow), prevailing weather and any other pertinent observations, will be required to be implemented. The results should be recorded and the information submitted to Scottish Water (i.e. in a monthly progress report). This should be undertaken when water quality samples are taken. In the first instance, reporting should be provided to **EIA@scottishwater.co.uk**.

33. A water sampling programme shall be established and agreed with Scottish Water. This should assess the baseline water quality for a minimum of one year prior to any activities commencing on-site where possible, including ground investigations and any felling activities, to allow an accurate understanding of baseline conditions at the site. Water sampling should continue during construction and then post-construction for a minimum of one year. Following completion of one year of sampling post-construction, this should be reviewed to determine whether this should continue for a further agreed period. The parameters, frequency and sampling locations will also need to be agreed with Scottish Water. This monitoring will establish if any decline in water quality can be attributed to the development. It may also be necessary to establish trigger levels to determine when any potential issues should be reported to Scottish Water.

34. The appointed Ecological or Environmental Clerk of Works should be accredited with the Association of Environmental and Ecological Clerk of Works (AEECoW) and should have relevant knowledge and experience to provide advice and monitor compliance with measures for the protection of water quality in relation to abstractions for water supply.

35. Depending on the vulnerability of the public water supply, Scottish Water may request that a dedicated Environmental Manager be appointed and present on-site to assess and monitor any effects caused by the development.

Guidance documents

36. Please ensure that appropriate Guidance Documents are followed, including:

- Good Practice during Wind Farm Construction, Version 3. SNH/SEPA/Scottish Renewables/Forestry Commission Scotland (September 2015).
- Floating Roads on Peat. Forestry Civil Engineering and SNH. (August 2010).
- Constructed tracks in the Scottish Uplands, 2nd edition. SNH (June 2013).
- Forests and water UK Forestry Standard Guidelines, 5th Edition. Forestry Commission (2011).
- General Binding Rules under the Controlled Activities Regulations (see The Water Environment (Controlled Activities) Scotland Regulations (as amended) A Practical Guide, Version 7.2, SEPA (March 2015)).
- SEPA Pollution Prevention Guidelines (http://www.sepa.org.uk/regulations/water/guidance/).

Protecting Scottish Water assets

37. If an activity associated with a development proposal is located within close proximity to Scottish Water assets, including water and waste water pipe infrastructure, treatment works and reservoirs etc., it is essential that these assets are protected from damage. To this end, the developer will be required to comply with Scottish Water's current process, guidance, standards and policies in relation to such matters.

38. Copies of Scottish Water's relevant record drawings can be obtained from the undernoted Asset Plan Providers. This is distinct from the right to seek access to and inspect apparatus plans at Scottish Waters area offices, for which no charge is applied.

Site Investigation Services (UK) Ltd
Tel: 0333 123 1223
Email: sw@sisplan.co.uk
www.sisplan.co.uk

National One-Call
Tel: 0844 800 9957
Email: swplans@national-one-call.co.uk
www.national-one-call.co.uk/swplans

39. It should be noted that the site plans obtained via the Asset Plan providers are indicative and their accuracy cannot be relied upon. It is therefore recommended that the developer contacts the **Scottish Water Asset Impact Team** at **service.relocation@scottishwater.co.uk** for further advice if assets are shown to be located in the vicinity of the proposed development, and where the exact location and the nature of the infrastructure shown could be a key consideration for the proposed development. An appropriate site investigation may be required to confirm the actual position of assets in the ground. Scottish Water will not be liable for any loss, damage or costs caused by relying upon plans or from carrying out any such site investigation.

40. Prior to any activity commencing, all known Scottish Water assets should be identified, located and marked-out.

41. Scottish Water expects method statements, safe systems of work and risk assessments to be prepared and submitted in advance to Scottish Water for formal review and acceptance. These documents shall consider and outline in detail how existing Scottish Water assets are to be protected and/or managed for the duration of any construction works and during operation of the development if relevant. These documents must be submitted to Scottish Water's Asset Impact team for formal prior written acceptance.

42. The developer shall obtain written acceptance from Scottish Water's Asset Impact Team where any site activities are intended to take place in the vicinity of Scottish Water's assets. The Asset Impact Team can advise on any potential risk mitigation measures that may be required.

43. Scottish Water and its representatives shall be allowed access to Scottish Water assets at all times for inspection, maintenance and repair. This will also ensure that the Scottish Water assets are protected and that any Scottish Water requirements are being observed.

44. Any obstruction or hindrance of access to Scottish Water assets should be avoided. The prompt and efficient use and manipulation of valves, hydrants, meters or other apparatus is required at all times. There should also be no interference with the free discharge from water main scours or sewer overflows.

45. In the event of an incident occurring that could affect Scottish Water, including any damage to assets, Scottish Water should be notified without delay, using the Customer Helpline number **0800 0778 778**, and the local contact if known. Scottish Water apparatus should not be interfered with or operated by anyone other than Scottish Water personnel.

46. The 'offset distance' is the distance between any Scottish Water asset and adjacent properties and structures. Scottish Water reserves the right to ask for an offset distance in accordance with its own current policy and standards and to suit specific circumstances. The details of this requirement should be confirmed with Scottish Water as an early part of the design process.

47. Stationary plant, equipment, scaffolding, construction or excavated material, etc. should not be placed over, or close to, any Scottish Water assets without the prior written consent of Scottish Water which may be withheld depending on circumstances on-site.

48. Special care should be taken to avoid the burying of Scottish Water assets or the obstruction of sewers or manholes with fill or other material. Arrangements for altering the level of any chambers should be agreed in advance with Scottish Water and these should be constructed in accordance with Scottish Water requirements. The cost of any work to Scottish Water assets will be met by the project developer.

49. Excavation works (e.g. of wind turbine foundations) should not be carried out in the proximity of a water or waste water main without due notice having been given to Scottish Water and prior written acceptance obtained. The developer will comply fully with any Scottish Water specific site requirements.

50. Any tree planting associated with the development (e.g. compensatory planting or screening etc.) should be undertaken in line with Water for Scotland 3rd Edition (April 2015) to ensure that Scottish Water assets are not put at risk by future growth of tree roots.

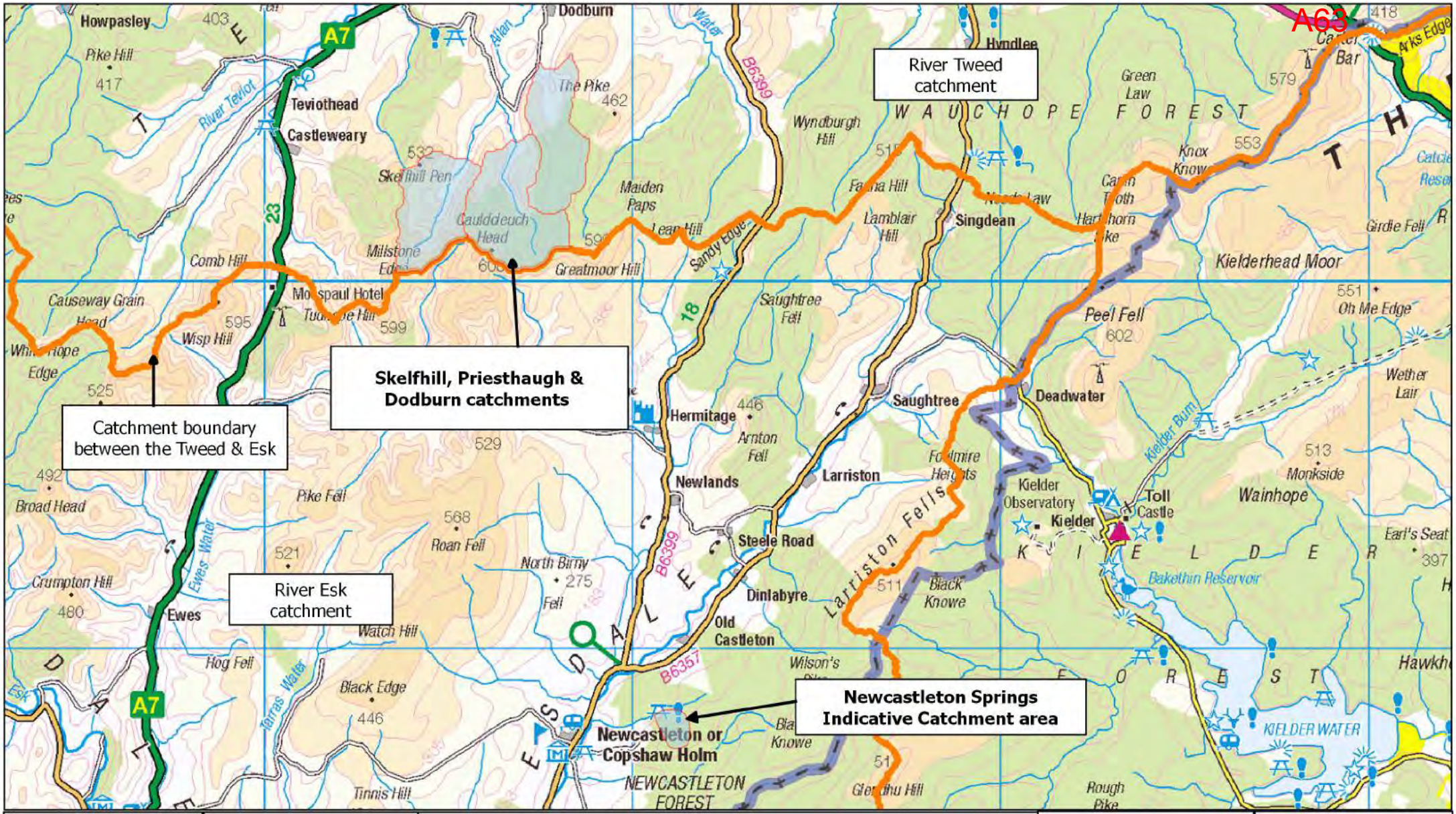
51. Vibration in close proximity to Scottish Water pipelines or ancillary apparatus should be managed in accordance with British Standard 5228-1:2009 (Code of practice for noise and vibration control on construction and open sites). The predicted levels of vibration should be agreed in advance with Scottish Water as part of the risk assessment and method statement and agreed vibration monitoring arrangements will be required.

52. The developer will consider the possibility of increased loading on Scottish Water apparatus and measures will be taken to eliminate or mitigate increased loading on assets. Care should be taken to identify any assets which may be crossed by vehicles on the access route to the site and crossing points will be engineered to the requirements of Scottish Water. Any pipe crossing proposals are subject to prior written acceptance by Scottish Water.

53. Scottish Water will not accept liability for any costs incurred in fulfilling any of the above requirements during the development planning, construction or operational phases, either by the developer, the developer's associates, contractors or any other person or organisation involved in the project.

54. If the developer damages any Scottish Water asset they will be held liable for any costs resulting from this.

55. Scottish Water may require costs associated with the development to be reimbursed by the developer or the developer's agents.



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The representation of physical assets and the boundaries of areas in which Scottish Water and others have an interest does not necessarily imply their true positions. For further details contact the appropriate district office.

Wauchope Newcastleton Windfarm Scottish Water Drinking Water Catchments

Scottish Water
Trusted to serve Scotland

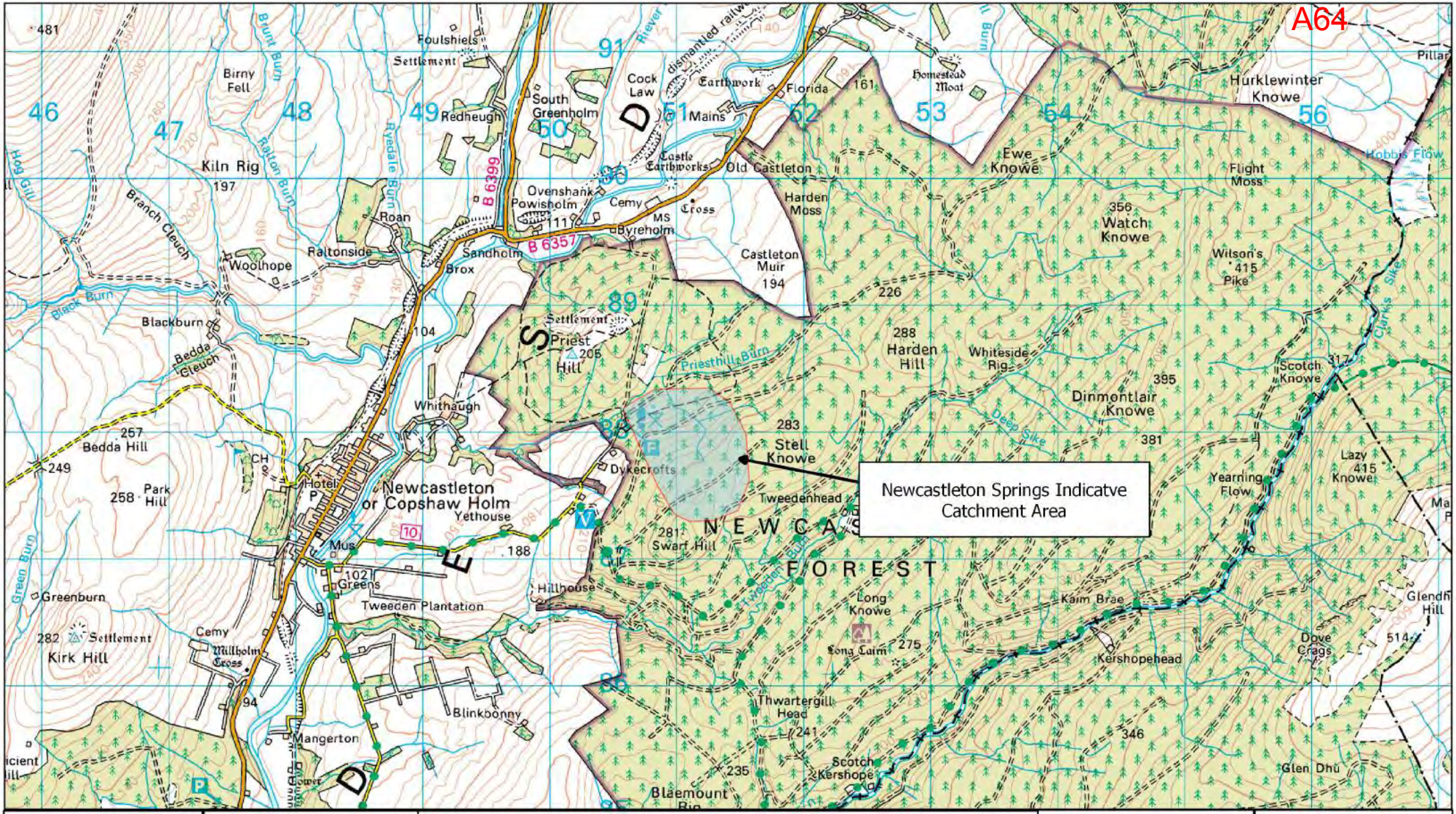
Castle House, 6 Castle Drive, Dunfermlilne, KY11 8GG

Tel No: 0845 601 8855

Scale 1:138,000

Printed by: Water Resources Team/LCM

Date: 8/2/16



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The representation of physical assets and the boundaries of areas in which Scottish Water and others have an interest does not necessarily imply their true positions. For further details contact the appropriate district office.

Wauchope Newcastleton Windfarm Scottish Water Drinking Water Catchments

Scottish Water
Trusted to serve Scotland

Castle House, 6 Castle Drive, Dunfermline, KY11 8GG

Tel No: 0845 601 8855

Scale 1:40,000

Printed by: Water Resources Team/LCM

Date: 8/2/16

ScotWays ®

Safeguarding public access in Scotland since 1845

econsentsadmin@scotland.gsi.gov.uk

Stephen McFadden
Senior Case Officer
Local Energy and Consents
The Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

09/03/2016

Dear Mr McFadden,

Re: Wauchope Newcastleton Wind Farm proposal - Scoping Opinion request

Thank you for your email of 13th January 2016 requesting comments on the above. Further to our subsequent e-mail correspondence, we gratefully acknowledge the additional time allowed for our response.

With reference to the Scoping Report's Figures 2a-c, as the area within the applicant's site boundary is so extensive, it has been necessary to largely restrict our comments to the three core turbine development areas at this stage.

The National Catalogue of Rights of Way (CROW) shows that rights of way BR143, BR145, BR147 and BR148 are affected by the area within the core turbine development area indicated on Figure 2c. No CROW routes are affected by the core turbine development areas indicated on Figures 2a and 2b. A map is enclosed showing the affected rights of way highlighted in orange. As there is no definitive record of rights of way in Scotland, there may be other routes that meet the criteria to be rights of way but have not been recorded as they have not yet come to our notice.

It is clear from our records that sections of rights of way BR143 and BR145 have been affected by forestry operations. In the case of BR145, it appears that the right of way has been overplanted to such an extent that its line may now differ in part from that recorded. Our understanding of the route of the diverted section of right of way BR145 is highlighted in pink on the enclosed map; it is possible that this diverted section now represents the actual line of the right of way.

Right of way BR143 follows the route of the *Wheel Causeway*. This early medieval road is promoted by the *Heritage Paths* project along with the historic *Carter Route* represented by right of way BR148. Both routes are shown on the *Heritage Paths In Scotland* map leaflet. It is our understanding that at least part of the *Wheel Causeway* is designated as a

Scheduled Monument. The Scoping Report appears to have no direct mention of the *Wheel Causeway*, although the Scheduled section may be one of the unlabelled features on Figure 4b. The Society suggests that impact of the development on the full extent of the *Wheel Causeway* should be considered with reference to Scottish Planning Policy (SPP), paragraph 151:

151. There is a range of non-designated historic assets and areas of historical interest, including historic landscapes, other gardens and designed landscapes, woodlands and routes such as drove roads which do not have statutory protection. These resources are, however, an important part of Scotland's heritage and planning authorities should protect and preserve significant resources as far as possible, in-situ wherever feasible.

The Scoping Report's Section 6.3 *Historic Environment* refers to the legal protection of Scheduled Monuments (6.3.2) and the treatment of historic environments via SPP. We thus anticipate impacts on the *Wheel Causeway* will also be considered as part of a Cultural Heritage section in the Environmental Impact Assessment (EIA).

The applicant is welcome to contact us directly regarding rights of way and other recreational routes over the whole of the area within the site boundary. We are also able to provide information pertaining to recreational access over a wider search area which may help inform the Landscape and Visual Impact Assessment.

You will no doubt be aware there may now be general access rights over any property under the terms of the Land Reform (Scotland) Act 2003. If the applicant has not already done so, we strongly recommend they consult the Core Paths Plan, prepared by Scottish Borders Council's access team as part of their duties under this Act. It may be helpful to note that our records indicate that recreational access is taken by cyclists along the forestry plantation tracks.

As we understand that there is very little guidance regarding the siting of turbines in relation to established paths and rights of way, we would like to draw your attention to the following:

Extract from the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8)

Proximity to Highways and Railways

2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line.

Figure 8 shows provisional turbine locations and appears to indicate that the identified right of way network is likely to be affected. We have been unable to locate a sufficiently detailed figure showing indicative turbine locations, only a list of grid references, so are unable to comment further on turbine locations at this stage. The Society anticipates that the Environmental Statement will clearly indicate and illustrate the minimum separation distance between turbines and recorded rights of way.

As far as we are aware, the Scoping documentation does not include an onsite track layout. As the site boundary encompasses a far greater area than that within the core turbine development area, it appears likely that there will be access tracks outwith the

study area. Once the proposed development's onsite track layout becomes available, we would be grateful if a copy could be forwarded to the Society for our comments in order that we can further consider any potential impacts on public access rights.

Table 6.2 identifies provisional viewpoint locations. We note that the list includes *St Cuthbert's Way* and suggest that the finalised list of viewpoints selected further represents the affected rights of way network and other recreational receptors.

As the Society is aware of other wind farm applications in this general area at various stages of the planning system, cumulative impacts on recreational amenity are of particular concern.

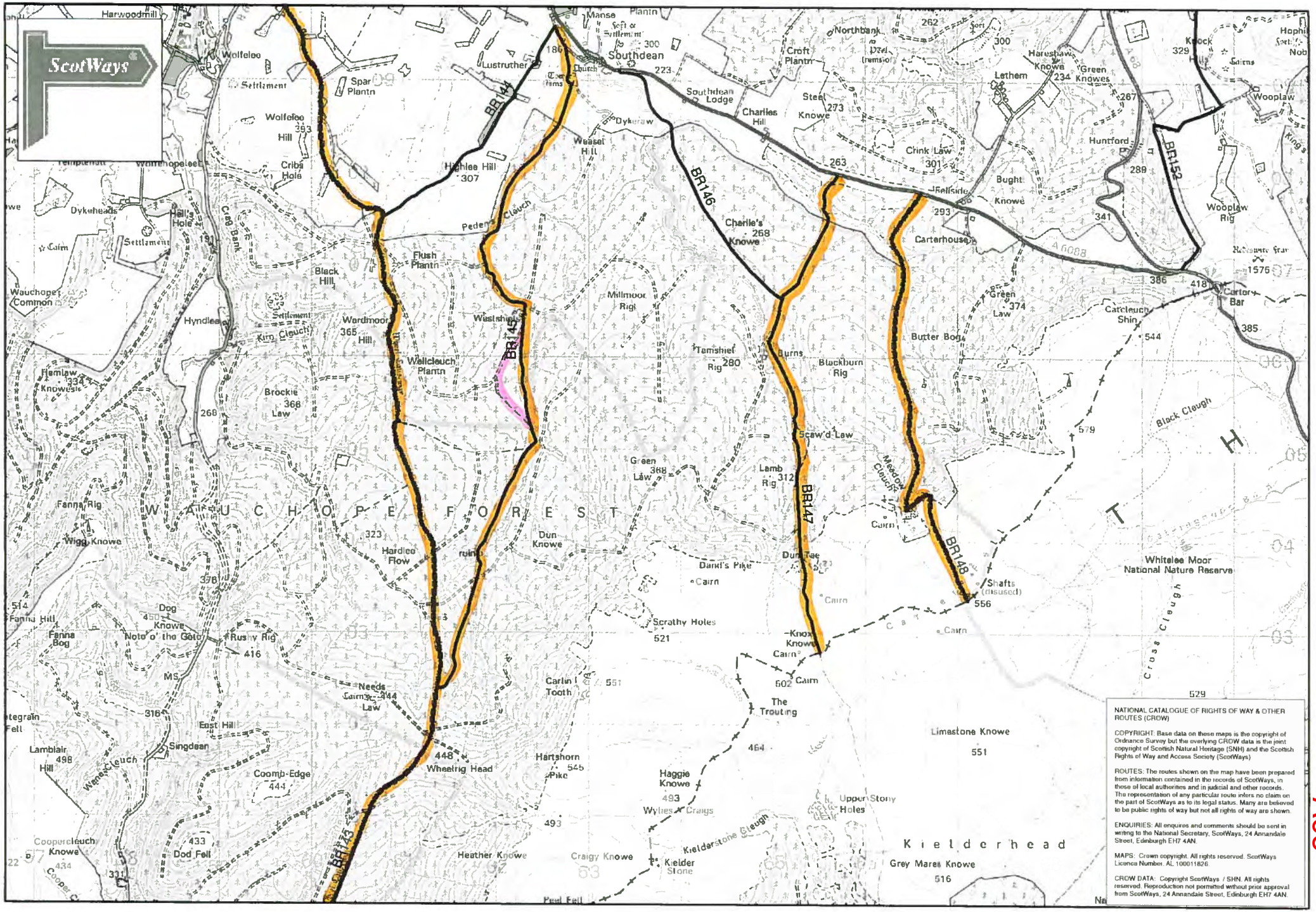
Neither the Society nor its individual officers carries professional indemnity insurance and in these circumstances any advice that we give, while given in good faith, is always given without recourse.

I hope the information provided is useful to you. Please do not hesitate to contact us if you need more detail or if you have any further queries.

Yours sincerely,

Eleisha Fahy
Access Enquiries Officer

Cc: Mark Barrett, RPS Planning & Development Ltd



NATIONAL CATALOGUE OF RIGHTS OF WAY & OTHER ROUTES (CROW)

COPYRIGHT: Base data on these maps is the copyright of Ordnance Survey but the overlying CROW data is the joint copyright of Scottish Natural Heritage (SNH) and the Scottish Rights of Way and Access Society (ScotWays)

ROUTES: The routes shown on the map have been prepared from information contained in the records of ScotWays, in those of local authorities and in judicial and other records. The representation of any particular route infers no claim on the part of ScotWays as to its legal status. Many are believed to be public rights of way but not all rights of way are shown.

ENQUIRIES: All enquires and comments should be sent in writing to the National Secretary, ScotWays, 24 Annandale Street, Edinburgh EH7 4AN.

Defence Infrastructure Organisation

Michael Billings
Safeguarding Assistant
Ministry of Defence
Safeguarding – Wind Energy
Kingston Road
Sutton Coldfield
West Midlands B75 7RL
United Kingdom

Telephone [MOD]: [redacted]
Facsimile [MOD]:
E-mail:

Your Reference: Section 36 Application

Our Reference: 23308

Mr Stephen McFadden
Scottish Government

15 February 2016

Dear Mr McFadden

Please quote in any correspondence: 23308

Site Name: Wauchope & Newcastleton Forests

Planning Application Number: Section 36 Application

Site Address: Scottish Borders

Thank you for consulting the Ministry of Defence (MOD) about the above planning application in your communication dated 13 January 2016.

I am writing to advise you that the MOD objects to the proposal. Our assessment has been carried out on the basis that there will be 90 turbines, 132 metres in height from ground level to blade tip and located at the grid references below as stated in the planning application or provided by the developer:

[redacted]

Air Traffic Control (ATC) Radar

The turbines will be 13.1 km from, detectable by, and will cause unacceptable interference to the ATC radar used by RAF Spadeadam (Deadwater Fell).

Wind turbines have been shown to have detrimental effects on the performance of Primary Surveillance Radars. These effects include the desensitisation of radar in the vicinity of the turbines, and the creation of "unwanted" aircraft returns which air traffic controllers must treat as aircraft returns. The desensitisation of radar could result in aircraft not being detected by the radar and therefore not presented to air traffic controllers. Controllers use the radar to separate and sequence both military and civilian aircraft, and in busy uncontrolled airspace radar is the only sure way to do this safely. Maintaining situational awareness of all aircraft movements within the airspace is crucial to achieving a safe and efficient air traffic service, and the integrity of radar data is central to this process. The creation of "unwanted" returns displayed on the radar leads to increased workload for both controllers and aircrews, and may have a significant operational impact. Furthermore, real aircraft returns can be obscured by a turbine's radar return, making the tracking of both conflicting unknown aircraft and the controllers' own traffic much more difficult.

An operational assessment of this proposal has been conducted by an ATC subject Matter Expert (SME) who considered the position of the turbines weighed against a number of operational factors. Close examination of the proposal has indicated that the proposed turbines would have a significant and detrimental effect on operations and on the provision of air traffic services at RAF Spadeadam (Deadwater Fell). MOD therefore objects to the development at Wauchope & Necastleton Forests. The reasons for this objection include, but are not limited to:

a. Increased Aircrew workload due to possible rerouting and constant TI updates via ATS.
b. Increased risk of non-squawking Aircraft not being observed within the cluttered area.
c. Increased ATM workload due to rerouting and constant TI updates.
d. Limitation of ATS provided to all types of Aircraft operating at Spadeadam within this area.
e. Limitation of ingress/egress profiles of Aircraft operating against RF systems.
f. Limitations on AS practising terrain masking in undulating ground.
g. Restrictions the development would impose upon special tasks conducted by the Unit.
h. The position of the development in relation to restricted/danger areas.

i. The MOD's future airspace and operational requirements.
j. The type and characteristics of aircraft routinely using the airspace in the vicinity of the proposed windfarm.
k. The performance of the radar.
l. The complexity of the ATC task.

Low Flying

Operational Low Flying is dependent upon ability to terrain mask and contour fly. Obstructions such as turbines that would push crews away from the northern end of the range, reducing their exposure to the range systems to all but very short range engagements, are unrealistic and insufficient for training. By further introducing obstacles on the ground (which extend above 100' in height) there is consequently an increased risk of CFIT (controlled flight into terrain).

Night flying – access to a range that gives the opportunity to practice very low light (< 2 mLux) RF procedures. As the wind turbines would have obstruction lighting that would produce **light pollution**. Even low levels of cultural lighting increase ambient light above 2 mLux and negate the training opportunity. Effectively causing the Night Vision Goggles (NVG) to 'bloom' i.e. adjust for the brightest light source making it impossible to see beyond it into the darker areas. This means that much, if not all of the range would be unavailable for very low light ops using NVGs.

The SPADEADAM ranges are **essential to maintaining UK high readiness capabilities** and the combination of light pollution, chaff restrictions, degraded system performance and obstruction caused by a wind farm at the proposed location would make it impossible to train effectively in the UK.

Threat Radar

The proposed development is in the vicinity of sites used by the RAF Spadeadam electronic warfare tactics facility, and may cause unacceptable interference to threat radars at these sites. Threat radars are employed during critical military exercises to train pilots against the common surface-to-air missile threats they will be faced with when on operations.

If the developer is able to overcome the issues stated above, the MOD will request that all turbines be fitted with MOD accredited 25 candela omni-directional red lighting or infrared lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point.

MOD Safeguarding wishes to be consulted and notified about the progress of planning applications and submissions relating to this proposal to verify that it will not adversely affect defence interests.

I hope this adequately explains our position on the matter. Further information about the effects of wind turbines on MOD interests can be obtained from the following website:

MOD: https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding

Yours sincerely

Michael Billings
Safeguarding Assistant – Wind Energy
Defence Infrastructure Organisation

SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS

From: Nyree Bell [redacted]
Sent: 08 February 2016 13:34
To: McFadden S (Stephen)
Subject: RE: Wauchope Newcastleton Wind Farm proposal - Scoping Opinion request

A72

Hi Stephen,

This wind farm is outside of Edinburgh Airport's consultation zone, therefore we would have no objections to this proposal.

Kind Regards,

Nyree

Nyree Bell
Safeguarding & Assurance Officer
[redacted]

Edinburgh Airport
Where Scotland meets the world

Edinburgh Airport Limited
Asset Building
First Floor
EH12 9DN

Development Management and Strategic Road Safety
Trunk Road and Bus Operations

Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF
[redacted]

A73

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Your ref:
Section 36

JMP ref:
TS00440

Date:
15/02/2016

Dear Sirs,

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000 SECTION 36

WAUCHOPE & NEWCASTLETON FOREST WIND FARM – ENVIRONMENTAL IMPACT ASSESSMENT SCOPING OPINION

With reference to your recent correspondence on the above development, we acknowledge receipt of the Environmental Statement (ES) Scoping Report (SR) prepared by The Partnerships for Renewables Development Company Ltd in support of the above development.

This information has been passed to JMP Consultants Limited for review in their capacity as Term Consultants to Transport Scotland – Trunk Road and Bus Operations (TRBO). Based on the review undertaken, we would provide the following comments.

Proposed Development & Site Location

We understand from the information provided by the applicant that the proposed development is to erect 90 wind turbines with a maximum tip height of 132m at two separate locations within the Scottish Borders at Wauchope Forest and Newcastleton Forest.

The Wauchope Forest development site will comprise of 70 wind turbines and is located approximately 11km south-west of Jedburgh and 9km south-east of Hawick (at its nearest points). The closest trunk road to this site is the A68 (T) approximately 2.5km to the east of the site.

The Newcastleton Forest development site will comprise of 20 wind turbines and is located approximately 1.5km to the east of Newcastleton and 18km east of Langholm (at its nearest points). The closest trunk road to this site is the A7 (T) approximately 18km to the west of the site.

We also note that the potential power generating capacity of both sites will be 238 MW.

Access Strategy

It is noted from the SR that access into the Wauchope Forest site will be taken from two locations on the B6357 and the A6088 respectively, and the Newcastleton Forest site will take access from the B6357. As these access arrangements all form part of the local road network, we would offer no further comments on this element of the proposals.

Proposed Abnormal Load Route

The SR provides no specific details with regard to the movement of abnormal loads other confirming that than an assessment will be carried out.

The ES should identify the expected port of delivery for turbine components and provide an assessment of the route to the site in terms of its suitability for the transportation of abnormal loads.

The details required should include swept path analysis of potential pinch points, measures required including the temporary removal of street furniture, any proposed junction widening, traffic management etc to ensure that the movement of these loads will not have any detrimental effect on structures within the route path.

Assessment of Environmental Impacts

We note that consideration has been given to traffic and transport effects associated with the development for the construction, operational and decommissioning phases within Section 6.9 of the SR.

With regard to the potential environmental impacts of traffic generated by the development on receptors adjacent to the trunk road network, there are a number of issues which should be taken into consideration when assessing the merits of the development.

The ES should provide information with regard to the construction and operational stages of the development. The information provided should include the preferred route options for the movement of any heavy loads along with an estimate of vehicle trip generation from the site and an indication of distribution / assignment of these trips.

Potential trunk road related environmental impacts such as driver delay, severance, pedestrian amenity, safety etc should be considered and assessed where appropriate (i.e. where the thresholds within the Institute of Environmental Management and Assessment (IEMA) Guidelines for further assessment are breached). These specify that road links should be taken forward for assessment if:

- Traffic flows will increase by more than 30%, or
- The number of HGVs will increase by more than 30%, or
- Traffic flows will increase by 10% or more in sensitive areas.

In the case of the ES, the methods adopted to assess the likely traffic and transportation impacts on traffics flows and transportation infrastructure should comprise:

- Determination of the baseline traffic and transportation conditions, and the sensitivity of the site and existence of any receptors likely to be affected in proximity of the trunk road network;

- Review of the development proposals to determine the predicted construction and operational requirements; and
- Assessment of the significance of predicted impacts from these transport requirements, taking into account impact magnitude (before and after mitigation) and baseline environmental sensitivity.

Noise

Noise impacts are briefly discussed in Section 6.8 of the SR. We would request that the noise assessment should include consideration of trunk road receptors, or provide evidence that this is not necessary according to the criteria discussed below.

Impacts to sensitive receptors associated with noise and vibration arising from the proposed development during the construction and operational phases should be considered. Operational traffic noise and construction traffic noise should be assessed by considering the increase in traffic flows and following the principles of Calculation of Road Traffic Noise (CRTN). Design Manual for Roads and Bridges (DMRB) Vol.11 states:

"In the period following a change in traffic flow, people may find benefits or disbenefits when the noise changes are as small as 1dB(A) – equivalent to an increase in traffic flow of 25% or a decrease in traffic flow of 20%. These effects last for a number of years."

PAN1/2011 advises that a change of 3dB(A) is the minimum perceptible under normal conditions, and a change of 10dB(A) corresponds roughly to halving or doubling the loudness of a sound. Therefore, the Environmental Statement should consider potential impacts to identified trunk road receptors, in terms of:

- Predicted noise levels from construction traffic; and
- Any increases to road traffic attributed to the proposed development

Air Quality

The Scoping Report makes no reference to air quality impacts. Where a significant change in road traffic characteristics has been identified as a result of a proposed development, changes in air quality at a worst case scenario sensitive receptor adjacent to the trunk road will require further assessment.

The first criteria for identifying roads with a significant traffic change is defined in the Environmental Protection UK "Development Control: Planning for Air Quality" publication: A change in Annual Daily Traffic (AADT) flows of more than 5% or 10% (depending on local circumstances) on a road with more than 10,000 Annual Average Daily Traffic (AADT).

The second set of criteria is taken from the Design Manual for Roads and Bridges Air Quality Screening Criteria:

- Road alignment will change by 5m or more; or
- Daily traffic flows will change by 1,000 AADT or more; or
- Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more;
- Daily average speed will change by 10 kilometres per hour (km/hr) or more; or
- Peak hour speed will change by 20km/hr or more.

In the assessment, a conservative approach should be utilised and traffic changes screened against both sets of criteria; if a road link triggers any of the criteria it should be assessed further. Where significant changes in traffic are not noted for any link, no further assessment needs to be undertaken.

Where environmental impacts are fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by stating in the report:

- The work that has been undertaken e.g. Noise / Air Quality Assessments etc;
- What this has shown i.e. what impact if any has been identified; and
- Why it is not significant.

It is not necessary to include all the information gathered during the assessment of these impacts, although this information should be available, if requested.

I trust that the above is satisfactory and should you wish to discuss any issues raised in greater detail, please do not hesitate to contact Alan DeVenny at JMP's Glasgow Office on 0141 226 6923.

Yours faithfully

[redacted]

John McDonald

Transport Scotland
Trunk Road and Bus Operations

cc Alan DeVenny - JMP Consultants Ltd

4 February 2016
Your reference:

Our ref.WID10291

Dear Sir/Madam,

RE: PROPOSED Wauchope Newcastleton Wind Farm

Dear Sir/Madam

Thank you for your email.

We have studied this wind farm proposal with respect to EMC and related problems to BT point-to-point microwave radio links.

The conclusion is that the project should not cause interference to BT's current and presently planned radio networks.

Yours sincerely

Dale Aitkenhead
BT Network Radio Protection

McFadden S (Stephen)

From: ALLEN, Sarah J [redacted] on behalf of NATS Safeguarding [redacted]
Sent: 13 January 2016 12:54
To: Econsents Admin
Subject: RE: Wauchope Newcastleton Wind Farm proposal - Scoping Opinion request
Attachments: Maps and FAQs v.2.pdf; Scoping v2.pdf

Dear Sir/Madam,

I refer to the Screening/Scoping request for Wauchope Newcastleton Windfarm.

I attach some general guidance from NATS regarding the potential impact upon our infrastructure and operations. Whether any potential impact might exist, can be ascertained through the use of our self-assessment maps or pre-planning service. Please note these maps are now available as easy to use Google Earth layers.

Our advice is for developers to familiarise themselves with the aviation aspects of wind farms and to include any evidence of assessments in their documentation. We would also advise developers to engage with NATS should they anticipate any issues, at the earliest opportunity.

Regards
S. Rossi
NATS Safeguarding Office

Mr Sacha Rossi
ATC Systems Safeguarding Engineer

[redacted]

NATS Safeguarding
4000 Parkway,
Whiteley, PO15 7FL

http://www.nats.co.uk/windfarms

[redacted]

A79

Information pack for wind turbine applicants

Frequently Asked Questions

1. Who are NATS?

NATS is the company that provides air traffic control (ATC) services in the UK. Our service is provided at 15 of the UK biggest airports and "en-route" i.e. in the airspace above the UK and over the north-eastern part of the Atlantic Ocean.

2. What is safeguarding?

In order to provide safe air traffic services, both NATS and aircraft rely on a number of ground based radars, navigation aids and communication stations. Radars are used by NATS and other agencies to monitor aircraft traffic, navigation aids are used by aircraft to navigate along their route and to land at airports. Communication stations are used by both ground based agencies (control towers and ATC centres) and aircraft to communicate with each other.

Safety is NATS' first and foremost priority and in order to provide a safe service and to meet the terms of the licence granted by the Civil Aviation Authority, this equipment needs to be continuously in operation and protected by any form of interference or disturbance.

3. What are the problems?

Common examples of interference that affect our infrastructure are:

- effects of wind turbines upon radar (radar shadows, false radar returns)
- degradation of radio and radar signals due to fixed obstructions or turbines

4. How is safeguarding done and how are problems prevented?

Safeguarding is ensured by legislation and processes designed to protect NATS's infrastructure. For construction and fixed obstructions, all NATS assets are notified via maps lodged with Planning Authorities. The Planning authorities will consult NATS when a planning application that conflicts with safeguarding is received.

For wind turbines, the process is different because of the major impact a wind turbine can have on the NATS infrastructure. As such consultation with NATS is compulsory and planning authorities will consult NATS for all wind turbine planning applications over the whole of the UK territory.

NATS is a statutory consultee for all wind turbine planning applications in the UK.

Civil Aviation Publications CAP764 and CAP670 contain relevant information and are available on the Civil Aviation Authority's website (www.caa.co.uk).

5. How can I find out if a wind turbine application is likely to be granted or objected to?

With respect to wind turbines, the safeguarded area encompasses the whole of the UK and consultation with NATS is mandatory. Planning authorities will consult NATS during the planning process, but applicants for wind turbines may wish to ascertain whether their application is likely to be objected to or not by NATS in advance of submitting for planning

In this case the options are to carry out a self-assessment (free of charge) or undertake a pre-planning assessment (chargeable).

6. What are the NATS self-assessment and pre-planning assessment?

The **self-assessment** is a process whereby prospective wind turbine planning applicants can get a preliminary idea of whether their proposed application is likely to be granted or not, or whether it is advisable to request a pre-planning assessment. The service is free and relies on theoretical radar coverage maps for different obstacle heights. These are available on our website.

The **pre-planning assessment** is a chargeable service that NATS offers to prospective wind turbine applicants. This provides an opportunity for developers to gain a further insight into whether a proposed installation is likely to be objected to or not by NATS prior to submitting a planning application. In order to reach a decision, NATS carries out a range of studies and investigations to determine whether a wind turbine is likely to cause an impact on air traffic safety or not.

Where the turbine is anticipated to cause an issue, further work may be possible to determine whether any remedial action can be taken in order to grant permission subject to certain conditions being met.

7. Why has my application been turned down when there are other turbines nearby?

In order to consent or object to planned development, NATS has to consider a number of factors, these include but are not limited to:

- geographical position and line of sight shielding between obstruction and NATS equipment (this may vary over a few metres)
- specific equipment at the NATS site
- terrain features
- airspace class and use (distance and density of air traffic)
- signal levels and characteristics
- turbine characteristics

An additional important factor is the cumulative impact, in some cases a number of turbines are deemed to be acceptable but no more. Unfortunately in some cases this will mean that although a number of turbines are located in a specific area, a new application is turned down. This is because the effect is deemed to be tolerable, however an additional turbine would cause further degradation which would not be acceptable.

Another additional factor is the distance between turbines and the way radar processing treats radar returns from turbines that are lined up. In some cases these can be interpreted as a valid aircraft track (i.e. 2 turbines may be tolerable but a third one may cause 3 reflections to appear as an aircraft moving along its route and to bypass radar filtering).

Safeguarding Dept.
NATS CTC
4000 Parkway
Whiteley
Fareham
Hampshire
PO15 7FL

☎: 01489 444687
🖷: 01489 616274
: natssafeguarding@nats.co.uk
: http://www.nats.co.uk

Instructions for the use of NATS self assessment maps.

To ascertain whether your development is likely to have an impact or not, you will need to use our self-assessment maps. You will also require a GIS/mapping package to plot your turbines (ARCGIS etc or GOOGLE "Forestry GIS" (fGIS™) which is freeware). All turbine heights are tip heights.

- You should be able to visualise your turbine(s) position(s) on the GIS map. For most packages you can create a text file with the NGR Eastings and Northings, to plot the turbine position.
- Download our self assessment maps free from our website.
- Add the relevant map for the turbine height to the GIS map, i.e. the height equal to the turbine height, or just below it if the exact height is not listed. e.g. 60m map for a 60m turbine, 40m map for a 50m turbine, 80m map for a 90m turbine etc.
- You should now be able to see both the radar coverage map AND the turbine position.
- You can now determine whether your turbine is visible to radar. Ideally a radar will not cover the turbine's position at all, or coverage will be at heights greater than the turbine height.

  For example, if you have a 60m turbine, ideally the radar will not cover that area at 60m.

  i.e. although there may be cover over that position at 100m and 80m, when selecting the 60m map, the cover is reduced leaving the turbine outside radar cover. Conversely if you have a 100m turbine, and the radar can see down to 100m over the turbine location, that turbine is visible to radar.
- By using the different maps, you should then be able to look at radar cover in different areas at different heights. This can be a useful tool for assessing a specific area and in some cases can be used to determine which positions are more likely to be an issue than others. It can also be used to determine a maximum acceptable turbine height.

  e.g. a potential location is visible to radar at 120m and 100m but not 80m hence a 120m and a 100m turbine would be visible to radar (possible objection) whereas an 80m turbine would be acceptable.

Once you've assessed your turbine location against primary radar cover, the same must be done for secondary radar (SSR), navigation aids and radio stations by downloading and adding the SSR, AGA and NAV maps. These have 15km/15nm circles representing safeguarded areas for these assets. When you have carried out your self-assessment, you will have determined whether your proposed turbine(s) falls in an SSR/NAV/AGA safeguarded or radar cover area:

If the turbine is outside all these areas, it is unlikely that NATS would object as there should be no technical impact.

If your proposed development is within a safeguarded or radar cover area, while this does not automatically mean an objection, it is recommended that you take out our pre-planning assessment whereby NATS undertakes further studies and provides you with a formal statement on the turbine's impact.

More generic information can be found on our website together with the details of our pre-planning assessment.

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NATS Safeguarding
Corporate and Technical Centre
4000 Parkway
Whiteley
Fareham
Hampshire
PO15 7FL

☏: 01489 444687
🖷: 01489 616274
: natssafeguarding@nats.co.uk
: http://www.nats.co.uk

Wind Turbine / Farm Scoping Opinion Requests and Pre-Planning Enquiries

NATS have a policy of early engagement with developers, particularly in the area of wind turbines and wind farm developments. Since NATS is processing an unsustainable number of scoping opinion requests received from developers and Local Planning Authorities (LPAs), the decision has been made to provide some clarification on this matter.

NATS have offered pre-planning services to developers since 2005, however, in 2010, it revised and launched its pre-planning consultancy service. This provides an early, yet formal indication to developers of the anticipated impact of their proposed development upon NATS' infrastructure. The service subsequently allows developers and applicants to engage in dialogue with NATS in order to identify and discuss any potential mitigation. This allows identified solutions to be discussed and potentially agreed, at an early stage, *before the formal planning process*.

In order to promote a consistent nationwide approach, NATS has determined that all pre-planning enquiries and scoping opinion requests received from planning authorities or directly from applicants should be treated in the same manner. To this end we provide two options: our free self-assessment maps, and the chargeable pre-planning application.

As such we kindly request that developers and applicants use either of these tools to determine whether an impact on the NATS infrastructure is anticipated or not.

If your request is for scoping, we advise you to use our self assessment maps to determine whether a planned application is likely to have an impact. Instructions for using our maps are included below. Should a planned application fall within an area of radar coverage or other safeguarded zone, our advice would be to undertake our pre-planning assessment in order to engage with us early. Should an application fall outside the radar or other safeguarded zone, it is unlikely that NATS would object during the planning process.

Please note that NATS will continue to meet its statutory obligations and comment on all formal planning applications received by local planning authorities.

Instructions for the use of NATS self assessment maps.

To ascertain whether your development is likely to have an impact or not, you will need to use our self-assessment maps. You will also require a GIS/mapping package to plot your turbines (ARCGIS etc or GOOGLE "Forestry GIS" (fGIS™) which is freeware). All turbine heights are tip heights.

- You should be able to visualise your turbine(s) position(s) on the GIS map. For most packages you can create a text file with the NGR Eastings and Northings, to plot the turbine position.
- Download our self assessment maps free from our website.
- Add the relevant map for the turbine height to the GIS map, i.e. the height equal to the turbine height, or just below it if the exact height is not listed. e.g. 60m map for a 60m turbine, 40m map for a 50m turbine, 80m map for a 90m turbine etc.
- You should now be able to see both the radar coverage map AND the turbine position.
- You can now determine whether your turbine is visible to radar. Ideally a radar will not cover the turbine's position at all, or coverage will be at heights greater than the turbine height.
  For example, if you have a 60m turbine, ideally the radar will not cover that area at 60m.
  i.e. although there may be cover over that position at 100m and 80m, when selecting the 60m map, the cover is reduced leaving the turbine outside radar cover. Conversely if you have a 100m turbine, and the radar can see down to 100m over the turbine location, that turbine is visible to radar.
- By using the different maps, you should then be able to look at radar cover in different areas at different heights. This can be a useful tool for assessing a specific area and in some cases can be used to determine which positions are more likely to be an issue than others. It can also be used to determine a maximum acceptable turbine height.
  e.g a potential location is visible to radar at 120m and 100m but not 80m hence a 120m and a 100m turbine would be visible to radar (possible objection) whereas an 80m turbine would be acceptable.

Once you've assessed your turbine location against primary radar cover, the same must be done for secondary radar (SSR), navigation aids and radio stations by downloading and adding the SSR, AGA and NAV maps. These have 15km/15nm circles representing safeguarded areas for these assets. When you have carried out your self-assessment, you will have determined whether your proposed turbine(s) falls in an SSR/NAV/AGA safeguarded or radar cover area:

If the turbine is outside all these areas, it is unlikely that NATS would object as there should be no technical impact.

If your proposed development is within a safeguarded or radar cover area, while this does not automatically mean an objection, it is recommended that you take out our pre-planning assessment whereby NATS undertakes further studies and provides you with a formal statement on the turbine's impact.

More generic information can be found on our website together with the details of our pre-planning assessment.

NATS Safeguarding

McFadden S (Stephen)

From: Windfarms [redacted]
Sent: 14 January 2016 13:29
To: Econsents Admin
Cc: McFadden S (Stephen)
Subject: 20160114REWauchopeNewcastletonWindFarmProposalScopingOpinionRequest

Dear Sir or Madam,

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000 (AS AMENDED)

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION FOR WAUCHOPE NEWCASTLETON WIND FARM LOCATED AT WAUCHOPE AND NEWCASTLETON FORESTS, SCOTTISH BORDERS.

Having reviewed the Scoping Report provided, the CAA notes that:

"Potential effects on infrastructure, aviation and telecommunications are not considered to be environmental issues and are therefore not included within the scope of the EIA, although where appropriate they will be identified as technical constraints and if necessary, addressed in more detail in the Supporting Statement to accompany any forthcoming planning application."

Given the location of the windfarms, the CAA would expect the appropriate aviation consultees to be NATS/NERL, the MOD and Edinburgh, Carlisle and Newcastle Airports. The positions of each consultee regarding the proposed development should be established by consultation.

In addition, there may be unlicensed airfields in the area who could reasonably be expected to take an interest in the development. Associated Aerodrome Licence Holders or operators may have registered safeguarding maps with their LPAs or have other agreed means of notification and consultation. To verify the presence of aerodromes known to the CAA in any particular area, it is recommended that an aeronautical chart is purchased and the site of the turbine checked to see if it falls within the range of an aerodrome using the distances recommended in CAP 764.

It is also recommended that Emergency Service Helicopter Support Units are consulted as they may operate in the area of concern and be affected by the introduction of tall obstacles. For example Police helicopters are permitted to operate down to 75 feet and will routinely follow main roads and motorways during their operations. Both the Police and Air Ambulance may need to land anywhere and will also have specifically designated landing sites. In England and Wales, police aviation is centrally co-ordinated by the National Police Air Service. They can be contacted via npas.obstructions@npas.pnn.police.uk. Air Ambulance and Scottish Police need to be consulted, where appropriate, on a local level. In addition, for offshore developments, the Maritime and Coastguard Agency should be consulted.

If the proposed development is approved, there is an international civil aviation requirement for all structures of 300 feet (91.4 metres) or more to be charted on aeronautical charts. However, on behalf of other non-regulatory aviation stakeholders, in the interest of Aviation Safety, the CAA requests that any feature/structure 70 feet in height, or greater, above ground level is notified to the Defence Geographic Centre (mail to dvof@mod.uk), including the location(s), height(s) and lighting status of the feature/structure, the estimated and actual dates of construction and the maximum height of any construction equipment to be used, at least 10 weeks prior to the start of construction, to allow for the appropriate notification to the relevant aviation communities.

Any structure of 150 metres or more must be lit in accordance with the Air Navigation Order and should be appropriately marked. Owing to the proposed height (maximum tip height 132m) of the proposed turbines there is no CAA requirement for the turbines to be lit, although if an aviation stakeholder (including the MOD) made a

request for lighting it is highly likely that the CAA would support such a request. Should the proposed maximum turbine heights increase, or turbine locations change, then previously consulted aviation stakeholders will need to be re-consulted to ensure that any impact assessments reflect such changes.

Should you have any further questions please feel free to contact me, details below.

Yours Faithfully,

Mark Deakin
Surveillance Policy
Airspace, ATM & Aerodromes
Civil Aviation Authority

[redacted]

Follow us on Twitter: @UK_CAA

[redacted]

The Mountaineering Council of Scotland
The Old Granary
West Mill Street
Perth PH1 5QP
Tel: 01738 493 942
[redacted]

By email to econsentsadmin@scotland.gsi.gov.uk

Stephen McFadden
Senior Case Officer
Local Energy and Consents
Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

27 January 2016

Dear Sir

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000 (AS AMENDED)

SCOPING OPINION REQUEST FOR PROPOSED SECTION 36 APPLICATION FOR WAUCHOPE NEWCASTLETON WIND FARM LOCATED AT WAUCHOPE AND NEWCASTLETON FORESTS, SCOTTISH BORDERS

Thank you for the opportunity to respond to the scoping request for the proposed Wauchope Newcastleton Wind Farm.

By way of introduction, the Mountaineering Council of Scotland (MCofS) is an independent organisation with more than 12,000 members who are hill walkers, climbers and ski tourers. It was established in 1970 as the national representative body for the sport of mountaineering in Scotland. We are recognised by the Scottish Government as representing the interests of mountaineers living in Scotland. We also act in Scotland for the 75,000 members of the British Mountaineering Council (BMC), which fully supports our policy relating to wind farms and contributes direct financial support to our policy work.

The MCofS recognises the need to move to a low carbon economy but it does not believe that this transition need be at the expense of Scotland's marvellous mountain landscapes. It objects only to proposals that we regard as potentially most damaging to Scotland's widely-valued mountain assets, consistent with our policy as set out in our document *Respecting Scotland's Mountains*.

Regarding the proposed development, this is a major proposal for up to 90 turbines of up to 132m blade-tip height, located at base altitudes between 300 and 400m OD, spread across three separate sites.

The MCofS has only one comment on the methodology proposed, which appears standard, and that is to disagree with the intention to focus the LVIA on the area within 15km of the proposed scheme.

While the MCofS is only too aware of the limitations of photomontages and wirelines in portraying the visual impacts of operational turbines, to restrict visualisations and analysis as proposed is inappropriate for a scheme of this magnitude.

Both The Cheviot and Eildon Hills are within 30km of the proposed development yet could receive no consideration if a focus within 15km is agreed. (For different reasons we suspect that the visual impact at each of these locations would be not significant, but that is speculation and the purpose of the scoping is to ensure that the EIA will provide proper *evidence* on which to make such judgements.)

There are three quite separate sites contained within a single application. It would be informative in relation to the relative impact of each site if the EIA included a single map showing the separate and overlapping ZTVs of the three individual sites.

The MCofS is disappointed at the lack of specific consideration of hill-walking interests.

We suggest that two viewpoints are needed to represent these interests, in addition to the proposed Ruberslaw viewpoint. (1) Cauldcleugh Head is a Donald (a hill >2000' in the Southern Uplands) and the nearest hill listed in the Scottish Mountaineering Club's tables, lying within 10km of the nearest proposed turbine. (2) Although mention is made of the Pennine Way, no viewpoint is proposed on it. This is odd since a more distant viewpoint on the less well known St Cuthbert's Way *is* proposed for inclusion. A viewpoint on or between Brownhart Law and Scraesburgh Fell (neither of which is on the Pennine Way but both of which are ascended from it for their views) would be around 13km from the nearest proposed turbine.

It is difficult to make use of the list of cumulative developments (Appendix 2) since it does not include the names or grid references of consented/proposed developments and they are not shown on a map. It is not clear to us that the list is up to date. It also includes small local developments which should surely be scoped out.

We hope that these comments will be helpful.

Yours sincerely

David Gibson
Chief Executive Officer

25 January 2016

Stephen McFadden
Senior Case Officer
Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Dear Mr McFadden,

Scoping Opinion Request on Wauchope Wind Farm proposal, Scottish Borders

Thank you for giving VisitScotland the opportunity to comment on the above wind farm development. Our response focuses on the crucial importance of tourism to Scotland's local and national economy, and of the natural landscape for visitors.

Background Information

VisitScotland, as Scotland's National Tourism Organisation, has a strategic role to develop Scottish tourism in order to get the maximum economic benefit for the country. It exists to support the development of the tourism industry in Scotland and to market Scotland as a quality destination.

While VisitScotland understands and appreciates the importance of renewable energy, tourism is crucial to Scotland's economic and cultural well-being. It sustains a great diversity of businesses throughout the country. According to a recent independent report by Deloitte, tourism generates £11 billion for the economy and employs over 200,000 - 9% of the Scottish workforce. Tourism provides jobs in the private sector and stimulates the regeneration of urban and rural areas.

One of the Scottish Government and VisitScotland's key ambitions is to grow tourism revenues and make Scotland one of the world's foremost tourist destinations. This ambition is now common currency in both public and private sectors in Scotland, and the expectations of businesses on the ground have been raised as to how they might contribute to and benefit from such growth.

Importance of scenery to tourism

Scenery and the natural environment have become the two most important factors for visitors in recent years when choosing a holiday location.

The importance of this element to tourism in Scotland cannot be underestimated. The character and visual amenity value of Scotland's landscapes is a key driver of our tourism product: a large majority of visitors to Scotland come because of the landscape, scenery and the wider environment, which supports important visitor activities such as walking, cycling wildlife watching and visiting historic sites.

The VisitScotland Visitor Experience Survey (2011/12) confirms the basis of this argument with its ranking of the key factors influencing visitors when choosing

Scotland as a holiday location. In this study, over half of visitors rated scenery and the natural environment as the main reason for visiting Scotland. Full details of the Visitor Experience Survey can be found on the organisation's corporate website, here: http://www.visitscotland.org/research_and_statistics/tourism_topics/wind_farms.aspx

Taking tourism considerations into account

We would suggest that full consideration is also given to the Scottish Government's 2007 research on the impact of wind farms on tourism. In its report, you can find recommendations for planning authorities which could help to minimise any negative effects of wind farms on the tourism industry. The report also notes that **planning consideration would be greatly assisted if the developers produced a Tourist Impact Statement** as part of the Environmental Impact Analysis, and that planning authorities may wish to consider the following factors to ensure that any adverse local impacts on tourism are minimised:

- The number of tourists travelling past en route elsewhere
- The views from accommodation in the area
- The relative scale of tourism impact i.e. local and national
- The potential positives associated with the development
- The views of tourist organisations, i.e. local tourist businesses or VisitScotland

The full study can be found at www.scotland.gov.uk/Publications/2008/03/07113507/1

Positioning statement – Scottish Borders Tourism Partnership

The local landscape, history and wildlife assets are an integral part of our tourism offer and play a large part in the decision process when visitors book to stay. Scenery and landscape are the two most important factors when choosing to visit Scotland as a holiday destination. The significance of these factors should not be underestimated with 55% (VisitScotland) of all visitors stating it is their key motivator for visiting.

The beauty, remoteness, wildness, peace and tranquility are some of the many reasons why visitors choose to come to the Scottish Borders. The character and visual amenity value of the landscape is a key driver of our tourism product. A large majority of our visitors come because of the landscape and the wider environment, which supports primary visitor activities such as cycling, walking, and wildlife watching and visiting historic sites.

It is inevitable that any infrastructure that is not in keeping with the natural environment could do irreparable harm to our tourism assets. SBTP does not express opinion on individual wind farm projects, however, we ask decision makers to consider the following when assessing applications:

The value of tourism to the Scottish Borders economy; more specifically the potential impact any development may have within the localised area (zone of theoretical visibility, ZVT) of the proposed development over the duration of the life of the development.

Tourism is an essential part of the Scottish Borders economy. STEAM (Scottish Tourism Economic Assessment Monitor) concluded its worth in the Borders during 2012 as £182million supporting 4,650 jobs. VisitScotland Insight department from their report Tourism in Southern Scotland 2011 for Dumfries & Galloway and the

Scottish Borders concluded its worth within Scottish Borders with visitor spend at £149million, visitors as 470,000 securing jobs in FTE of 3,700.

http://www.visitscotland.org/pdf/Tourism%20in%20Southern%20Scotland%202011.pdf
www.visitscotland.org/research_and_statistics

SBTP encourages the Planning Authority to ask developers to include a localised tourism impact assessment relevant to the proposed development within their economic impact assessment. Data to assess this is available to developers and planning bodies, references of where to source this is given within the notes.

Conclusion

Given the aforementioned importance of Scottish tourism to the economy, and of Scotland's landscape in attracting visitors to Scotland, VisitScotland would strongly recommend any potential detrimental impact of the proposed development on tourism - whether visually, environmentally and economically - be identified and considered in full. This includes when taking decisions over turbine height and number.

VisitScotland would also urge consideration of the specific concerns raised above relating to the impact any perceived proliferation of developments may have on the local tourism industry, and therefore the local economy.

We hope this response is helpful to you.
Yours sincerely,

[redacted]

Douglas Keith
Business Affairs Executive
VisitScotland

Mr Stephen McFadden
Local Energy and Consents
Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Our ref: FL/1-7
January 28th 2016

Dear Stephen,

WAUCHOPE NEWCASTLETON WIND FARM, HAWICK, THE SCOTTISH BORDERS

Thank you for consulting Marine Scotland Science (MSS) at the scoping stage of the proposed Wauchope Newcastleton wind farm.

We suggest the developer to consult the following web site which provides information regarding fisheries related issues and wind farm developments http://www.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren

In addition MSS would like to highlight the following information which should be addressed:

- salmon is listed under the European Habitats Directive and should be considered throughout the development, furthermore the River Tweed is a SAC, with the presence of salmon being a primary reason for this designation status;
- the results from site characterisation surveys for water quality (turbidity and stage data), macroinvertebrate and fish populations should be presented in the Environmental Statement (ES) along with detailed accounts of all proposed monitoring programmes;
- the potential impact of felling on water quality and aquatic biota should be considered and included in the water quality monitoring programme;

- the potential cumulative impacts of the present wind farm and other adjacent developments in the area (including mineral extraction) on water quality and aquatic biota should also be discussed in the ES; and
- The Tweed Foundation and Tweed Commission should be contacted, if not already done so.

Kind regards,

Dr Emily E Bridcut

[redacted]

Denholm

Hawick

22nd February 2016

Scoping responses from Denholm & District Community Council with respect to the proposed wind farm development at Wauchope East, Wauchope West and Newcastleton.

1. The scale of this development is massive, and should not be linked as one application. The area is spread out over 3 different Community Council areas with different forest plans in situ at the present time.
2. The idea that these turbines could be 'keyholed' into the existing landscape clearly does not take into account the effect this will have on the local and surrounding countryside.
3. The actual distance between the 3 sites is quite considerable, approximately 15 km, so in reality will be covering large swathes of countryside. Would any other proposed developments, apart from a wind farm, be allowed to be considered over such an area as one development? Would any development of this size not be considered better at a local level, decided from those who know and understand the impact on a local area?
4. We believe it is combined as a single application to bypass local planning constraints and to be considered at Scottish Government level.
5. The impact this will have on local tourism will be catastrophic. In 2014 our CC jointly with Jedburgh CC hosted and supported the Border Walking Festival. Over 600 people came to the Borders to enjoy our hospitality, our unique landscape and walk our beautiful countryside. Comments from walkers at the time talked about the disbelief of allowing planning consents for wind turbines in this area at all. They will not return if the views they see from our local landmarks are a vista of wind turbines over 100 metres high.
6. The traffic projection from these developments is purposefully vague. It was only after Denholm was confirmed to be the preferred route for the recently completed Langhope Rig windfarm that the reality of the extra transport movements was known. 100's and 100's of extra vehicles passed through our village and other communities depending on the nature of the load. Although the turbine movements themselves were advertised and known in advance, due to many factors they were often going through at different times. Late buses, slow moving traffic and vehicle hold ups etc caused local people to be late for appointments, missing other transport connections and on one day a party of guests missed the first 20 minutes of a wedding. These transport figures and preferred routes MUST be honest and transparent and considered at the time of application. It has a huge impact on local people and their everyday movements. The routes involved in this development are all minor roads and the problems will have even more impact through country lanes and villages. The applicant must show the true clarity of these movements through better transport management plans.

7. There has been little mention of the visual aspect of these turbines from other beauty spots in our particular area. Travellers from the English side of the Border onto the Hawick road will not fail to miss the extent of turbines along the unspoilt Border Ridge. Ruberslaw will have also have the presently near unbroken vista peppered with views of turbines on nearly all sides. Minto Hills and other high surrounding countryside are also likely to be affected. We have learnt to our cost that a developer's view and the reality of turbines on a horizon are two different things.
8. There is little comment of the cumulative effect of this and other proposed windfarm developments in this particular area. To date:
   Langhope Rig: Now constructed and seen clearly from areas never considered from their visibility studies and montages
   Cummings Hill: likely to be re-applied for in the future
   Birneyknowe: Currently being considered on 2 different applications
   Highlee Hill: Scoping with recent meetings with local CC's
   Windy Edge: Currently at an appeal stage
   Harwood: Currently re-scoping with engagement with CC's.
   It would appear it is 'open season' for developers to come to our area and disregard the local countryside, the impact on tourism and the effect all this has on everyday life.
9. More detailed reports must be acquired on the impact of this development on wildlife, habitats and bird life.
10. Many local areas have recently been affected by flooding. Concerns about the removal of peat bogs, the massive of amounts of concrete being buried and the possibility of changes to water courses and rivers is now a huge concern. To date there are no reassurances that this development will not affect areas outwith the immediate area of the proposed development.
11. This will have a tremendous impact on proposals for the creation of National Park Status for part of the Scottish Borders. This is currently being discussed and is gaining support from many local organisations and individuals.
12. Denholm & District Community Council would like to submit their comments and also support their neighbouring CC's in their reservations about this development. A massive development on this scale will have ramifications far beyond the Newcastleton/ Wauchope area. Recent newspaper articles clearly casts doubt that anymore wind farms are actually necessary when subsidies in the form of 'constraint payments' are being paid to companies for actually switching off their supply when it is not required.
    Scottish Planning Policy states that *'areas identified for wind farms should be suitable for use in perpetuity'*. It is our duty to protect our environment for future generations and not leave a legacy of questions being asked as to why we let all this happen in the first place.

[redacted]

Gwen Crew
Chair Denholm & District CC

A96

Newcastleton & District Community Trust & Newcastleton & District Community Council

[redacted]

Newcastleton

Scottish Borders [redacted]

www.newcastletoncommunitytrust.co.uk

17th February 2016

Scoping response from N&DCC and N&DCT in ref to the Wauchope Newcastleton Wind Farm Scoping request.

We make the following comments:

1. **Site locations**: PfR has submitted proposals as ONE application. The site locations and distance between them do not readily lend itself to this. We are concerned that one submission will not enable all the localised issues to be reviewed in the detail required to satisfy community concerns. ***Newcastleton forest sits apart from Wauchope East and West and should be considered as a single application.***

2. **Other sites**: colleagues from other community organisations in other locations effected have already highlighted that this submission does not detail all the wind farm operations; proposed or in operation which will impact on this proposal. These sites need to be reviewed in the full context of all potential developments in the catchment and within this proposal given the distances between them.

3. **Transparency** – given the significant amount of applications for wind farms within our near vicinity it is critical that feedback from one can viewed in the context of another. A timely process needs to be agreed so that the communities involved can assimilate the information for each application.

4. **Environmental Flooding impact:** huge financial resource and much effort has been put in to improve the flood defences for Newcastleton village. These measures proved successful with the River Liddle only breaching the southern end of the village which did not impact on housing or businesses during the recent extreme weather.

   4.1. The community council and development trust acknowledge the Scottish Forest Strategy set out in the Governments aims for forest development, but the sheer scale of what is being proposed WILL have a potentially damaging impact on our communities if not reviewed in the context of the wider environmental impacts.

   4.2. We are concerned that progressing this application as a single wind farm we will not be provided with the level of detail needed to review how the sites will impact on the watersheds. Newcastleton Forest feeds into the Liddel Valley, Wauchope East to Jed Valley and Wauchope West to Rule Valley. Each requires assessment as well as the collective impact of these and the other proposed developments.

5. **Transport, Traffic, Noise & Vibration:** given the size of the development proposed it is not unreasonable to presume that Newcastleton village will bear the brunt of the majority of transport to/from the site/s. It WILL see an increase of over 25% in traffic flow of general vehicular traffic AND HGV's during the period of construction. In addition, it will be subjected to traffic from Swarf Hill quarry also serving the site, although there is a suggestion that this might be mitigated via forest trails.

   5.1. The scoping proposal suggests *the potential effects of construction vibration be scoped out, as the separation distances are considered too large to result in any perception or damage effects.* The community and development trust consider this issue to have serious potential impact on the community, businesses and the tourism sector.

   5.2. Noise and vibration will impact on over 100 households whose home frontages directly face the roadside yards from the highway.

5.3. We believe traffic, noise and vibration should be included in the EIA with specific reference to the village hub and properties on the transport routes. This scheme could last for a significant amount of time with some residential areas being exposed to this for months on end, operational traffic movements will not be minimal for those on the transport route.

5.4. The village has a primary school with 60+ children attending daily. There is no reference to this on the outline. The community feels that traffic management will be a serious issue and have a dramatic impact on everyone living within it.

6. Detailed transport management plans will need to be provided for **each community to consider**.

6.1. Newcastleton's fragile road network is all single track and used for school buses, emergency access as well as daily commuter routes to workplaces north and south of the village.

6.2. Works necessitating long term road closures or major diversions will have serious impact on the community, particularly if road closures impact over weekends when the majority of tourism traffic is welcomed into the village.

6.3. The development trust is currently working hard to reinstate fuel provision within the village hub but this is by no means a certainty, thus hardship costs need to be considered in all traffic management assessments if diversions from current routes are required.

7. **Tourism Impact Assessment:** in common with **VisitScotland** and the **Scottish Borders Tourism Partnership** Newcastleton & District Community Council and the Newcastleton & District Community Trust ask that a FULL tourism impact assessment be undertaken, (current statement appended).

7.1. Although the sites at Wauchope East and West offer limited facilities Newcastleton's local businesses are increasingly dependent on the trade offered from residential and the day visitor market. The 7Stanes Mountain Bike Trails start and end in the heart of the village and the cross border trails we share with Kielder Forest bring many welcome visitors.

7.2. Thus, any disruption to these via trail closures (quarry transportation via forest?) WILL impact on local businesses. Quarrying at Swarf will necessitate an increase to the size of the quarry, thus the trails which border this will need to be diverted, is there a provision for this in the plan?

7.3. There is no reference to assessment of the 7stanes in terms of its economic value to the community and businesses other than acknowledgement by the developer that it is a tourism asset.

7.4. The 7stanes trail are the mainstay of the day tripper market delivering trade to the village hub throughout the year; the issue of trail access was raised by the **Newcastleton Business Forum** as well and the **7Stanes Mountain Biking CIC** at the community council meeting the developer attended. Verbal assurances were given by them about the importance of keeping access and usage of the trails open, BUT there is no confirmation of this in the scoping.

7.5. The significance of this to our micro economy means that community groups and businesses feel strongly that a **Tourism Impact Assessment** should be undertaken as part of the EIA to determine what might happen so that compensation measures can be considered if the development continues. Local businesses, the community and the public sector agencies have invested heavily in upgrading facilities and marketing to promote the trails and highlight the village as a visitor hub, this investment needs to be protected and we need to continue to encourage entrepreneurial investment to generate jobs and retain our young population.

7.6. The community with local businesses worked tirelessly for over 6 years to reinstate the Whithaugh Bridge linking the village to the forest. Since its opening in July 2014 there have been over 45,000 pedestrian crossings (36,000 annually) and 12,000 bikes. Recent investment will see the opening this

Spring of a mountain bike skills area and pump track enhancing the 7stanes and mountain bike offer, and it is hoped, attracting even more visitor numbers.

7.7. Dark Sky Status of the Northumberland National Park along with the Kielder Observatory, which border our boundary, attract visitors throughout the year staying in the village and surrounds. This market is also critical providing valuable revenues in the off season for local retail trade and accommodation providers. Any impact on this particularly during the off season will effect local business negatively.

8. 6.11.4 refers to *Scottish Borders Tourism Strategy 2008 (Scottish Borders Council and Visit Scotland Borders)* with specific reference to the importance of tourism and the recreational use of the forest. This strategy has subsequently been updated to **Scottish Borders Tourism Strategy 2013-2020** which fits within the national tourism strategy policy and objectives. Tourism and recreational usage needs to be reviewed within this context.

9. **Socio - Economic impact benefits:** The Scoping report suggests that '*The project will offer a financial contribution to the local community – through the community fund and the opportunity for the community to* ***invest directly in the completed scheme'***.

9.1. We cautiously welcome this opportunity BUT, it should be pointed out that local community groups are highly unlikely to be able to afford to employ professional *independent expertise* to advise them in ascertaining if this is a financially sound investment. This will require thorough investigative analysis for the community to identify the potential risks as well as gain thus the EIA needs to include specific proposals backed up with financial detail and the developer needs to provide the financial support to undertake this assessment if this is to be of any benefit.

10. **Communications**: specifically, telecoms and broadband during the construction process. This is not referred to within the scoping report but we feel it needs consideration in the EIA. The outskirts of Newcastleton and the wide hinterland that surround us will NOT benefit from the superfast broadband upgrade currently rolling out across the country.

10.1. The community trust is engaged with relevant bodies in assessing the options available to tackle this issue. Whatever the solution it will be tailor made to fit our needs with capacity for growth provided for but increased or unplanned usage may impact on this. The community needs to know what usage is needed by the developer both in the short term during the build and longer term usage of the site. This may influence the solution we choose.

Barbara Elborn
Secretary
secretary@newcastletoncommunitytrust.co.uk

SCOTTISH BORDERS
TOURISM PARTNERSHIP
working together achieves more

SBTP positioning statement, December 2013

WIND FARMS

Background

The Scottish Border Tourism Partnership (SBTP) is a collective of private and public sector agencies working to promote the tourism industry in the Scottish Borders. Our primary function is to direct the tourism strategy so this meets the needs of the businesses operating within all the tourism sectors in the Borders. In addition the partnership acts as a *hub** for the exchange of ideas, promotes best practise and raises awareness of relevant issues amongst the trade encouraging economic growth in the sector. **The hub is made up of sector representatives; visitor attractions, B&B, self-catering, hotels, retail, food & drink, camping & caravanning and the main public sector bodies; VisitScotland, Scottish Borders Council, Scottish Enterprise, Forestry Commission Scotland. See note 1 for greater detail regarding our remit.*

SBTP have created the following positioning statement on Windfarm Developments in the Scottish Borders in pursuance of its strategic aims, its obligations to represent the interests of the local industry, and to act as a link between the private and the public sectors.

POSITIONING STATEMENT

The local landscape, history and wildlife assets are an integral part of our tourism offer and play a large part in the decision process when visitors book to stay. Scenery and landscape are the two most important factors when choosing to visit Scotland as a holiday destination. The significance of these factors should not be underestimated with 55% (VisitScotland) of all visitors stating it is their key motivator for visiting.

The beauty, remoteness, wildness, peace and tranquility are some of the many reasons why visitors choose to come to the Scottish Borders. The character and visual amenity value of the landscape is a key driver of our tourism product. A large majority of our visitors come because of the landscape and the wider environment, which supports primary visitor activities such as cycling, walking, wildlife watching and visiting historic sites.

It is inevitable that any infrastructure that is not in keeping with the natural environment could do irreparable harm to our tourism assets. SBTP does not express opinion on individual wind farm projects, however, we ask decision makers to consider the following when assessing applications:

***The value of tourism to the Scottish Borders economy*;** more specifically the potential impact any development may have within the localised area (zone of theoretical visibility, ZVT) of the proposed development over the duration of the life of the development.

Tourism is an essential part of the Scottish Borders economy. STEAM (Scottish Tourism Economic Assessment Monitor) concluded its worth in the Borders during 2012 as £182million supporting 4,650 jobs. VisitScotland Insight department from their report *Tourism in Southern Scotland 2011*

for Dumfries & Galloway and the Scottish Borders concluded its worth within Scottish Borders with visitor spend at £149million, visitors as 470,000 securing jobs in FTE of 3,700. *http://www.visitscotland.org/pdf/Tourism%20in%20Southern%20Scotland%202011.pdf*, www.visitscotland.org/research_and_statistics

SBTP encourages the Planning Authority to ask developers to include a *localised tourism impact assessment relevant to the proposed development* within their economic impact assessment. Data to assess this is available to developers and planning bodies, references of where to source this is given within the notes.

NOTE 1: Remit of the Scottish Borders Tourism Partnership

The Scottish Borders Tourism Partnership is the representative body for the Tourism Industry in the Scottish Borders established in response to *Scottish Tourism: The Next Decade*, published in 2006 by the Scottish Executive which provided for Area Tourism Partnerships as follows: *The tourism industry has the potential to make a real contribution to the successful transformation of many of our neglected or deprived communities. Area Tourism Partnerships work to ensure that tourism engages with local communities and provides benefits for them.*

VisitScotland elaborates further with specific detail which covers the remit of the Area Tourism Partnership:

- Drawing up and overseeing the implementation of Area Tourism Partnership Plans that would/will set agreed priorities for the development and marketing of tourism. Once agreed, what commitments each partner will make, produce a local Action Plan (called an Area Tourism Action Plan). They also monitor the progress of actions detailed in the plan.
- Input to the national tourism strategy and review of local alignment.
- Securing resources to ensure effective delivery of the Area Tourism Partnership Plan
- Acting, where appropriate, as a lobbying body to further the interests of local tourism, hospitality and leisure industries.
- Acting as a link between public and private sectors
- Acting as a vehicle to engage the industry

The SBTP strategic aims for 2013 -2020

The SBTP has a number of elements to manage as part of the delivery of the 2013 – 2020 Scottish Borders Tourism Strategy, one of these is to **Provide Authentic Experiences** to our visitors. This is a reflection of the national Tourism Strategy; *Tourism Scotland 2020: A destination of first choice*, managed by the Scottish Tourism Alliance. Specifically, providing authentic experiences to our visitors means:

Nature, Heritage and Activities

Capitalise on the opportunities offered by our inherent assets. Enhance the product offering and optimise the benefits to be gained from these key assets. Encourage responsible custodianship of the Region's built and natural environment, scenic and wildlife assets by supporting government, local government, agencies, land owners and managers *to manage and protect the Region's*

landscape and wildlife assets in a manner that maintains and improves the qualities of beauty, remoteness, wildness, peace and tranquillity. Inculcate a mutual understanding by all of the Economic Value of Landscape to the Region's Tourism Industry. (P7, 4.2. Scottish Borders Tourism Strategy 2013-2020. Prepared by Tourism Resource Company, Management Consultancy and Research Services, for Scottish Borders Tourism Partnership or insert link to visitscotland.org)

NOTE 2: Local Tourism Data

Scottish Borders Council uses STEAM (Scottish Tourism Economic Assessment Monitor) to assess the economic value of Tourism within its boundary. Data is available for businesses operating within the sector as follows:

Total number of operators by postcode, by accommodation type. Total bed stock of those operators.

VisitScotland GBTS survey for 2012 provides occupancy data for visitors by accommodation category http://www.visitscotland.org/pdf/Scottish%20Occupancy%20Survey%20Annual%20Reporting%20-COMBINED%20v9%20no%20data%20appended.pdf

Visitscotland.org offers a wealth of consumer spending, attraction visitor numbers and other tourism related
intelligence http://www.visitscotland.org/research_and_statistics/trends_and_insights.aspx

NOTE 3: LOCALISED TOURISM IMPACT SURVEY

It is suggested that any study on the impact of windfarm developments on tourism business in the locality of any development include the following:

- Tourism business receptors within the various ZTV's, including type of business (e.g.: accommodation provider, walking tour operator, event operator, equipment hire company etc)
- The economic value of these tourism businesses based on published levels of occupancy, day visitors and spend
- An evaluation of the cost/benefit to the tourism sector of this impact over the life of the development

A102

Upper Liddesdale & Hermitage Community Council
[redacted]
Newcastleton
[redacted]

22nd February 2016.

Mr Stephen McFadden
Senior Case Officer
Local Energy & Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Dear Sir,

Re: Wauchope Newcastleton Scoping Opinion Request.

Further to the request, below are some points which we believe PfR should clearly address as part of their scoping document. So many scoping documents lack detail and talk in general terms about non-specific subjects. The size of this Section 36 project is such that no details can be left to chance as the opportunity for mistakes is too great. Therefore we would like to consider the following:

1. **Planning**:- PfR are proposing to submit one application for 3 separate sites. Wauchope East & Wauchope West may not be too far apart but Newcastleton is several kilometres away. Each site has its own issues which need satisfying independently.
2. **Tourism**:- With so many turbines proposed in one area a robust assessment of the impact on tourism should be included. This should include the effects during construction as well as whole life assessment. This assessment must be supported by real time evidence.
3. **Communications**:- Communication infrastructures will be required by PfR both during construction and operation. The area has very limited broadband and mobile signals and there is a potential for disruption. The scoping report should clearly show how this will be controlled and any potential benefit that the communications installed by PfR can offer local residents.
4. **Property Values**:- An assessment backed up by real world evidence must show the effect on property values in the area surrounding the wind farms. This should be a whole life assessment and cover all aspects – for instance, would certain properties be harder to market during the construction phase?
5. **Transport**:- During the construction phase many thousands of extra journeys will be on our road network. Everyday there are near-misses between timber wagons and this is evident by the amount of verge damage from wagons having to avoid each other. The scoping report must clearly show how any effects will be minimised and what emergency procedures will be put in place. There are limited diversion opportunities so should an emergency occur while a large load is being moved the report needs to demonstrate how they can control this. Detailed travel plans will help if they include solutions for every eventuality. Also, residents living along the transport routes will suffer from noise and vibration on top of the increased traffic. Effects on residents' properties should be considered.

6. **Environmental Impacts**:- With climate change affecting all areas greater environmental impact assessment should be carried out to ensure no extra burdens are placed on already stretched natural resources. Therefore, along Construction / Operational noise / light & wildlife / natural habitat assessment the effects on localised flooding due to any infrastructure / loss of natural drainage the project creates should be considered. This should include assessments on maintenance required for any drainage created during the project.
7. **Economic Benefits**:- Any benefits offered to local communities as part of this project should be cast in stone and in no way left open to interpretation by any parties.
8. **End of Life Decommissioning**:- At some point the proposed turbines will become unviable. The scoping report needs to show how financial set-a-side will be implemented to ensure there are funds to cover full decommissioning if grants / schemes have come to an end.
9. **Project Justification**:- The report should show clearly the justification for the wind farm. It should highlight the need and how PfR believe it will help Scotland achieve its targets for environmentally friendly energy production. Wastage is not environmentally sound and the transmission of any type of energy results in losses. Therefore, as part of this justification, the requirement for the energy the project will generate locally should be highlighted. It makes sense to put energy generation, of any sort, in the areas it is most needed.

We are grateful to you for the opportunity to make these observations and we hope PfR will consider them to produce a robust and all-encompassing document.

Yours sincerely,

Steve Hartley
On behalf of: Upper Liddesdale & Hermitage Community Council.

Scoping response from Hawick Community Council to the Wauchope Newcastleton Wind Farm Scoping request.

Hawick CC objects to the three proposed sites being classed as one.

The geographical location of each site is significantly different to warrant three separate applications. Each site has its own peculiarities and need to be viewed individually.

The three sites fall into three different Community Council areas, Wauchope East is in Southdean CC, Wauchope West is in Hobkirk CC and Newcastleton Forest is in Newcastleton CC.

The three sites also affect three different watersheds, the Jed valley, the Rule valley and the Liddle.

Given the recent flooding that has affected these water courses it is of great concern that these turbine bases will cause greater run off and thereby increase the likelihood of even higher river levels.

Another concern is the cumulative impact on the landscape.

At present the following are ongoing in this area and need to be considered along with the Wauchope sites.

Cumming Hill, currently withdrawn but likely to be re-introduced.

Birneyknowe, a current application.

Windy Edge, currently on appeal.

Harwood, pre scoping.

Highlee Hill, already scoped with recent public exhibitions. (With a turbine height of 176m is totally out of proportion for this area and would be amongst the highest on shore in the UK)

Langhope Rig, constructed.

It is difficult to see how the increased volume of traffic, that will be needed, can be accommodated on the roads in the area of which many are single track. This will lead to disruption over a lengthy period to the local community.

Having seen the disruption caused by the Langhope Rig construction and how it affected the wider community we are concerned that this construction will have an even greater impact on those communities

A tourist Impact assessment must be carried out.

This area depends on tourism, walking and cycling in particular, and the amount of disruption this project will cause will have an adverse effect on this.

Response to scoping request for Wauchope East, Wauchope West and Newcastleton Forest from Hobkirk Community Council

1 Coherence of the Proposals

This plan is in effect 3 separate developments physically detached from each other and it is difficult to see how a case can be made for it being one scheme. It will be difficult to assess the scheme as one when each is in a different location. Comments on the scheme are likely to be very difficult to apply to all sites. Aspects which can be supported in one location may not be similarly acceptable in others. This might have the effect of objections being raised for the whole scheme when there is only one (or two) of the locations which are judged unsatisfactory. Hobkirk Community Council **objects** to the schemes being treated as one

2 Size of the Proposed Development

This is a large development by any standards. Careful consideration should be given to whether a scheme of this size can be built in this location without having a serious detrimental effect on the landscape, heritage, amenity and local economy. The onus will be very much on the developer to demonstrate convincingly that this is not the case. The developers will also have to make a convincing case that it will be acceptable to build a site which goes way beyond what Scottish Borders Council Development Plan considers appropriate – especially in terms of turbine height.

3 Energy Targets

The developer expects that the proposed development would contribute to CO2 reduction targets and government renewable targets. We would ask that as part of the application there is a full assessment of how far these targets are currently being met. We would ask that there is a consideration of what is operating, consented, in planning and in scoping. We would further ask that evidence is given of progress at the time and that it is regularly updated prior to a final decision being made.

4 Cumulative Impact

The scoping document is out of date regarding cumulative impact; it includes a number of very minor schemes and excludes some major ones. The application needs to include up to date information so that a proper assessment of cumulative impact can be made. In addition, given the separate locations of parts of this proposal, the effect of each site on the other needs to be considered in the cumulative effect.

5 Flooding

There is a history of recent flooding in Hawick, Jedburgh, Bonchester Bridge, Newcastleton and outlying areas. This level of construction in the area may exacerbate the flood risk. All of the developments lie in the catchments of the Teviot, Jed, Rule, and Slitrig. The construction of roads, hard standing and concrete bases with the attendant loss of forestry needs to be thoroughly assessed for risk. The risk needs to be assessed *in perpetuity* since the concrete base will not be removed at decommissioning and further development is possible on any site once consented.

6 Transport

There needs to be an independent assessment of the suitability of the local roads and infrastructure. Of particular concern are the A7 and B6395 and the village of Newcastleton. The A7 is the Borders Historic Route from Carlisle to Edinburgh. The B6397 is an iconic cycling road which has featured in most recent editions of the Tour of Britain. It is also a popular road with touring motor cyclists. The high level of additional heavy traffic on this route will need to be assessed taking account of all relevant factors.

7 Visual Amenity

The area under consideration is an area of largely unspoilt countryside with very few human constructions. The developers need to include far more viewpoints than those included in the scoping documents to demonstrate likely effects. Far more consideration also needs to be given to scenic roads if the true impact of such a huge scheme is to be properly assessed.

8 Ornithology

The developer need to consider the whole issue of displacement with the large number of schemes proposed in the area. The base assessments cannot be relied on when numbers may be distorted by displacement from nearby wind farm construction. Assessments need to reliable and draw on consultation with local experts as well as relying solely on observation which by its nature is partial in timescale. This also highlights a problem of 3 different sites. Studies of one site will not be relevant to others and 3 separate studies are needed.

9 Tourism

We would like to see full justification for the opinion (in 6.11.5) of the scoping document that wind farm development may have positive effects on local tourism. Evidence and concrete examples would be welcome. The proposed list of consultees makes no mention of rambling, road cycling, motor cycling and motoring organisations – all important to local tourism.

10 The Borders Railway

The scoping document makes a brief mention of a former railway on part of the proposed site. This is part of the Waverley Line from Carlisle to Edinburgh. The northern part of this route has been recently re-opened with great success. There is considerable pressure to re-open the southern part as well. The developers need to be aware of this and ensure that any development does not impede the possible future development of this section of the line. Consultation with the Campaign for Borders Rail would be a useful starting point.

11 National Parks

The scoping document refers to the proximity of the Northumberland National Park. There is no mention, however of a South of Scotland National Park. This is only in the early stages of a proposal being drawn up. Nevertheless the developers should be aware of this and address it in their proposals.

A108

Jed Valley Community Council
[redacted]
Jedburgh, [redacted]

Scoping Response in respect of the Wauchope Newcastleton Windfarm Scoping request

Herewith the response of The Jed Valley Community Council in respect of the Scoping Report:

- The assessment methodology and assumptions take no account of the impact on tourism in the region (essential to its economy built up over many years).

- Likewise, no account has been taken of the likely conflict of interest/impact with the proposed 'Borders National Park' currently under consideration and receiving considerable community support.

- Recent flooding in the region has seen considerable damage and inconvenience caused to the infrastructure (roads, verges, bridges etc.), to farm land and to local communities in general. In this respect it is noted that the river Jed passes through Southdean and rises there. Ground clearance of forestry and farm land (trees, shrubs grasses etc.) in the construction of a huge number of wind turbines is likely to increase significantly the water 'run off' in the Jed Valley area, especially in relation to the 50 turbines at Wauchope East (not forgetting the 13 at Highlee Hill). No impact assessment has been undertaken in respect of this scenario. JVCC requests this to be undertaken

- JVCC endorses the concerns of our neighbouring CC, Southdean in its scoping response and particularly in respect of the cumulative assessment. JVCC requests that the three sites are cumulatively assessed against each other.

- In respect of construction traffic across the sites, this is likely to be considerable and JVCC requests that greater clarity be made available as to the impact for the community.

- Scottish Planning Policy 170 sets out to ensure that, *'Areas identified for wind farms should be suitable in perpetuity. Consents may be time-limited but wind farms should nevertheless be sited and designed to ensure impacts are minimised and to protect an acceptable level of amenity for adjacent communities'.*

  JVCC requests that precise consideration be given to SPP170 in the application as currently the potential impacts would appear in principle to render this unsuitable in perpetuity to the local community

Yours faithfully
Graham Fry, Chair, JVCC

-----Original Message-----
From: [redacted]Beryl Masson [redacted]

Sent: 01 March 2016 12:40
To: Econsents Admin
Subject: Wauchope Newcastleton Wind Farm proposal - Scoping Opinion request

Dear Mr McFadden,

Please forgive this late response to your Scoping Opinion Request regarding the proposed Wauchope Newcastleton Wind Farm proposal. I am the British Horse Society Scotland, Borders Region, Access Representative, and I was sent your Opinion request by Helene Mauchlen, BHS Director for Scotland.

As you will know, BHS Scotland supports the Scottish Government's Renewables Strategy and we have therefore developed an Advice Note for developers to promote the best outcomes for equestrian access takers in areas where Wind Farms are proposed. This Advice Note gives advice to ensure that the safety implications for horses and riders, carriage drivers and other users of the Scottish countryside and the road network are taken into account and addressed in the determination of planning applications for wind farms. You can find the advice note with the following link:

http://www.bhsscotland.org.uk/uploads/5/4/5/3/5453271/scottish_windfarm_advice_note_2012.pdf

In the case of the above application, there is a long distance Riding Route, one of the South of Scotland Countryside Trails connecting the Kielder Forest with Hawick by the 'Bloody Bush' and 'Waverley Way' which runs just North of Newcastleton Forest and then West of Wauchope Forest.

http://www.southofscotlandcountrysidetrails.co.uk/

In addition, the forestry roads provide safe off road riding opportunities for equestrians. Horse Riding is an increasingly popular leisure activity, with Scotland's horse population having increased by 45% over the last ten years to approximately 100,000.

I imagine that during the construction of such a large project there will be a lot of heavy traffic on the Forest roads and the road network in general and the BHS expects appropriate measures to be taken to address the safety implications for equestrian access takers. Where forestry tracks are re-surfaced and new gates and access controls are put in, they should be suitable for equestrian users, and at BHS we can advise on this.

http://www.bhsscotland.org.uk/uploads/5/4/5/3/5453271/equestrian_access_factsheets-1.pdf

Yours faithfully,
Beryl Masson BHS Borders Region Access

A110

Local Energy and Consents
Directorate for Energy and Climate Change
Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

BY EMAIL ONLY: econsentsadmin@scotland.gsi.gov.uk

24 February 2016

Dear sir/madam

PROPOSED WAUCHOPE NEWCASTLETON WIND FARM

Rock UK Adventure Centres Limited ("Rock UK") is a member of the Newcastleton Business Forum. The Business Forum has responded to the Request for Scoping Opinion in relation to the above proposals. Rock UK endorses the representations made by the Business Forum and has no additional comments to make in respect of the proposal in and of itself.

However, Rock UK has concerns over the potential short-term disruption and long-term adverse impact from the construction phase of the project. These comments only relate to the proposed Newcastleton development area.

By way of context, Rock UK's land (held in trust by Barnabas Trust Limited) lies adjacent to Newcastleton Forest, which is principally owned by Forestry Commission Scotland ("FCS"). Newcastleton Forest is home to one of the *7Stanes* – an internationally recognised set of seven mountain-bike trails across Southern Scotland. The Newcastleton trail begins in the village of Newcastleton before routing through Rock UK land and then on to the main trails on FCS land. Several thousand mountain-bikers ride this trail annually.

The site of the proposed Newcastleton development area does not itself impinge on the bike trails. However, we understand that construction materials are intended to be sourced from the quarry at Swarf Hill. The existing bike trail passes immediately adjacent to this quarry. This gives rise to three concerns:

1. What measures will be taken to temporarily re-route the mountain bike trail round works at Swarf Hill quarry to the safety and satisfaction of riders?

2. What long-term impact, if any, will the removal of material from Swarf Hill quarry have on the route of the mountain bike trail that runs beside the quarry following construction?

WHITHAUGH PARK
NEWCASTLETON, SCOTTISH BORDERS, TD9 0TY
T. 0844 8000 222 F. 01387 375661 whithaugh@rockuk.org www.rockuk.org

3. What route will construction vehicles use through Newcastleton Forest to access Swarf Hill quarry and transfer materials to the proposed Newcastleton development area?

It is reasonably foreseeable that failure to address these concerns will adversely affect the safety and satisfaction of mountain-bike riders using the Newcastleton trail, with corresponding economic loss to Rock UK, and the wider Newcastleton community and economy.

I am chair of the 7Stanes CIC and, in conjunction with FCS, would be happy to pragmatically discuss satisfactory resolution to the above concerns, including the possible permanent re-routing of the trail away from Swarf Hill quarry to the satisfaction of Rock UK, the 7Stanes CIC and FCS.

Yours faithfully

Lee Musson
Centre Director

cc Sallie Bailey, Forest District Manager, Forestry Commission Scotland

[redacted]
Hawick
[redacted]
28.1.2016

Scoping response by Southdean Community Council to the Wauchope Newcastelton Wind Farm Scoping request.

In response to the questions raised in the Scoping Report Southdean CC makes the following responses.

Southdean CC is not satisfied and objects to the assessment methodology and assumptions which have been used to inform the ES content and coverage.

Southdean CC is also not satisfied with the list of projects within the Cumulative assessment and wishes to see all the projects being cumulatively assessed against each other.

Southdean CC wishes to see current energy policy and current renewable capacity reflected in application statements when filed.

Southdean CC notes the key related design issues which were raised in paragraph 2.6.4 In particular Southdean CC notes comment that this is "*the opportunity to set a design precedent for large scale wind farms in the wider Keilder/Eskdalemuir Forest areas."* This is not the first development project in this area, and with this scoping report the developer would appear to be setting an adverse design precedent, with several unsatisfactory elements creating a negative result.

Project Design
PfR has combined three different projects in the same application which creates a major negative issue, and is totally inappropriate for this location.

This has a particular bearing on the scale and size of the application which becomes unwieldy due to the differences arising from the sites at Newcastleton Forest, Wauchope West, and East and the distances separating the sites selected.

The three sites have to be assessed against a number of other projects that have been filed in the area and are various stages within the planning process. These are Cummings Hill, Windy Edge, Birneyknowe, Highlee Hill, and Harwood.

All of those other sites are in closer proximity to Wauchope West, or Wauchope East, than the site at Newcastleton Forest,which has been included within the application rather than being separately filed. Cumulative assessments should now be compiled weighing all the proposed sites against each other

Also Highlee Hill's proximity to Wauchope East necessitates a proper cumulative assessment of Wauchope West against the development at Wauchope East. The Wauchope West site with a different landscape setting would be assessed against Highlee Hill. It should also be assessed against Wauchope East for similar reasons given that the sites are 3.2kms apart. Such separation would traditionally lead to applications being cumulatively assessed.

The three developments are actually in different community council areas which is a nother example of the degree of separation.
The turbine locations are as follows
Wauchope East is in Southdean CC, along with the two access points/
Wauchope West is in Hobkirk CC, with an access point in Southdean CC
Newcastleton Forest is in Newcastleton CC area , along with the access point.
Newcastleton forest is actually so far apart from the others that there is another community council area in between.

Southdean CC provides more detail on the reasoning below.

When three into one doesn't go.
The three sites are distinct and are separated from each other
The turbine siting places Newcastleton Forest turbines 11.5kms away from the turbines at Wauchope West and Wauchope East
Wauchope East is 3.5 kms away from Wauchope West , but only 500m from Highlee Hill, a proposal submitted by a different developer
The closest Wind farm to Newcastleton Forest is Windy Edge, which actually has not been raised as a cumulative site for assessment.

The three developments are in different watersheds…
Wauchope East is in Jed Valley River catchment on the Borders Ridge
Wauchope West is in the Rule Valley and is on a different ridge line on the western slopes of Fanna Hill.
Newcastleton Forest is in the Liddel Valley catchment area

The three developments are in different forest locations which actually have different forest plans that have been filed separately with SBC.

The three developments are in different community councils
The turbine locations are as follows
Wauchope East is in Southdean CC
Wauchope West is in Hobkirk CC
Newcastleton Forest is in Newcastleton CC area
Newcastleton forest is actually so far apart from the others that there is another community council area in between.

Differing scale assessments from the landscape capacity study undertaken by SBC as part of premlinary work for the Local Development Plan indicates a different receiving environment for each of the locations from the landscape capacity study.
Wauchope East area was assessed to be in a location that could accommodate a low number of turbines up to 50m high.
Newcastleton Forest is a location could also cope with turbines up to 50m with a similar number constraint,
Wauchope West is in an area that could cope with a low number of turbines over 100m high.

Such evident differences should be reflected in ZTV's for each of the developments and should be provided separately. Detailed turbine locations should be visible in the imagery provided in the scoping document, following the example set in other applications. From an initial assessment, there is evidence of sub-optimal siting, including proximity to some watercourses, vertical stacking, and visibility above ridge lines. Closer scrutiny and interrogation of the initial proposals is required, to allow informed debate regarding turbine locations.

Viewpoints
The limited number of viewpoints also do not give a fair representation the differing settings of the three sites. The other developers in the area have provided a more comprehensive list in their applications.

Wauchope East is over 6kms along the Border Ridge. 11 viewpoints are simply not sufficient for a single site of this scale. Southdean CC notes the significantly larger number of viewpoints lodged for the application at Highlee Hill although there were some notable exclusions there too. A revised list is being finalised. The proximity to Wauchope East suggests a number of extra viewpoints should be added. There is a conspicuous lack of viewpoints from Chesters Village in the Wauchope proposals, which needs to be addressed. Southdean CC looks forward to engaging with the developer on a supplementary list.

The application for Birneyknowe lodged over 30 viewpoints and with a number of similar perspectives to Wauchope West. That indicates a greater number of perspectives for the Wauchope West site should also be required.

Cumulative Impact
The cumulative list of developments supplied is very outdated. Whilst recognising the potential issue by describing the number of developments in the scoping request as a large number the developer has then failed include a number that should be considered.

Southdean CC would expect to see the following developments considered when cumulative assessments are considered;

Cummings Hill. Currently withdrawn though on the website the developer says reapplication is likely
Birneyknowe. A current application.
Windy edge. Currently at appeal.
Harwood.. Pre scoping
Highlee Hill .. Already scoped with recent public exhibitions
Langhope Rig ..constructed (Certainly from a sequential consideration on A6088)

and the three developments in the current scoping request.
Wauchope East
Wauchope West
Newcastleton Forest

All of the above need to be assessed for cumulative impact against each other, which includes sequential impact

Traffic
The combination of three separate developments is likely to lead to very significant amounts of construction traffic. These may use multiple access routes to reach their separate locations. Given the cumulative impact of the developments proposed, in addition to those from sites in close proximity Southdean CC requests separate applications be presented to give greater clarity to community members.

The abnormal loads for both Newcastleton Forest and Wauchope West are both expected to travel through Newcastleton vIllage , with Wauchope East also potentially utilising the A6088. Given that there are likely to be at least 320 abnormal loads destined to go through Newcastleton vIllage heading to the sites, Southdean CC would like to see Noise and vibration properly assessed, rather than scoped out. This is before consideration of the impact on other receptors, and more detail made available on other traffic travelling to and from the sites(HGV's) ,

Peat
Southdean CC notes the levels of deep peat disclosed in the scoping request and the differences across each site. Of particular interest is a depth of peat up to 4.3 metres in the core turbine area of Wauchope East, which is in the Southdean CC area. More granularity is required to allow proper consideration of the proposed turbine locations.

Ornithology
Southdean CC notes the bird surveys undertaken and the various timelines. Southdean CC notes also the Breeding Bird Surveys commentary highlighting key observations between April and June. Again, the scoping request would benefit from the finding being separated, especially from Newcastleton Forest. Southdean CC requests continued updates on any sensitive bird species identified, whilst appreciating the need for some confidentiality on details in certain cases.

The other applications in the planning process are also undertaking bird surveys, and given the proximity of the sites to each other, the information should be collated cumulatively to give a much greater dataset. This means that any bird data from developments such as Highlee should be incorporated with those for Wauchope East , whilst noting any differences in procedure, and dates.

More details are awaited on other aspects of the application such as location on noise measuring equipment and Southdean CC looks forwards to discussions with the developer.

Perpetuity
Southdean CC would also like to see proper consideration of SPP 170 in the application, something that so far has escaped mention in the various Planning Policies and Clauses being considered. Even at this early stage the potential impacts would appear in principle to render this unsuitable in perpetuity to the local community.

A reminder of SPP 170 (Scottish Planning Policy) , indicating that these sites. if approved, should be suitable for ever.
170. Areas identified for wind farms should be suitable for use in perpetuity. Consents may be time-limited but wind farms should nevertheless be sited and designed to ensure impacts are minimised and to protect an acceptable level of amenity for adjacent communities.

So far Community Consultation on this project has been extremely limited, and this has led to a scoping document which is deficient in a number of aspects. Southdean CC recommends that the design of the application is reassessed and resubmitted in a form that is more suitable for consideration in the planning process.

Yours faithfully
Philip Kerr
Vice Chairman

CARLISLE CITY COUNCIL
www.carlisle.gov.uk

Economic Development
Director **J E Meek** BSc (Hons) Dip TP MRTPI
Planning Services
Civic Centre, Carlisle, CA3 8QG
Phone (01228) 817000 ● Fax Planning (01228) 817115● Typetalk please ring 0800 95 95 98
E-mail Development Management:: EDAdmin@carlisle.gov.uk ● Planning Policy: lpc@carlisle.gov.uk ● Building Control: BC@carlisle.gov.uk

Local Energy and Consents
Directorate for Energy and
Climate Change
Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow G2 8LU

Case Officer: Christopher Hardman
Direct Line: [redacted]

E-mail: [redacted]
Your Ref:
Our Ref: CH/DC/16/0015 ENQ

24 February 2016

Dear Sir/Madam

Section 36 Of the Electricity Act 1989
Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as Amended)

Proposal: Scoping Opinion for Wind Farm
Location: Wind Farm at Wauchope & Newcastleton Forests
Appn Ref: 16/0015 ENQ

Firstly I thank RPS for consulting Carlisle City Council at this stage for the Scoping Opinion as it is appreciated that the proposed development lies wholly within Scotland however given the scale proposed it is likely to have significant impacts which will affect the area all around the proposed turbines.

The area is characterised by coniferous forest and adjoins Kershope Burn/Liddle Water and much of this is recognised in the scoping opinion due to the similarity of landscape and habitat in this borders area. There are however some areas where there is a lack of information at this stage.

Close to the border we also have reference to Priority Habitat Species for the following; Song Thrush, Dunnock, Hen Harrier, Common Frog as well as a Red Squirrel Key Species Interest Zone.

Visual receptors are from the north and no reference is made to the south . This is further emphasised by Table 6.2 which refers to scoping viewpoints only within Scotland and none from other directions from which this significant development will be viewed.

The reference to landscape designations is noted however the scoping report omits any reference to the Cumbria Landscape Toolkit which considers all landscape types and designates the landscapes accordingly. Whilst it is recognised that the site lies within Scotland we also have guidance in the form of Cumbria Wind Energy Supplementary Planning Document which looks at the ability of the various landscape types to accommodate wind farm development. Given the proximity to Kershope Forest this should be taken into account as the development at Newcastleton will be viewed in the context of the landscape within England.

The planning policy context omits reference to the Carlisle's emerging Local Plan the Carlisle District Local Plan 2015-30 which has recently been to examination and is considerably well progressed and will be further advanced by the time an application is forthcoming.

There also appears to be a lack of reference to RAF Spadeadam MOD site which has given rise to many concerns affecting the location of turbines within the City Council's area and to some degree has acted to prevent development due to technological reasons for air safety.

I trust hat this information will be useful in the consideration of your response to RPS.

Yours faithfully

Christopher Hardman
Development Manager

A118

Northumberland National Park

Northumberland National Park Authority
Eastburn, South Park, Hexham
Northumberland NE46 1BS
Tel: 01434 605555

Local Energy and Consents
Directorate for Energy and Climate Change
Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

econsentsadmin@scotland.gsi.go.uk

Date : 16th February 2016
Our Ref : 16/0005
Your Ref : OXF8438/mb
Contact : Rebecca Adams
[redacted]

Dear Sir/Madam,

Request for scoping opinion proposed wind farm at Wauchope, Newcastleton

I refer to the above development, for which a scoping opinion request was received by Northumberland National Park Authority on 14th January 2016. Following consideration of the information submitted, the following observations are made:-

- The proposal details the construction up to 90 wind turbines up to 132 meters in height split between the Wauchope and Newcastleton application sites, which are located approximately 3.5km and 14.4km from the National Park boundary respectively, across the border in Scotland.

- The proposal, due to its location, proximity to the National Park and scale of the development, has the potential to have a significant effect upon the landscape character of the National Park and views both into and out from the National Park, however the exact extent of the effects have yet to be determined. It is therefore considered appropriate to request that Northumberland National Park Authority be added to the list of Consultees, as set out in Section 1.1.3 of the Scoping Report.

- **Paragraph 5.4.8** – The consideration of the potential effects on all landscape character areas 40km from the development by the LVIA is noted and welcomed. It is recommended that this includes Northumberland National Park and the National Character Areas and local assessments for England e.g. The Cheviots and Border Moors and Forests NCA and also the Landscape Character Assessment for Tynedale and Northumberland National Park, Northumberland Landscape Character Assessment and the National Park's Landscape SPD. It is recommended that the focus of the

study should be extended beyond 15km to 25km for both sites, as 15km will reduce the level of scrutiny that is likely to be undertaken within the National Park, which is a national landscape designation.

- **Paragraph 5.4.9** – The initial ZTV may cover the full study area of 40km from the application site, in line with SNH Visual Representation of Windfarms 2014 (V.2.1). However it is suggested that the focus area is extended beyond 15km and the more detailed ZTV should extend to 25km; without this, the potential effect of these developments on the views from within the National Park will not be adequately assessed.

- **Paragraph 5.4.15** – The recognition of the proximity of Northumberland National Park from the site areas is welcomed. A somewhat broad assumption is however made in the same paragraph, stating "*however, despite the large extent of the study area which the National Park covers, ZTV coverage is very limited from within it, meaning that significant landscape effects are not considered likely*". On the basis of this, it is considered sensible that ZTV is extended to cover sites within the National Park. Clarification should also be provided as to the meaning of the following sentence *"however, the Northumberland National Park has been considered further".*

- **Paragraph 6.5.3** – It is noted that NNPA have not been previously consulted in relation to the design development from a landscape and visual perspective.

- **Paragraph 6.5.4 (& 3.4)** – No reference is made to the English NPPF, in particular the protection of National Parks from large-scale development.

- **Paragraph 6.5.6** - Reference to the SNH Visual Representation of Windfarms 2.1 and Landscape Institute Advice note 01 (2011) is welcomed. However, it is surprising that the UK Forestry Standard 2011 Landscape section is not referenced, as the 1994 paper is somewhat dated.

- **Paragraph 6.5.15** – The assessment of the cumulative effects of the development is advocated; however indication as to which other sites will be considered has not been given and it is therefore recommended that this be included.

- **Paragraph 6.5.19** – Recommended view points within the National Park in priority order are as follows:-

Wauchope

1. Carter Bar - 369837,606814 (A68 and viewpoint) Already included
2. Black Halls – 378855,610612 (Pennine Way)
4. Paidon Hill – 381900,592800 (Pennine Way)

Newcastleton

3. Road Junction at Lanehead – 379206,585658
5. The Minor County Road at Birchhope – 380192,587028 (nr. Greenhaugh)
4. Paidon Hill – 381900,592800 (Pennine Way)

- With regards to likely lighting requirements for the proposed turbines, it is strongly recommended that infared lighting is used rather than visible lighting, as this is likely to have less impact upon the intrinsically dark character of the National Park (as identified in Paragraph 125 of the NPPF).

Yours faithfully,

[redacted]

Rebecca Adams
Planning Officer

[redacted]
web: http://www.northumberlandnationalpark.org.uk/about/planning/

Historic England

NORTH WEST OFFICE

Mr Stephen McFadden
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G8 2LU

[redacted]

Our ref: PA00411721

3 February 2016

Dear Mr McFadden

Request for Advice

WAUCHOPE NEWCASTLETON WIND FARM , WAUCHOPE, SCOTTISH BORDERS

Thank you for contacting us on 14 January 2016 regarding an EIA scoping opinion in relation to the above site. The proposal by Partnerships for Renewables Ltd is for a wind farm on a split site, with 20 turbines, each 132m to tip and 80m to hub, and associated infrastructure at Newcastleton Forest, and 70 turbines and associated infrastructure at Wauchope Forest. The site lies close to the border between England and Scotland; indeed, the Border appears to be the boundary of the Newcastleton part of the application site.

Advice

The Scoping Report supplied by the applicants, dated December 2015, includes a chapter ('5: Environmental Baseline') setting out the key elements of the site's environmental baseline conditions.

Section 5.2 ('Historic Environment') contains no information whatever on designated heritage assets on the English side of the Border whose settings might be affected by the proposed wind farm. Whilst the development is situated in Scotland, and the application is being made to the Scottish Government, we would have expected impacts on the historic environment in England to be taken into account in reaching a decision on the application. The omission of baseline information on designated heritage assets in England is all the more surprising given that under the overall heading of 'Statutory framework and other considerations' at 3.4, reference is made to local plans adopted or being developed by local authorities in England (notably the Carlisle District Local Plan, 3.4.22 and 3.4.23) which contain policies for the protection

of heritage assets and their settings.

A rapid scan of the National Record of the Historic Environment suggests that this development could, potentially, have an impact upon a number of designated heritage assets and their settings on the English side of the Border – for example, there are some 25 scheduled monuments within 10km of the proposed development site. In line with the advice in the National Planning Policy Framework (NPPF), we would expect the Environmental Statement to contain a thorough assessment of the likely effects which the proposed development might have upon those elements which contribute to the significance of these assets.

We would also expect the Environmental Statement to consider the potential impacts on non-designated features of historic, architectural, archaeological or artistic interest, since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place. This information is available via local authorities' Historic Environment Records (www.heritagegateway.org.uk) and relevant local authority staff.

In the Scoping Report, as currently presented, reference is made to consultation with historic environment curators in Scotland only (paragraph 6.3.9). We strongly recommend that the Conservation Officers of Carlisle and Northumberland councils and the archaeological staff at the Cumbria and Northumberland Historic Environment Records should be involved in the development of this assessment with reference to potential impacts on heritage assets in England. They are best placed to advise on: local historic environment issues and priorities; how the proposals can be tailored to avoid and minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.

Given the heights of the structures associated with the proposed development and the surrounding landscape character, this development is likely to be visible across a very large area and could, as a result, affect the significance of heritage assets at some distance from this site itself. We would expect the assessment to clearly demonstrate that the extent of the proposed study area is of the appropriate size to ensure that all heritage assets likely to be affected by this development have been included and can be properly assessed.

We note that the Historic Environment Viewpoints identified in Table 6.1 are exactly the same as the Scoping Viewpoints for Landscape and Visual identified in Table 6.2. Whilst the Environmental Baseline section on Landscape and Visual (5.4), unlike that n the historic environment, does contain reference to designated landscapes in

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NORTH WEST OFFICE

England which have the potential to be affected by the proposals (the Northumberland National Park, the North Pennines and Solway Coast Areas of Outstanding Natural Beauty, and the Hadrian's Wall World Heritage Site are all mentioned), only four of the 28 viewpoints provisionally identified in the two tables are located south of the Border. We would expect sufficient viewpoints to be identified on the English side of the Border to allow the impact of the proposed wind farm on designated landscapes and on the settings of designated heritage assets in England to be fully assessed.

The assessment should also take account of the potential impact which associated activities (such as construction, servicing and maintenance, and associated traffic) might have upon perceptions, understanding and appreciation of the heritage assets in the area.

Given the number of designated heritage assets within the area, we would welcome early discussions with the applicants and their consultants in order to agree the key sites and setting issues which will need to be addressed within the EIA.

Recommendation

Historic England does not consider that, as currently set out in the Scoping Report, the proposed Environmental Statement will provide an adequate assessment of the overall environmental impact of the proposed Wauchope Newcastleton Wind Farm, due to the failure to consider impacts on the historic environment on the English side of the Border. We recommend that the applicants be requested to revise the Scoping Report to provide a more appropriate level of baseline environmental information, and revised methodology for the environmental impact assessment based upon it.

Yours sincerely

[redacted]

Andrew Davison
Principal Inspector of Ancient Monuments
[redacted]

SUITES 3.3 AND 3.4 CANADA HOUSE 3 CHEPSTOW STREET MANCHESTER M1 5FW

Telephone 0161 242 1416
HistoricEngland.org.uk

Historic England

NORTH WEST OFFICE

WAUCHOPE NEWCASTLETON WIND FARM , WAUCHOPE, SCOTTISH BORDERS
Request for Pre-application Advice

List of information on which the above advice is based

Wauchope Newcastleton Wind Farm: Scoping Report, December 2015

SUITES 3.3 AND 3.4 CANADA HOUSE 3 CHEPSTOW STREET MANCHESTER M1 5FW

Telephone 0161 242 1416
HistoricEngland.org.uk

Communications Manager
Directorate for Energy and Climate Change
Local Energy and Consents
150 Broomielaw
Glasgow
Glasgow City
G2 8LU

Our ref: NA/2016/113041/01-L01
Your ref: OXF8438/mb

Date: 29 January 2016

Dear Sir/Madam

REQUEST FOR SCOPING OPINION - PROPOSED WAUCHOPE NEWCASTLETON WIND FARM. LAND AT WAUCHOPE AND NEWCASTLETON FORESTS

Thank you for referring the above enquiry that was received on 12 January 2016.

The Environment Agency has no comments to make in respect of the proposal as submitted.

Yours faithfully

Susan Davison
Planning Officer - Sustainable Places Team

[redacted]

A126

Date: 21 January 2016
Our ref: 176469
Your ref: Wauchope Newcastleton Wind Farm

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

Mr S. McFadden
Senior Case Officer
Local Energy and Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow, G2 8LU
BY EMAIL ONLY

Dear Mr McFadden

The Electricity Act 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (As amended): Scoping Opinion Request for Proposed Section 36 Application

Location: Wauchope and Newcastleton Forests, Scottish Borders

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation dated 13 January 2016 which we received on the same day.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Case law[1] and guidance[2] has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter only please contact me on 0208 0265533 or andrew.whitehead@naturalengland.org.uk. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

We really value your feedback to help us improve the service we offer. We have attached a feedback form to this letter and welcome any comments you might have about our service.

Yours sincerely

Andrew Whitehead
Northumbria Area Team

[1] Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)
[2] *Note on Environmental Impact Assessment Directive for Local Planning* Authorities Office of the Deputy Prime Minister (April 2004) available from http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/noteenvironmental/

Annex A – Advice related to EIA Scoping Requirements

1. General Principles

Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011, sets out the necessary information to assess impacts on the natural environment to be included in an ES, specifically:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

2. Biodiversity and Geology

2.1 Ecological Aspects of an Environmental Statement

Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. Guidelines for Ecological Impact Assessment (EcIA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

EcIA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EcIA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.

The National Planning Policy Framework sets out guidance in S.118 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.

2.2 Internationally and Nationally Designated Sites

The ES should thoroughly assess the potential for the proposal to affect designated sites.

European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2010. In addition paragraph 118 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

Should a Likely Significant Effect on a European/Internationally designated site be identified or be uncertain, the competent authority (in this case the Local Planning Authority) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

Sites of Special Scientific Interest (SSSIs) and sites of European or international importance (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites)

The development site is adjacent to the following designated nature conservation sites:

- Kielderhead and Emblehope Moors SSSI (Wauchope); Kielder Mires SSSI (Newcastleton) and Border Mires: Kielder – Butterburn SAC (both sites)
- Further information on the SSSIs and their special interest features can be found at www.magic.gov . The Environmental Statement should include a full assessment of the direct and indirect effects of the development on the features of special interest within Kielderhead and Emblehope Moors, and Kielder Mires SSSIs, and Border Mires: Kielder – Butterburn SAC and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.
- Natura 2000 network site conservation objectives are available on our internet site: ~~here.~~ http://publications.naturalengland.org.uk/category/6490068894089216

2.3 Regionally and Locally Important Sites

The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust, geoconservation group or local sites body in this area for further information.

2.4 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

In order to provide this information there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. Natural England has adopted standing advice for protected species which includes links to guidance on survey and mitigation.

2.5 Habitats and Species of Principal Importance

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available in the Defra publication 'Guidance for Local Authorities on Implementing the Biodiversity Duty'.

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration…in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (eg from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (eg whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.

The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and if possible provide opportunities for overall wildlife gain.

The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

2.6 Contacts for Local Records

Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

Local Record Centre (LRC) in Scottish Borders please contact:

The Wildlife Information Centre for Lothian and the Borders (TWIC)
Caretaker's Cottage
Vogrie House
Vogrie Country Park
Nr Gorebridge
Midlothian, EH 23 4NU
01875 825968; www.wildlifeinformation.co.uk

Local Record Centre (LRC) in Northumberland please contact:

Environmental Records Information Centre North East (ERICNE)
Great North Museum: Hancock
Barras Bridge
Newcastle upon Tyne, NE2 4PT
0191 2225031; www.ericnortheast.org.uk

3. Designated Landscapes and Landscape Character

Nationally Designated Landscapes

As the development site is adjacent to the Northumberland National Park, consideration should be given to the direct and indirect effects upon this designated landscape and in particular the effect upon its purpose for designation within the environmental impact assessment, as well as the content of the relevant management plan for the Northumberland National Park.

Landscape and visual impacts

Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography. The European Landscape Convention places a duty on Local Planning Authorities to consider the impacts of landscape when exercising their functions.

The EIA should include a full assessment of the potential impacts of the development on local landscape character using landscape assessment methodologies. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.

Natural England supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment.

In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

The assessment should refer to the relevant National Character Areas which can be found on our website. Links for Landscape Character Assessment at a local level are also available on the same page.

Heritage Landscapes

You should consider whether there is land in the area affected by the development which qualifies

for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific or historic interest. An up-to-date list may be obtained at www.hmrc.gov.uk/heritage/lbsearch.htm and further information can be found on Natural England's landscape pages here.

4. Access and Recreation

Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

Rights of Way, Access land and National Trails

The EIA should consider potential impacts on access land, public open land, and rights of way in the vicinity of the development. Consideration should also be given to the potential impacts on the nearby Pennine Way National Trail. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

5. Climate Change Adaptation

The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 109), which should be demonstrated through the ES.

6. Cumulative and in-combination effects

A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

a. existing completed projects;

b. approved but uncompleted projects;

c. ongoing activities;

d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and

e. plans and projects which are reasonably foreseeable, ie projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

7. Wind Turbines

Specific guidance for wind developments has been developed by Natural England and should be used to inform the EIA.

A full consideration of the implications of the whole scheme should be included in the ES. This should include the consideration of the electrical connection within the site and between the

proposed substation and the wider grid. All supporting infrastructure should be included within the assessment.

Bat surveys should conform to our current guidance TIN051 - Bats and onshore wind turbines (interim guidance). Reference should also be made to the Bat Conservation Trust 'Bat Surveys – Good Practice Guidelines' 2nd Edition Chapter 10 Surveying proposed onshore wind turbine developments.

The ES will need to consider the impact of the proposals on bird populations including the potential impact of the proposals on bird flight lines, breeding and wintering populations and high tide roosts. Bird surveys should conform to Natural England guidance TIN069 Assessing the effects of onshore wind farms on birds.

The ES should also have regard to any wind capacity studies for the area and Natural England considers that this development is likely to affect landscape character in this locality – see section 2 in this scoping letter for details of the assessment required.

Appendix C

LANDSCAPE AND VISUAL IMPACT ASSESSMENT METHODOLOGY AND GLOSSARY

INTRODUCTION

- This appendix describes the methodology used within the landscape and visual impact assessment (LVIA) for the proposed Liddesdale Wind Farm (the 'proposed development') which comprises up to 80 turbines with a maximum blade tip height of up to 250m and associated infrastructure.
- This appendix has been structured as follows:
  - Overview of LVIA Methodology;
  - Data Sources and Site Survey;
  - Integrated Design and Assessment;
  - Assessing Landscape Effects;
  - Assessing Visual Effects;
  - Assessing Cumulative Landscape and Visual Effects;
  - Evaluation of Significance;
  - Nature of Effect;
  - Residential Visual Amenity Assessment (RVAA);
  - Night-time Assessment; and
  - Production of Zone of Theoretical Visibility (ZTV)s and Visualisations.

OVERVIEW OF LVIA METHODOLOGY

- The LVIA assesses the likely effects of the proposed development on the landscape and visual resource, encompassing effects on landscape elements, characteristics and landscape character, designated landscapes, visual effects and cumulative effects.
- Essentially, the landscape and visual effects (and whether they are significant) are determined by an assessment of the nature or 'sensitivity' of each receptor or group of receptors and the nature of the effect or 'magnitude of change' that would result from the proposed development. The evaluation of sensitivity takes account of the value and susceptibility of the receptor to the proposed development. This is combined with an assessment of the magnitude of change which takes account of factors such as the size and scale of the proposed change and the geographical extent. Other factors regarding the nature of the effect such as the duration of change and whether the effect is cumulative are also noted. By combining assessments of sensitivity and magnitude of change, a level of landscape or visual effect as well as the nature of that effect can be evaluated, and the significance of the effect determined.
- The resulting level of effect is described in terms of whether it is significant or not significant and the type or nature of effect is described as either direct or indirect; temporary or permanent (reversible); cumulative; and positive, neutral or negative. The assessment has also considered the cumulative effects resulting from the proposed development in combination with other existing and consented wind farms, and wind farms at the planning application stage.
- The time period for the assessment covers phases of development related to the construction of the proposed development and associated infrastructure, its operation, and decommissioning.

- LVIA unavoidably involves a combination of both quantitative and subjective assessment and wherever possible a consensus of professional opinion has been sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach.

TECHNICAL GUIDANCE AND BEST PRACTICE

- The methodology for the LVIA accords with the Landscape Institute and IEMA Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3). In addition to planning policy documents and other supporting technical guidance, the LVIA methodology includes, but is not limited to the following:
  - *Siting and Designing Windfarms in the Landscape*, Version 3a, Scottish Natural Heritage (SNH), August 2017;
  - *Guidance: Spatial Planning for Onshore Wind Turbines – natural heritage considerations*, Version 3a, SNH, June 2015;
  - *Visual Representation of Windfarms*, Version 2.2, SNH, February 2017; and
  - *Guidance: Assessing the Cumulative Landscape and Visual Impact of Onshore Wind Energy Developments*, NatureScot (NS), 2021.

DESK-BASED AND SITE SURVEY WORK

- The LVIA is informed by desk-based studies and site and field survey work undertaken within the LVIA Study Area.
- A preliminary desk-based assessment was undertaken of landscape and visual receptors using a range of map-based data and related computer and digital analysis including ZTV, digital and / or surface terrain modelling and wireframe and street view software. This information used to inform initial assessments and focus the site and field survey work and likely locations for viewpoint photography and sequential route assessment.
- The field studies have included documented visits to all relevant landscape and visual receptors to assess the likely effects of the proposed development in the field, checking data, 'ground truthing' and examining landscape elements, characteristics / character and views / visual amenity.
- Site and field survey activities include:
  - Site survey verification of landscape elements within the Site Boundary where potentially significant effects are likely;
  - Field survey verification of the ZTV from landscape and visual receptor locations and transport and recreational routes through the LVIA Study Area;
  - Micro-siting of viewpoint locations and recording of panoramic baseline photography and subsequent visual assessment from the assessment viewpoints; and
  - Field survey assessment and verification of likely landscape, visual and cumulative effects.

INTEGRATED DESIGN AND ASSESSMENT

- Design is an integrated and iterative part of the LVIA process. In particular the advice from the relevant local planning authority and the following documents in particular, is relevant to the design in terms of the turbine scale, location / layout and where required aviation warning lights:

- *Siting and Designing Wind Farms in the Landscape, Version 3a, SNH, August 2017.;*
- *Landscape Character Types and Descriptions, SNH, 2019;*
- *General pre-application and scoping advice for onshore wind farms, SNH, September 2020;*
- *Scottish Borders Wind Energy Landscape Capacity and Cumulative Impact Study, Ironside Farrar, 2016;*
- *Dumfries and Galloway Local Development Plan 2 Supplementary Guidance. Part 1 Wind Energy Development: Development Management Considerations, Appendix C: Dumfries and Galloway Wind Farm Landscape Capacity Study, Dumfries and Galloway Council, 2020;*
- *Cumbria Landscape Character Guidance and Toolkit, Cumbria Country Council, 2011;*
- *Cumbria Wind Energy Supplementary Planning Document, Cumbria Country Council, 2007;*
- *Update of Landscape Character Assessment for Northumberland National Park, Northumberland National Park Authority, 2019; and*
- *Northumberland Landscape Character Assessment, Northumberland County Council, 2010.*

POTENTIAL EFFECTS DURING CONSTRUCTION

A range of potential effects on the landscape and visual resource are likely during the construction of the proposed development. An appraisal of the potential effects helps to define the scope of the LVIA and develop an integrated design and mitigation response which can be embedded into the proposed development. The potential effects likely to result from construction are described below.

- Landscape Effects:
  - Effects on landscape elements, features and patterns (including, but not limited to soils, landform, ground vegetation, hedgerows / field boundaries, trees / forestry and buildings) as a result of land preparation including site clearance and earthworks.
  - Effects on landscape character and key characteristics, including perceptual characteristics and qualities as a result of construction activities. The construction activities are likely to include the presence of construction staff and machinery, cranes, vehicle movements, contractors' facilities and site access associated with the proposed development.
  - Effects on the special landscape qualities and integrity of designated landscapes as a result of the above construction activities.
- Visual Effects:
  - Effects on the views and visual amenity experienced by people undertaking various activities at various locations, distances and directions from the proposed land preparation and construction activities. These visual effects could be experienced from one location or sequentially as part of a route through the landscape such as a cycle route or long-distance footpath.
- Cumulative effects:
  - Cumulative effects could occur as a result of multiple wind farm construction activities affecting a landscape or visual receptor.
    - Mitigation and design responses may include a range of design decisions about the location, form, process and timing of construction related infrastructure / operations to

mitigate potential landscape and visual effects (avoid, reduce or compensate) as well as reference to a range of best practice behaviours and processes undertaken as part of construction site operation.

POTENTIAL EFFECTS DURING OPERATION

The potential effects during operation relate principally to the presence of the proposed development and its on-going maintenance during the 35-year operational period. This is likely to lead to long-term (reversible) effects on landscape and visual receptors.

Mitigation and design responses may include landscape / architectural design strategies which aim to control the physical appearance of the proposed development in terms of its scale, form, colour and number of components. Examples include Landscape Mitigation Plans, choice of project colour scheme, or focus on particular aspects such as a Lighting Strategy to reduce effects on the night-time environment.

Landscape Mitigation Plans illustrate and explain a range of landscape design and management techniques that may be employed to mitigate the effects of proposed development by enhancing and controlling its landscape setting and visual appearance. Examples include landscape planting and management plans, habitat management plans and integrated forestry design and management plans, all of which can relate to 'on-site' and off-site' interventions.

POTENTIAL EFFECTS DURING DECOMMISSIONING

The proposed development would be decommissioned and the land reinstated, leading to a whole or partial reversal of the landscape and visual effects.

ASSESSING LANDSCAPE EFFECTS

Landscape Effects are defined by the Landscape Institute in GLVIA 3, paragraphs 5.1 and 5.2 as follows:

"An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern ... is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. ... The area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it which the development may influence in a significant manner."

- In accordance with GLVIA 3 the term 'landscape' encompasses areas of 'townscape' and coastal areas of 'seascape'. Areas of landscape are relevant to this assessment, and they are described as follows.

LANDSCAPE CHARACTER

GLVIA 3, paragraph 5.4, advises that Landscape Character Assessment should be regarded as the main source for baseline studies and identifies the following factors which combine to create areas of distinct landscape character:

- *"The elements that make up the landscape in the study area including:*
  - *Physical influences – geology, soils, landform, drainage and water bodies;*
  - *Landcover, including different types of vegetation and patterns and types of tree cover; and*

- *The influence of human activity, including land use and management, the character of settlements and buildings, and pattern and type of fields and enclosure.*
- *The aesthetic and perceptual aspects of the landscape – such as, for example, its scale, complexity, openness, tranquillity or wildness;*
- *The overall character of the landscape in the study area, including any distinctive Landscape Character Types or Areas that can be identified, and the particular combinations of elements and aesthetic and perceptual aspects that make each distinctive, usually by identification as key characteristics of the landscape."*

LANDSCAPE EFFECTS

The potential landscape effects, occurring during the construction, operation and decommissioning periods of the proposed development may therefore include, but are not restricted to the following:

- **Changes to landscape elements**: The addition of new elements (wind turbines for example) or the removal of existing elements such as trees, vegetation and buildings and other characteristic elements or valued features of the landscape character;
- **Changes to landscape qualities:** Degradation or erosion of landscape elements and patterns and perceptual characteristics, particularly those that form key characteristic elements of the landscape character or contribute to the landscape value;
- **Changes to landscape character:** Landscape character may be affected through the incremental effect on characteristic elements, landscape patterns and qualities (including perceptual characteristics) and the addition of new features, the magnitude of which is sufficient to alter the overall landscape character within a particular area;
- **Changes to designated landscapes:** Including nationally and locally designated landscapes and Wild Land Areas (WLA) that would affect the special landscape qualities underpinning these areas and their integrity; and
- **Cumulative landscape effects:** Where more than one development of a similar type may lead to a cumulative effect.
    - Development may have a direct effect on the landscape as well as an indirect effect which would be perceived from the wider landscape, outside the immediate site area and its associated landscape character/ designation. Landscape effects also have to be recognised in terms of natural and man-made processes which can change or alter the landscape over time.

EVALUATING LANDSCAPE SENSITIVITY TO CHANGE

The assessment of sensitivity takes account of the landscape value and the susceptibility of the receptor to the proposed development.

Landscape sensitivity often varies in response to both the type and phase of the development proposed and its location, such that sensitivity needs to be considered on a case-by-case basis. It should not be confused with 'inherent sensitivity' where areas of the landscape may be referred to as inherently of 'high' or 'low' sensitivity. For example, a National Park may be described as inherently of high sensitivity on account of its designation and value, although it may prove to be less sensitive or susceptible to particular development, and of variable sensitivity across its

geographical area. Alternatively, an undesignated landscape may be of high sensitivity to a particular development regardless of the lack of local or national designation.

Value of the Landscape Receptor

The value of a landscape receptor is a reflection of the value that society attaches to that landscape. The assessment of the landscape value is classified as high, medium or low and the basis for this assessment is made clear using evidence and professional judgement, based on the following range of factors:

- **Landscape designations:** A receptor that lies within the boundary of a recognised landscape related planning designation will be of increased value, depending on the proportion of the receptor that is affected and the level of importance of the designation which may be international, national, regional or local. The absence of designation does not however preclude value, as an undesignated landscape receptor may be valued as a resource at a local level;
- **Landscape quality:** The quality of a landscape receptor is a reflection of its attributes, such as scenic quality, sense of place, rarity and representativeness and the extent to which its valued attributes have remained intact. A landscape with consistent, intact, well-defined and distinctive attributes is considered to be of higher quality and, in turn, higher value, than a landscape where the introduction of elements has detracted from its character; and
- **Landscape experience:** The experiential qualities that can be evoked by a landscape receptor can add to its value. These responses relate to a number of factors including cultural associations that may exist in art, literature or history; the recreational value of the landscape, or the iconic status of the landscape in its own right; and its contribution of other values such as nature conservation or archaeology.

Landscape Susceptibility to Change

The susceptibility of a landscape receptor to change is a reflection of its ability to accommodate the changes that will occur as a result of the proposed development without undue consequences for the maintenance of the baseline situation and / or the achievement of landscape planning policies and strategies. Some landscape receptors are better able to accommodate development than others due to certain characteristics that are indicative of capacity to accommodate change. These characteristics may or may not also be special landscape qualities that underpin designated landscapes.

The assessment of the susceptibility of the landscape receptor to change is classified as high, medium or low and the basis for this assessment is made clear using evidence and professional judgement. Indicators of landscape susceptibility to the type of development proposed (wind farm construction, operation and decommissioning) are based on the following criteria:

- **Overall, Strength and Robustness:** Collectively the overall characteristics and qualities of a particular landscape result in a strong and robust landscape that is capable of reasonably accommodating the proposed development without undue adverse effects on the special landscape qualities (in the case of a designated landscape) or the key characteristics for which an area of landscape character or a particular element it is valued.

- **Landscape Scale and Topography:** The scale and topography are large enough to physically accommodate the development footprint without the requirement of invasive earthworks or drainage. Topographical features such as narrow valleys or more complex and small-scale landforms such as drumlins, incised river valleys / gorges, cliffs or rock outcrops are likely to be more susceptible to this type of development than broad, homogenous topography.
- **Openness** in the landscape may increase susceptibility to change because it can result in wider visibility of the proposed development, however open landscape may also be larger in scale and simple, which would decrease susceptibility. Conversely enclosed landscapes can offer more screening potential, limiting visibility to a smaller area, however they may also be smaller scale and more complex which would increase susceptibility.
- **Land Cover Pattern:** Ancient and mature or long-established vegetation such as mature trees, woodland and protected hedgerows are likely to be more susceptible to the proposed development, particularly where these elements form part of a valued characteristic landscape pattern or feature. Conversely grassland / or forestry are likely to be less susceptible to wind farm development.
- **Skyline:** Prominent and distinctive skylines and horizons with important landmark features that are identified in the landscape character assessment, are generally considered to be more susceptible to wind farm development in comparison to broad, simple skylines which lack landmark features or contain other infrastructure features.
- **Relationship with other Development and Landmarks:** Contemporary landscapes where there are existing wind energy developments or other forms of development (industry, mineral extraction or electrical grid connections) that already have a characterising influence result in a lower susceptibility to development in comparison to areas characterised by smaller scale, historic development and landmarks (historic villages with dense settlement patterns and associated buildings such as church towers). It should be noted that existing wind energy development is time limited and subject to decommissioning.
- **Rationale:** Some site locations have an obvious visual rationale for the proposed development in terms of the available space, access, simplicity and relationship to other similar forms of development. Conversely a site may appear overly constrained and require greater engineering or additional construction activity to accommodate the proposed development with lower design quality and few embedded environmental measures.
- **Remoteness, Naturalness, Wildness / Tranquillity**: Notably landscapes that are acknowledged to be particularly scenic, wild or tranquil are generally considered to be more susceptible to development in comparison to ordinary, cultivated or forested / developed landscapes where perceptions of ‘wildness’ are less tangible. Landscapes which are either remote or appear natural may vary in their susceptibility to development.
- **Landscape Context and Adjacent Landscapes:** The extent to which the proposed development will influence landscape receptors across the Study Area relates to the associations that exist between the landscape receptor within which the proposed development is located and the landscape receptor from which the proposed development is being experienced. In some situations, this association will be strong, where the landscapes are directly related. For example, adjacent areas of landscape character may share or ‘borrow’ a high number of common characteristics. Landscape elements may be linked to or associated with wider landscape

patterns such as individual trees forming part of an avenue or pattern of woodland corpses, for example. In other situations, the association between adjacent landscapes will be weak. The context and visual connection to areas of adjacent landscape character or designations has a bearing on the susceptibility to development.

Landscape Sensitivity Rating

An overall sensitivity assessment of the landscape receptor is made by combining the assessment of the value of the landscape character receptor and its susceptibility to change. The evaluation of landscape sensitivity is described as 'High', 'Medium' or 'Low' and is drawn from the consideration of a range of criteria that indicate landscape value and susceptibility. The basis for the assessment is made clear using evidence and professional judgement in the evaluation of sensitivity for each receptor.

Criteria that tend towards higher or lower sensitivity are set out in **Table C-1**.

Table C-1 - Landscape Sensitivity to Change

Value / Susceptibility criteria	**Level of value/susceptibility ranging from 'High' to 'Medium' to 'Low'.** **High ⟷ Medium ⟷ Low**	
Value – Landscape Value is determined by a range of indicators/criteria with examples as follows:		
Designation	Designated landscapes/elements with national policy level protection or defined for their natural beauty. Evidence that the landscape/element is valued or used substantially for recreational activity.	Landscapes without formal designation. Despoiled or degraded landscape with little or no evidence of being valued by the community. Elements that are uncharacteristic such as non-natives or self-seeded vegetation that may need to be cleared.
Quality	Higher quality landscapes/elements with consistent, intact and well-defined, distinctive attributes.	Lower quality and indistinct landscapes/elements or features that detract from its inherent attributes.
Rarity	Rare or unique landscape character types, features or elements.	Widespread or 'common' landscape character types, features or elements.
Aesthetic/ scenic	Aesthetic/scenic or perceptual aspects of designated wildlife, ecological or cultural heritage features that contribute to landscape character.	Limited wildlife, ecological or cultural heritage features, or limited contribution to landscape character.
Perceptual qualities	Landscape with perceptual qualities of wildness, remoteness or tranquillity.	Limited or no evidence that the landscape is used for recreational activity.
Cultural associations	Landscape with strong cultural associations that contributes to scenic quality.	Landscape with few cultural associations.
Susceptibility – determined by a range of indicators / criteria with examples as follows:		

Value / Susceptibility criteria	Level of value/susceptibility ranging from 'High' to 'Medium' to 'Low'. High ⟷ Medium ⟷ Low	
Strength and robustness	Fragile landscape vulnerable and lacking the ability to accommodate change.	Robust landscape, able to accommodate change or loss of features without undue adverse effects.
Landscape Scale	A landscape of a suitably large enough scale to accommodate the proposed development.	A smaller scale landscape that may require further engineering to accommodate the proposed development.
Openness/ Enclosure	An open landscape with limited screening and higher susceptibility to the proposed development.	An enclosed landscape with screening and lower susceptibility to the proposed development.
Reinstatement	Lower value, non-characteristic landcover and elements capable of rapid reinstatement or replacement.	Higher value, characteristic landcover and elements that cannot be easily reinstated or replaced.
Skyline	Distinctive undeveloped skylines with landmark features.	Developed, nondistinctive skylines.
Association	Weak and indirect association. Other development may be of a smaller scale or historic.	Strong or direct association other similar contemporary developments/landscape character.
Rationale	Strong landscape rationale and opportunity with high degree of design quality and/or environmental measures.	Landscape with numerous environmental and technical constraints and fewer environmental measures.
Perceptual Qualities	Perceptual qualities associated with particular scenic qualities, wildness or tranquillity.	Contemporary, cultivated/settled or developed landscapes are likely to have a lower susceptibility.
Landscape Context	Adjacent landscape character context connected by borrowed character and views.	Host landscape character is separate from surrounding/adjacent landscape character
Sensitivity	**Sensitivity drawn from consideration of the Value and Susceptibility criteria with the final conclusion on the level of Sensitivity ranging from 'High' to 'Medium' to 'Low'.**	

LANDSCAPE MAGNITUDE OF CHANGE

The magnitude of change affecting landscape receptors is an expression of the scale of change that would result from the proposed development. In assessing the magnitude of change the assessment has focused on the size or scale of change and its geographical extent. The duration and reversibility are stated separately in relation to the assessed effects (i.e., as short / medium / long-term and temporary or permanent).

Size or Scale of Change

This criterion relates to the size or scale of change to the landscape that would arise as a result of the proposed development, based on the following factors:

- **Landscape Elements**: The degree to which the pattern of elements that makes up the landscape character would be altered by the proposed development, through the loss, alteration or addition of elements in the landscape. The magnitude of change would generally be higher if the features that make up the landscape character are extensively removed or altered, and / or if many new components are added to the landscape.
- **Landscape Characteristics**: The extent to which the effect of the proposed development change, (physically or perceptually) the key characteristics of the landscape which may be important to its distinctive character. This may include, for example, the scale of the landform, its relative simplicity, complexity or irregularity, the nature of the landscape context, the grain or orientation of the landscape, the degree to which the receptor is influenced by external features and the juxtaposition of the proposed development in relation to these key characteristics.
- **Landscape Character / Designation**: The degree to which landscape character receptors would be changed by the addition of the proposed development. If the proposed development is located in a landscape receptor that is already affected by other similar development, this may reduce the magnitude of change if there is a high level of integration, and the developments form a unified and cohesive feature in the landscape. In the case of designated landscapes, the degree of change is considered in light of the effects on the special landscape qualities which underpin the designation and the effect on the integrity of the designation.

  All landscapes change over time and much of that change is managed or planned. Often landscapes will have management objectives for 'protection' or 'accommodation' of development. The scale of change may be localised, or occurring over parts of an area, or more widespread affecting whole landscape character areas and their overall integrity. Developmental change may be time limited or permanent.
- **Distance**: The size and scale of change is also strongly influenced by the proximity of the proposed development to the receptor and the extent to which the development can be seen as a characterising influence on the landscape. Consequently, the scale or magnitude of change is likely to be lower in respect of landscape receptors that are distant from the proposed development and / or screened by intervening landform, vegetation and built form to the extent that the scale of their influence on landscape receptors is small or limited. Conversely, landscapes closest to the proposed development are likely to be most affected. Host landscapes (where the proposed development is located within a 'host' landscape character unit) would be directly affected whilst adjacent areas of landscape character would be indirectly affected.

Geographical Extent

Landscape effects are described in terms of the geographical extent or physical area that would be affected (described as a linear or area measurement). This should not be confused with the scale of the development or its physical footprint. The manner in which the geographical extent of the landscape effect is described for different landscape receptors is explained as follows:

- **Landscape Elements**: The geographical extent of landscape elements may be objectively measured in terms of numbers, area or linear measurement. For example, the number of trees, area of woodland / or length of hedgerow affected may be recorded.
- **Landscape Character / Characteristics**: The extent of the effects on landscape character will vary depending on the specific nature of the proposed development. This is not simply an expression of visibility or the extent of the ZTV. It is a specific assessment of the extent of landscape character that would be changed by the proposed development in terms of its character, key characteristics and elements.
- **Landscape Designations and Wild land**: In the case of a designated landscape, this refers to the extent the special landscape qualities of the designation, or wild land qualities, are affected and whether this can be defined in terms of area or linear measurements, or subjectively (with the support of panel and / or peer review) and whether the integrity of the designation is affected.

Duration and Reversibility

The duration and reversibility of landscape effects is based on the period over which the proposed development is likely to exist (during construction and operation) and the extent to which it would be removed (during decommissioning) and the effects reversed at the end of that period. Long-term, medium-term and short-term landscape effects are defined as follows:

- Permanent Development: No decommissioning, removal or reinstatement is planned.
- Temporary Development: This includes time limited development, such as a longer period of operation where decommissioning for example forms part of the proposed development or temporary phases of the development such as construction or decommissioning works:
  - Long-term – more than 10 years – essentially assessed as though 'permanent';
  - Medium-term – 6 to 10 years; and
  - Short-term – 1 to 5 years.
- Reversibility is a separate, but linked consideration concerning the prospects and practicality of a particular effect being reversed. Some forms of development, such as housing can be considered as permanent, whereas other forms of development such as wind farms can be considered as reversible because they have a limited operational life and after their removal the land would be restored. Mineral workings for example may be partially reversible with the landscape restored, although not completed to the same state as the original. In the case of the proposed development, the application is for a 35 year operation period, beyond which the project would be decommissioned, or a new application submitted, and many of the effects would be reversed.

LANDSCAPE MAGNITUDE OF CHANGE RATING

The 'magnitude' or 'degree of change' resulting from the proposed development is described as 'High', 'High – Medium', 'Medium', 'Medium – Low', 'Low', 'Low – Very Low', 'Very Low' or 'Zero'. In assessing the magnitude of change the assessment has focused on the size or scale of change and its geographical extent. The duration and reversibility are stated separately in relation to the assessed effects (i.e., as short / medium / long-term and temporary or permanent). The basis for the assessment of magnitude for each receptor is made clear using evidence and professional judgement.

The levels of magnitude of change that can occur are defined in **Table C-2**.

Table C-2 - Landscape Magnitude of change Ratings

Magnitude of landscape change	Examples of Landscape Magnitude
High	Size / Scale: A large-scale change and major loss of key landscape elements / characteristics or the addition of large scale or numerous new and uncharacteristic features or elements that would affect the landscape character and the special landscape qualities of a landscape designation. Directly affecting a host landscape receptor or indirectly affecting a nearby receptor. Geographical extent: The size or scale of change would typically, but not always affect a large geographical extent or area and may be close to the proposed development.
High - Medium	Intermediate rating with combination of criteria from high or medium magnitude.
Medium	Size / Scale: A medium scale change and moderate loss of some key landscape elements / characteristics or the addition of some new medium scale uncharacteristic features or elements that could partially affect the landscape character and the special landscape qualities of a landscape designation. Directly affecting a host landscape receptor or indirectly affecting a nearby receptor. Geographical extent: The size or scale of landscape change would typically, but not always affect a more localised geographical extent at an intermediate distance from the proposed development.
Medium - Low	Intermediate rating with combination of criteria from medium or low magnitude.
Low	Size / Scale: A small-scale change and minor loss of a few landscape elements / non key characteristics, or the addition of some new small-scale features or elements of limited characterising influence on landscape character / designations. Geographical extent: There may be a small partial change in landscape character, typically, but not always affecting a localised geographical extent at some distance from the proposed development.
Low - Very Low	Intermediate rating with combination of criteria from low or very low magnitude.
Very Low to Zero	Size / Scale: A very small-scale change that may include the loss or addition of some landscape elements of limited characterising influence. The landscape characteristics and character would be unaffected. Geographical extent: Typically affecting a very small geographical extent at greater distance from the proposed development.

EVALUATING LANDSCAPE EFFECTS AND SIGNIFICANCE

The level of landscape effect is evaluated through the combination of landscape sensitivity and magnitude of change. Once the level of effect has been assessed, and the nature of the effect determined (whether this is direct / indirect; its duration, whether this is temporary / permanent; and whether it is beneficial / neutral / adverse or cumulative) a judgement is then made as to whether the level of effect is 'significant' or 'not significant' as required by the relevant EIA Regulations. This process is assisted by the matrix illustrated in **Table C-5** which is used to guide the assessment. The factors considered in the evaluation of the sensitivity and the magnitude of the change resulting from the proposed development and their conclusion, will be presented in a comprehensive, clear and transparent manner.

Significant Landscape Effects

A significant effect would occur where the combination of the variables results in the proposed development having a defining effect on the landscape receptor, or where changes of a lower magnitude affect a landscape receptor that is of particularly high sensitivity. A major loss or irreversible effect over an extensive area of landscape character, affecting landscape elements, characteristics and / or perceptual aspects that are key to a nationally valued landscape are likely to be significant as described in GLVIA 3 paragraph 5.56.

Non-Significant Landscape Effects

A non-significant effect would occur where the effect of the proposed development is not defining, and the landscape character of the receptor continues to be characterised principally by its baseline characteristics. Equally a small-scale change experienced by a receptor of high sensitivity may not significantly affect the special landscape quality or integrity of a designation. Reversible effects, on elements, characteristics and character that are of small-scale or affecting lower value receptors are unlikely to be significant as described in GLVIA 3 paragraph 5.56.

ASSESSING VISUAL EFFECTS

Visual Effects are concerned wholly with the effect of the development on views, and the general visual amenity and are defined by the Landscape Institute in GLVIA 3, paragraphs 6.1 as follows:

"An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity. The concern ... is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views."

Visual effects are identified for different receptors (people) who would experience the view at their place of residence, within their community, during recreational activities, at work, or when travelling through the area. The visual effects may include the following:

- Visual effect: a change to an existing static view, sequential views, or wider visual amenity as a result of development or the loss of particular landscape elements or features already present in the view; and
- Cumulative visual effects: the cumulative or incremental visibility of similar types of development may combine to have a cumulative visual effect.

- The level of visual effect (and whether this is significant) is determined through consideration of the sensitivity of each visual receptor (or range of sensitivities for receptor groups) and the magnitude of change that would be brought about by the construction, operation and decommissioning of the proposed development.

ZONE OF THEORETICAL VISIBILITY (ZTV)

Plans mapping the Zone of Theoretical Visibility (ZTV) are used to analyse the extent of theoretical visibility of development or part of a development, across the LVIA Study Area and to assist with viewpoint selection. The ZTV does not however, take account of the screening effects of buildings, localised landform and vegetation, unless specifically noted (see individual figures). As a result, there may be roads, tracks and footpaths within the Study Area which, although shown as falling within the ZTV, are screened or filtered by built form and vegetation, which would otherwise preclude visibility.

The ZTVs provide a starting point in the assessment process and accordingly tend towards giving a 'worst case' or greatest calculation of the theoretical visibility.

VIEWPOINT ANALYSIS

Viewpoint analysis is used to assist the assessment and is conducted from selected viewpoints within the LVIA Study Area. The purpose of this is to assess both the level of visual effect for particular receptors and to help guide the design process and focus the assessment. A range of viewpoints are examined in detail and analysed to determine whether a significant visual effect would occur. By considering the viewpoints in order of distance it is possible to define a threshold or outer geographical limit, beyond which it would be reasonable to assume that significant effects would be unlikely.

The assessment involves visiting the viewpoint location and viewing wirelines and photomontages prepared for each viewpoint location. The fieldwork is conducted in periods of fine weather with good visibility and considers seasonal changes such as reduced leaf cover or hedgerow maintenance.

Viewpoint analysis prepared for each viewpoint is presented as supporting evidence in an appendix to the LVIA. A summary table of the findings is also provided in order of distance from the development site. This summary table assists in defining the direction, elevation, geographical spread and nature of the potential visual effects and identifies areas where significant effects are likely to occur. This approach seeks to provide clarity and confidence to consultees and decision makers by allowing the detailed judgements on the magnitude of visual change to be more readily scrutinised and understood.

EVALUATING VISUAL SENSITIVITY TO CHANGE

In accordance with paragraphs 6.31-6.37 of GLVIA 3, the sensitivity of visual receptors is determined by a combination of the value of the view and the susceptibility of the visual receptors to the change likely to result from the proposed development on the view and visual amenity.

Value of the view

The value of a view or series of views reflects the recognition and importance attached either formally through identification on mapping or being subject to planning designations, or informally through the value which society attaches to the view(s). The value of a view is classified as high, medium or low and the basis for this assessment is made clear using evidence and professional judgement, based on the following criteria:

- **Formal recognition**: The value of views can be formally recognised through their identification on OS or tourist maps as formal viewpoints, sign-posted and with facilities provided to add to the enjoyment of the viewpoint such as parking, seating and interpretation boards. Specific views may be afforded protection in local planning policy and recognised as valued views. Specific views can also be cited as being of importance in relation to landscape or heritage planning designations, for example the value of a view would be increased if it presents an important vista from a designed landscape or lies within or overlooks a designated area, which implies a greater value to the visible landscape.
- **Informal recognition**: Views that are well-known at a local level and / or have particular scenic qualities can have an increased value, even if there is no formal recognition or designation. Views or viewpoints are sometimes informally recognised through references in art or literature, and this can also add to their value. A viewpoint that is visited and appreciated by a large number of people would generally have greater importance than one gained by very few people.

Susceptibility to Change

Susceptibility relates to the nature of the viewer experiencing the view and how susceptible they are to the potential effects of the proposed development. A judgement to determine the level of susceptibility therefore relates to the nature of the viewer and their experience from that particular viewpoint or series of viewpoints, classified as high, medium or low and based on the following criteria:

- **Nature of the viewer**: The nature of the viewer is defined by the occupation or activity of the viewer at the viewpoint or series of viewpoints. The most common groups of viewers considered in the visual assessment include residents, motorists, and people taking part in recreational activity or working. Viewers, whose attention is focused on the landscape, or with static long-term views, are likely to have a higher sensitivity. Viewers travelling in cars or on trains would tend to have a lower sensitivity as their view is transient and moving. The least sensitive viewers are usually people at their place of work as they are generally less sensitive to changes in views.
- **Experience of the viewer**: The experience of the visual receptor relates to the extent to which the viewer's attention or interest may be focused on the view and the visual amenity they experience at a particular location. The susceptibility of the viewer to change arising from the proposed development may be influenced by the viewer's attention or interest in the view, which may be focused on a particular direction, from a static or transitory position and over a long or short duration. For example, if the principal outlook from a settlement is aligned directly towards the proposed development, the experience of the visual receptor would be altered more notably than if the experience relates to a glimpsed view seen at an oblique angle from a car travelling at high speed. The visual amenity experienced by the viewer varies depending on the presence and relationship of visible elements, features or patterns experienced in the view and the degree to which the landscape in the view may accommodate the proposed development.

Visual Sensitivity Rating

An overall level of sensitivity is applied for each visual receptor or view, classified as 'High', 'Medium' or 'Low' by combining individual assessments of the value of the view and the susceptibility of the visual receptor to change. Each visual receptor, meaning the particular person or group of people likely to be affected at a specific viewpoint, is assessed in terms of their sensitivity. The basis for the assessments is made clear using evidence and professional judgement in the evaluation of each receptor. Criteria that tend towards higher or lower sensitivity are set out in **Table C-3**.

Table C-3 - Visual sensitivity to change.

Value / Susceptibility criteria	**Level of value / susceptibility ranging from 'High' to 'Medium' to 'Low'.** **High** ⟷ **Medium** ⟷ **Low**	
Value – Landscape Value is determined by a range of indicators/criteria with examples as follows:		
Map/tourist information	Specific viewpoint identified in OS maps and/or tourist information and signage.	Viewpoint not identified in OS maps or tourist information and signage.
Facilities	Facilities provided at viewpoint to aid the enjoyment of the view.	No facilities provided at viewpoint to aid enjoyment of the view.
Planning recognition	View afforded protection in planning policy.	View is not afforded protection in planning policy.
Landscape value	View is within or overlooks a designated landscape, which implies a higher value to the visible landscape.	View is not within, nor does it overlook, a designated landscape.
Recognition	View has informal recognition and well-known at a local level, as having particular scenic qualities.	View has no informal recognition and is not known as having particular scenic qualities.
Art/Literature	View or viewpoint is recognised through references in art or literature.	View or viewpoint is not recognised in references in art or literature.
Scenic Quality	View has high scenic qualities relating to the content and composition of the visible landscape.	View has low scenic qualities relating to the content and composition of the visible landscape.
Susceptibility – determined by a range of indicators / criteria with examples as follows:		
Activity of the viewer	Viewer who is likely or liable to be influenced by the proposed development such as residents, walkers, or tourists, whose main attention and interest may be on their surroundings.	Viewer who is un or less likely to be influenced by the proposed development such as viewers whose attention is not focused on their surroundings (e.g., people at work, or team sports).
Nature of the View	Residents that gain static, long-term views of the development in their principal outlook.	Mobile viewers whose views are transient and dynamic (e.g., travelling in cars or on trains with glimpsed views).

Value / Susceptibility criteria	Level of value / susceptibility ranging from 'High' to 'Medium' to 'Low'. High ⟷ Medium ⟷ Low	
Direction/ Field of View	A view that is focused on a specific directional vista, with notable features of interest in a particular part of the view.	Open views with no specific point of interest.
Visual amenity	Viewers are focused on the experience of a high level of visual amenity at the location due to its overall pleasantness as an attractive visual setting or backdrop to activities.	The visual amenity experienced at the location by viewers is less pleasant or attractive than might otherwise be the case.
Sensitivity	**Sensitivity drawn from consideration of the Value and Susceptibility criteria to level of Sensitivity ranging from 'High' to 'Medium' to 'Low'.**	

VISUAL MAGNITUDE OF CHANGE

The visual magnitude of change is an expression of the scale of change that would result from the visibility of the proposed development. In assessing the magnitude of change the assessment has focused on the size or scale of change and its geographical extent. The duration and reversibility are stated separately in relation to the assessed effects (i.e., as short / medium / long-term and temporary / permanent).

Size or Scale of Change

An assessment is made of the size or scale of change in the view that is likely to be experienced as a result of the proposed development, based on the following criteria:

- **Distance**: The distance between the visual receptor / viewpoint and the proposed development. Generally, the greater the distance, the lower the magnitude of change, as the proposed development would constitute a smaller-scale component of the view due to the effects of perspective.
- **Size**: The amount and size of the proposed development that would be seen. Visibility may range from small or partial to whole visibility of the proposed development. Generally, the larger and greater number of elements (wind turbines and access tracks) of the proposed development that appear in the view, the higher the magnitude of change.

  This is also related to the degree to which development may be wholly or partly screened by landform, vegetation (seasonal) and / or built form. Conversely open views are likely to reveal more of a development, particularly where this is a key characteristic of the landscape.
- **Scale**: The scale of the change in the view, with respect to the loss or addition of features in the view and changes in its composition. The scale of the proposed development may appear larger or smaller relative to the scale of the receiving landscape.
- **Field of View** The vertical / horizontal field of view (FoV) and the proportion of view that is affected by the proposed development. Generally, the more of the proportion of a view that is affected, the higher the magnitude of change would be. If the proposed development extends across the whole of the view, the magnitude of change would generally be higher as the full view would be affected. Conversely, if the proposed development extends over a narrow part of an

open view, the magnitude of change is likely to be reduced as the proposed development would not affect the whole view or outlook. This can in part be described objectively by reference to the horizontal / vertical FoV affected, relative to the extent and proportion of the available view.

- **Contrast**: The character and context within which the proposed development would be seen and the degree of contrast or integration of any new features with existing landscape elements, in terms of scale, form, mass, line, height, colour, luminance and motion. Developments which contrast or appear incongruous in terms of colour, scale and form are likely to be more visible and have a higher magnitude of change.
- **Consistency of image**: The consistency of image of the proposed development in relation to other developments. The magnitude of change for the proposed development is likely to be lower if it appears broadly similar to other developments in the landscape in terms of its scale, form and general appearance. New development is more likely to appear as logical components of the landscape with a strong rationale for their location.
- **Skyline / Background**: Whether the proposed development would be viewed against the skyline, or a background landscape may affect the level of contrast and magnitude. For example, skyline developments may appear more noticeable, particularly where they affect open and undeveloped horizons. Conversely, development may also appear more noticeable when viewed against a darker background landscape, such as forestry. In these cases, the magnitude of change would tend to be higher.

  If the proposed development adds to an already developed skyline the magnitude of change would tend to be lower.
- **Number**: Generally, the greater the number of separate development components seen simultaneously or sequentially, the higher the magnitude of change and this may lead to whole project effects (for example the visual effect of the turbines and the substation). Further cumulative effects would occur in the case of separate, existing developments and their spatial relationship to each other would affect the magnitude of change. For example, development that appears as an extension to an existing development would tend to result in a lower magnitude of change than a separate, new development.
- **Nature of Visibility**: The nature of visibility is a further factor for consideration. The proposed development may be subject to various phases of development change and the manner in which the development may be viewed could be intermittent or continuous and / or seasonally, due to periodic management or leaf fall.

Geographical Extent

The geographic extent over which the visual effects would be experienced is also assessed. This is distinct from the size or scale of effect and is described in terms of the physical area or location over which it would be experienced (described as a linear or area measurement). The extent of the effects would vary according to the specific nature of the proposed development and is principally assessed through ZTV, field survey and viewpoint analysis of the extent of visibility likely to be experienced by visual receptors. The geographical extent of visual effects is described as per the following examples:

- The geographical extent can be described as an area measurement or proportion of the total receptor affected. For example, effects on people within a particular area such as a golf course or

area of common land can be illustrated via a 'representative viewpoint' that represents a similar visual effect, likely to be experienced by larger numbers of people within that area. The geographical extent of that visual effect can be expressed as approximately '5 hectares' or '10%' of the common land or a golf course area.

- The geographical extent can be described as a linear measurement (metres or kilometres) according to the length of route affected. For example, effects on people travelling on a route through the landscape such as a road or footpath can be illustrated via a 'representative viewpoint' that represents a similar visual effect, likely to be experienced by larger numbers of people along that route. The geographical extent of that visual effect can be expressed as approximately '2km' or '10%' of the total length of the route.
- The geographical extent of a visual effect experienced from a specific viewpoint may be limited to that location alone. (An example of a 'specific viewpoint' is a public viewpoint recommended in tourist literature such as a well visited hill summit. An example of an 'illustrative viewpoint' is a particular location within a built up or well vegetated area where an uncharacteristically open view exists).

Duration and Reversibility

The duration or time period over which a visual effect is likely to occur is judged on a scale of 'short', 'medium' or 'long' term and is assessed for the proposed development as per the method described

Reversibility is a separate, but linked consideration, also assessed for the proposed development as per the method described earlier.

VISUAL MAGNITUDE OF CHANGE RATING

The 'magnitude' or 'degree of change' resulting from the proposed development is described as 'High', 'High – Medium', 'Medium', 'Medium – Low', 'Low', 'Low – Very Low', 'Very Low' or 'Zero'. In assessing the magnitude of change the assessment has focused on the size or scale of change and its geographical extent. The duration and reversibility are stated separately in relation to the assessed effects (i.e., as short / medium / long-term and temporary / permanent). The basis for the assessment of magnitude for each receptor is made clear using evidence and professional judgement and some examples of the levels of magnitude of change that can occur on views are defined in **Table C-4**.

Table C-4 - Visual Magnitude of change

Magnitude of landscape change	Examples of Visual Magnitude
High	Size and Scale: A very large - large and dominant change to the view. Number: Involving the loss/addition of a large number of features / elements. Distance: Typically appearing closer to the viewer in the fore to mid-ground. FoV: Affecting a large vertical and wide horizontal FoV. Nature of Visibility: Multiple phase development, continuously and sequentially visible. Contrast: Strong degree of contrast with surroundings, little / no screening.

Magnitude of landscape change	Examples of Visual Magnitude
	Skyline: Visible on the skyline as a new feature. Consistency of Contrasting with other developments, lacking in visual rationale. Image: Typically experienced from representative viewpoints illustrating a visual effect likely to be experienced by larger numbers of people, relative to the activity, affecting a large area or length / proportion of route. May also be experienced from a specific viewpoint.
High - Medium	Intermediate rating with combination of criteria from high or medium magnitude of change category.
Medium	Size and Scale: A medium and prominent change to the view. Number: Involving the loss/addition of a number of features / elements. Distance: Typically appearing in the middle ground. FoV: Affecting a medium vertical and a medium horizontal FoV. Nature of Visibility: Multiple phase development, intermittently and sequentially visible. Contrast: Contrast with surroundings and may benefit from some screening. Skyline: Visible on the skyline along with other features. Consistency of Different from other existing developments, some visual rationale. Image: Typically experienced from representative viewpoints illustrating a visual effect likely to be experienced by a medium number of people, relative to the activity, affecting a medium area or length / proportion of route. May also be experienced from a specific viewpoint.
Medium - Low	Intermediate rating with combination of criteria from medium or low magnitude of change category.
Low	Size and Scale: A small / noticeable change, could be missed by the casual observer. Number: Involving the loss/addition of a small number of features / elements. Distance: Typically appearing in the background. FoV: Affecting a small vertical and a narrow horizontal FoV. Nature of Visibility: Simple, single development, intermittently and infrequently visible. Contrast: Some parity / 'fits' with surroundings and some screening. Skyline: Partly visible on a developed skyline or not visible on the skyline. Consistency of Similar from other developments with visual rationale, appearing Image: reasonably well accommodated within its surroundings. Typically experienced from illustrative viewpoints likely to be experienced by low numbers of people, relative to the activity, affecting a smaller area or length / proportion of route. May also be experienced from a specific viewpoint.
Low – Very Low	Intermediate rating with combination of criteria from low or very low magnitude of change category.

Magnitude of landscape change	Examples of Visual Magnitude
Very Low to Zero	Size and Scale: A small or negligible change, need to 'look for it'. Number: Involving the loss/addition of a small number of features / elements. Distance: Typically appearing in the far distance. FoV: Affecting a small vertical and a very narrow horizontal FoV. Nature of Visibility: Simple, single development, intermittently and infrequently visible. Contrast: Blends with surroundings and / or is well screened. Skyline: Partly visible on a developed skyline or not visible on the skyline. Consistency of Similar from other developments with strong visual rationale, Image: appearing well accommodated within its surroundings. Typically experienced from illustrative viewpoints likely to be experienced by low numbers of people, relative to the activity, affecting a smaller area or length / proportion of route. May also be experienced from a specific viewpoint.

EVALUATING VISUAL EFFECTS AND SIGNIFICANCE

The level of visual effect is evaluated through the combination of visual sensitivity and magnitude of change. Once the level of effect has been assessed, and the nature of the effect determined (whether this is direct / indirect; its duration, whether this is temporary / permanent; and whether it is beneficial / neutral / adverse or cumulative) a judgement is then made as to whether the level of effect is 'significant' or 'not significant' as required by the relevant EIA Regulations. This process is assisted by the matrix illustrated in **Table C-5** which is used to guide the assessment. The factors considered in the evaluation of the sensitivity and the magnitude of the change resulting from the proposed development and their conclusion, is presented in a comprehensive, clear and transparent manner.

Significant Visual Effects

A significant effect is more likely to occur where a combination of the variables results in the proposed development having a defining effect on the view or visual amenity or where changes affect a visual receptor that is of high sensitivity as described in GLVIA 3 paragraph 6.44.

Non-Significant Visual Effects

A non-significant effect is more likely to occur where a combination of the variables results in the proposed development having a non-defining effect on the view or visual amenity or where changes affect a visual receptor that is of low sensitivity as described in GLVIA 3 paragraph 6.44.

WEATHER CONDITIONS

The assessment of visual effects is undertaken in clear weather with good to excellent visibility. This means that the viewpoint assessment represents a fair assessment of the likely visual effects.

ASSESSING CUMULATIVE LANDSCAPE AND VISUAL EFFECTS

The assessment of cumulative effects is essentially the same as for the main assessment of the 'solus' or primary landscape and visual effects, in that the level of landscape and visual effect is

determined by assessing the sensitivity of the landscape or visual receptor and the magnitude of change. Cumulative assessment, however, considers the magnitude of change posed by multiple developments.

A cumulative landscape or visual effect simply means that more than one type of development is present or visible within the landscape. Other forms of existing development and land-use such as woodland and forestry, patterns of agriculture, built form, and settlements already have a cumulative effect on the existing landscape that is already accepted or taken for granted. These features often contribute strongly to the existing character, forming a positive or adverse component of the local landscape. Landscapes, however, will have a finite capacity for cumulative development, beyond which further new development would result in landscape character change and could result in the creation of a 'wind farm landscape' where wind farms have become the dominant characteristic.

Detailed guidance on the cumulative assessment of wind farm development is provided in the NS document '*Guidance: Assessing the Cumulative Landscape and Visual Impact of Onshore Wind Energy Developments'* (2021). This assessment distinguishes between 'additional' cumulative effects that would result from adding the proposed development to other cumulative wind farm development and 'combined' cumulative effects that assess the total cumulative effect of the proposed development and other cumulative wind farm development. In the latter case a significant cumulative effect may result from the proposed development or one of more other existing, under-construction or consented wind farms, or other wind farm applications. In those cases, the main contributing wind farm(s) is identified in the assessment.

Types of cumulative effect are defined as follows:

- Cumulative Landscape Effects: Where more than one wind development may have an effect on a landscape designation or particular area of landscape character;
- Cumulative Visual Effects: the cumulative or incremental visibility of similar types of development that may combine to have a cumulative visual effect. These can be further defined as follows:
    - Simultaneous or combined: where two or more developments may be viewed from a single fixed viewpoint simultaneously, within the viewer's field of view and without requiring them to turn their head[155];
    - Successive or repetitive: where two or more developments may be viewed from a single viewpoint successively as the viewer turns their head or swivels through 360°; and
    - Sequential: where a number of developments may be viewed sequentially or repeatedly at increased frequency, from a range of locations when travelling along a route within the LVIA Study Area.
- The SNH document '*Siting and Designing Wind farms in the Landscape' (Version 3a)* explains that the development of multiple wind farms within a particular area may create different types of cumulative effect, that can be described as follows:

"The wind farms are seen as separate isolated features within the landscape character type, too infrequent and of insufficient significance to be perceived as a characteristic of the area;

[155] Note: A person's field of view is variable but is approximately 90° when facing in one direction.

The wind farms are seen as a key characteristic of the landscape, but not of sufficient dominance to be a defining characteristic of the area; [a landscape with wind farms] and

The wind farms appear as a dominant characteristic of the area, seeming to define the character type as a 'wind farm landscape character type."

Wind farm development that results in the creation of a '*wind farm landscape*' as opposed to a '*landscape with wind farms'* or '*landscape with occasional wind farms*' is likely to be assessed as significant. Equally the 'additional effect' of wind farm development, adding to a scenario where there are already a number of other existing or consented wind farms, may be less than the effect of the proposed development either on a 'solus' or primary basis or in an area where there are few or no wind farms existing. This is because wind farm development has already been established as a characterising influence and the additional effect of further development may or may not alter this.

Whilst the CLVIA considers other wind farm development, it should not be considered as a substitute for individual LVIA assessment in respect of each of the other cumulative developments included in the CLVIA.

DEFINING THE CUMULATIVE STUDY AREA

The cumulative Study Area is the same as the LVIA Study Area. The cumulative assessment considers the effects of other existing, under-construction, consented and application wind energy sites on the landscape and visual receptors within the LVIA Study Area. In determining which wind energy developments should be included in the CLVIA the assessors may draw on the advice from consultees and other wind energy development within a wider search area (up to 60km radius from the proposed turbines).

Those developments at pre-planning or scoping stage are excluded in accordance with SNH guidance unless there is a justified / exceptional circumstance for their inclusion in the assessment. However, scoping stage wind farms within 10km of the proposed development have been included in the wirelines.

PREDICTING CUMULATIVE LANDSCAPE EFFECTS

The assessment considers the extent to which the proposed development, in combination with others, may change landscape character through either an 'additional' or 'in combination' effect on characteristic elements, landscape characteristics and quality of the baseline landscape character. Identified cumulative landscape effects are described in relation to each individual Landscape Character Type/Area and for any designated landscape areas assessed within the LVIA Study Area.

PREDICTING CUMULATIVE VISUAL EFFECTS

The assessment of cumulative visual effects involves reference to the cumulative visibility ZTV maps and the cumulative viewpoint analysis. The cumulative visibility of other existing and consented wind energy developments and applications is established in the first instance using the computer programme (Resoft Wind Farm© software) to identify areas where wind energy developments are theoretically visible. Cumulative visibility maps are analysed to identify the visual receptor locations and routes where cumulative visual effects on the landscape and people may occur as a result of the proposed development.

With potential receptor locations identified, cumulative effects on individual receptor groups are then explored through viewpoint analysis, which involves site visits informed by wireline illustrations that

include other wind energy developments. The computer programme itself can also be used to 'drive' particular routes to assess the visibility of different wind energy developments and inform the assessment of sequential cumulative effects that may occur along a route or journey and compared to actual visibility experienced along a route on site.

EVALUATION OF CUMULATIVE LANDSCAPE AND VISUAL EFFECTS

The evaluation of cumulative effects is assisted by the matrix illustrated in **Table C-5,** which is used to guide the assessment.

The cumulative assessment has been prepared to ensure that, as well as the 'solus' or primary effect of the proposed development (LVIA) the 'additional' cumulative effects and the 'combined' cumulative effect (CLVIA) is also reported to account for two cumulative Scenarios as follows:

- **Proposed development:** Assessed on an individual basis (the LVIA). This part of the assessment may take account of other existing forms of wind farm development that may be present in the landscape, whilst recognising that their influence on landscape character is likely to be time limited. It does not consider the additional or combined cumulative effects and only reports of the effect of the proposed development alone;
- **Scenario 1: Existing + Consented + the proposed development**: The additional and combined cumulative effects of the existing and consented wind energy developments with the proposed development are assessed; and
- **Scenario 2: Existing + Consented + Applications + the proposed development**: The additional and combined cumulative effects of the existing and consented wind energy developments and applications (and the pre-planning Tomchrasky Wind Farm), with the proposed development are assessed.
    - In addition, the cumulative assessment takes account of the timescales, as far as practicable, for the operation of the existing and consented developments.
    - Due to the numbers of other developments involved, the overall cumulative effects may be greater than for the primary effect or additional effect for the proposed development assessed in the main LVIA. The resulting level of cumulative effect may remain at the same level of effect or increase to a higher level of effect. The point at which these effects become significant or not significant in landscape and visual terms is still a matter for professional judgement, although four scenarios or combinations of cumulative effect, taking account of other wind energy development can occur as follows:
- A significant effect from the proposed development is predicted in addition or combination with another significant effect attributed to other development(s). The effect is still termed significant and cumulative but is a greater level of effect than for either development individually.
- A significant effect from the proposed development is predicted in addition or combination with another non-significant effect attributed to other development(s). The effect is still termed significant and cumulative but is attributed to the proposed development and is a greater level of effect than for either development individually.
- A non-significant effect from the proposed development is predicted in addition or combination with another significant effect attributed to other development(s). The effect is still termed

significant and cumulative but is attributed to the other wind energy development(s) and is a greater level of effect than for either development individually.

- A non-significant effect from the proposed development is predicted in addition or combination with another non-significant effect attributed to other development(s). The effect is still termed cumulative and is a greater level of effect than for either development individually; the combined effect, however, may or may not be significant.

The nature of a cumulative effect may also be described as direct / indirect, temporary / permanent, or beneficial / adverse. The probability of a cumulative effect occurring may also be described (certain, likely or uncertain / unknown) according to whether the developments in question are existing / under construction, consented or at the application stage.

EVALUATION OF SIGNIFICANCE AND NATURE OF EFFECT

The matrix presented in **Table C-5** is used as a guide to illustrate the LVIA process. In line with the emphasis placed in GLVIA 3 upon the application of professional judgement, an overly mechanistic reliance upon a matrix is avoided through the provision of clear and accessible narrative explanations of the rationale underlying the assessment made for each landscape and visual receptor. Such narrative assessments provide a level of detail over and above the outline assessment provided by use of the matrix alone.

The landscape and visual assessment unavoidably, involves a combination of quantitative and qualitative assessment and wherever possible cross references will be made to objective evidence, baseline figures and / or to photomontage visualisations to support the assessment conclusions. Often a consensus of professional opinion has been sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach. Importantly each effect results from its own unique set of circumstances and have been assessed on a case-by-case basis. The matrix should therefore be considered as a guide and any deviation from this guide will be clearly explained in the assessment.

In accordance with the relevant EIA Regulations, it is important to determine whether the effects, assessed as a result of the proposed development, are likely to be significant. Significant landscape and visual effects will be highlighted in bold in the text and in most cases, relate to all those effects that result in a '**Substantial**', '**Major**' or a '**Major to Moderate**' effect as indicated in **Table C-5** (and shaded dark grey). '**Moderate**' levels of effect (shaded grey) can also be assessed as significant, subject to the assessor's opinion that should be clearly explained as part of the assessment.

White or un-shaded boxes in **Table C-5** indicate a non-significant effect. In those instances where there would be no effect, the magnitude has been recorded as 'Zero' and the level of effect as 'None' or 'No View'. Intermediate levels of magnitude or effect are also used in the LVIA and are shown in **Table C-5** in italics, for example *High – Medium* magnitude or *Substantial to Major* level of effect.

Table C-5 - Evaluation of Landscape and Visual Effects

Magnitude of Change	Landscape and Visual Sensitivity			
	High	Medium	Low	Very Low
High	**Substantial**	**Major**	Moderate	Not used
High - Medium	***Substantial to Major***	***Major to Moderate***	*Moderate to Minor*	
Medium	**Major**	Moderate	Minor	
Medium - Low	***Major to Moderate***	*Moderate to Minor*	*Minor*	
Low	Moderate	Minor	Negligible	
Low – Very Low	*Moderate to Minor*	*Negligible*	*Negligible*	
Very Low	Minor	Negligible	Negligible	
Zero	None / No View			

Type or Nature of Effect

In accordance with the EIA Regulations the type or nature of effect is also described in terms of whether it is direct or indirect; its duration (temporary / permanent or reversible) cumulative; and whether the effect is positive, neutral or negative.

Transboundary effects are not relevant to this assessment as the LVIA Study Area for the proposed development would not overlap with the territory of another country.

Direct and indirect effects

GLVIA, paragraph 5.2 notes that landscape may be directly and indirectly affected by development and defines indirect effects as "*Effects that result indirectly from the proposed project as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in rime from the source of the effects*".

Direct landscape effects relate to the host landscape and concern both physical and perceptual effects on the receptor. Indirect landscape effects may also affect the host landscape as well as other landscapes, often separated by distance from the proposed development, as a consequence of views that affect the perceptual aspects of their character and key characteristics.

Visual effects are generally all considered as direct effects. An indirect visual effect may however be used to define a visual effect on a view that is not in the direction of the main view of the viewer as described by the following examples:

- Road users generally face the road directly ahead in the direction of travel and visual effects affecting those views may be described as direct effects. Where the visual effect is experienced in views oblique to the direction of travel they may be described as indirect; and

- Designed landscapes and vistas / viewpoints may be orientated in a particular direction and visual effects affecting those views may be described as direct effects. Where the visual effect is experienced in views oblique to the direction of the designed or main / primary view they may be described as indirect.

Secondary effects (or effects subsequent to an initial effect) are covered in this assessment by indirect effects.

Positive (beneficial) and negative (adverse) effects

Wind farms give rise to a wide range of opinions, from strongly adverse to strongly beneficial. However, LVIA is not an assessment of public opinion, although a precautionary approach has been taken, which assumes that the nature of the effects would be adverse or neutral unless otherwise stated.

Guidance provided by the in GLVIA 3 on the nature of effect (i.e., beneficial or adverse) states that *'in the LVIA, thought must be given to whether the likely significant landscape and visual effects are judged to be positive (beneficial) or negative (adverse) in their consequences for landscape or for views and visual amenity'*, but it does not provide guidance as to how that may be established in practice. The nature of effect is therefore one that requires interpretation and, where applied, this involves reasoned professional opinion.

In relation to many forms of development, the LVIA will identify 'beneficial' and 'adverse' effects by assessing these under the term 'Nature of Effect'. The landscape and visual effects of large-scale infrastructure are difficult to categorise in either of these brackets as, unlike other disciplines, there are no definitive criteria by which the effects can be measured as being categorically 'beneficial' or 'adverse'. In some disciplines, such as noise or ecology, it is possible to quantify the effect in numeric terms, by objectively identifying or quantifying the proportion of a receptor that is affected and assessing the nature of that effect in justifiable terms. However, this is not the case in relation to landscape and visual effects where the approach combines quantitative and qualitative assessment.

As a starting point, unless stated otherwise, the effects considered in the assessment will be considered to be adverse. Beneficial or neutral effects may, however, arise in certain situations and are stated in the assessment where relevant, based on the following definitions:

- Beneficial effects contribute to the landscape and visual resource through the enhancement of desirable characteristics or the introduction of new, beneficial attributes. The proposed development contributes to the landscape by virtue of good design or the introduction of new landscape planting. The removal of undesirable existing elements or characteristics can also be beneficial, as can their replacement with more appropriate components.
- Neutral effects occur where the proposed development fits with the existing landscape character or visual amenity. The proposed development neither contributes to or detracts from the landscape and visual resource and can be accommodated with neither beneficial or adverse effects, or where the effects are so limited that the change is hardly noticeable (very low magnitude). A change to the landscape and visual resource is not considered to be adverse simply because it constitutes an alteration to the existing situation.

- Adverse effects are those that detract from the landscape character or quality of visual attributes experienced, through the introduction of elements that contrast, in a detrimental way, with the existing characteristics of the landscape and visual resource, or through the removal of elements that are key in its characterisation.

Probability of Effect

The probability of cumulative effects is variable. Those effects related to existing wind energy development and those under construction are considered as certain; effects related to development with planning consent are considered as likely. Wind energy development sites for which there is a submitted planning application are considered as uncertain with an even greater level of uncertainty attached to pre-planning application sites.

RESIDENTIAL VISUAL AMENITY ASSESSMENT

Residential amenity is a planning matter that involves a wide number of effects (such as noise and shadow flicker) and benefits, of which residential visual amenity is just one component. The Residential Visual Amenity Assessment (RVAA) is limited to the consideration of visual effects on residential amenity and the methodology accords with the advice in GLVIA 3, the Landscape Institute's *Residential Visual Amenity Assessment: Technical Guidance Note*, 2019.

Planning law contains a widely understood principle that the outlook or view from a private property is a private interest and not therefore protected by the UK planning system. However, the planning system also recognises situations where the effects on residential visual amenity are considered as a matter of public interest. This matter has been examined at a number of public inquiries in both Scotland and England where the key determining issue was not the identification of significant effects on views, but whether the proposed turbines would have an effect on the residential visual amenity through an overbearing effect and/or result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live.

As a consequence, the visual assessment methodology provides for a much more detailed assessment of the closest residential properties. This allows the assessor and consequently the determining authority to make a judgement as to whether the residents at these properties would be likely to sustain unsatisfactory living conditions which it would not be in the public interest to create. Reviews of decisions demonstrate that significant visual effects or changes to the views available from a residential property and its curtilage are not the decisive consideration, rather it is the residential amenity and, in this case, residential *visual* amenity that is determinate.

The methodology for assessing the visual effects on views from residential properties is therefore slightly different from the assessment of other visual receptors and allows for two stages of assessment as follows:

- Stage 1: Undertake a visual assessment to identify any significant effects; and
- Stage 2: Undertake a Residential Visual Amenity Assessment (RVAA).

A residential property, for the purposes of environmental impact assessment, should be one that was designed and built/converted for that purpose and currently (at the time of the assessment) remains in a habitable condition (is of a safe construction, wind and watertight with appropriate vehicle access, and services such as drinking water, sanitation, and power supply). Other buildings

such as barns/outbuildings, garages, huts and derelict properties should generally be excluded from the assessment, unless they form part of the curtilage of an existing residence.

The assessment of residential properties or clusters of residential properties has been limited to those which appear on the Ordnance Survey 1:25,000 scale map and are overlapped by the blade tip ZTV. The assessment has been informed by site visits, observing the properties from public locations and through the examination of publicly available aerial and ground level photography as well as map-based data, the production of ZTV plots and visualisations such as wirelines. Some of the properties are accessed via private or gated roads and due to these access limitations, they have been assessed from the nearest public road or footpath which may be at greater distance from the property. As such the assessment represents an informed judgement of the likely visual effects and the consequential effects on residential visual amenity.

Planning permissions for new residential properties and conversions which have not been built at the time of the assessment have not been included.

STAGE 1: VISUAL ASSESSMENT

A visual assessment is undertaken to identify those properties where a significant visual effect on a view from the property is likely to occur. The methodology for this is set out previously under visual assessment and combines an assessment of 'sensitivity' with an assessment of 'magnitude'.

The sensitivity of individual residential receptors has been assessed as 'High' in each case due to the high susceptibility of residents in accordance with GLVIA 3, paragraph 6.33. The value of the view is also likely to be regarded as high by the residents themselves, but the views in this area are not nationally or locally designated for their scenic value and accord a medium value in this respect.

The assessment allows for the screening effects of vegetation with the following caveats:

- Forestry screening is subject to forestry management and the assessment allows for either no forestry screening or maximum forestry screening, representing the two extremes likely to affect the view during the 35 year operational period of the proposed development.
    - Woodland and hedgerow screening – Where this includes mature, long standing mixed or broadleaved woodland a degree of permanence has been assumed in the assessment.
        - Individual trees – Where these are mature a degree of permanence has been assumed in the assessment. However, this is subject to the long-term retention of individual trees that would need to be assessed on a case-by-case basis, which is beyond the scope of this assessment.
    - Garden vegetation has been assumed to have a degree of permanence. In the event that it is removed and replanted, most garden shrubs / hedges are reasonably quick to re-establish or are replaced on a piecemeal basis.

The assessment also takes account of cumulative effects likely to result from the visibility of other wind energy development. In order to identify the likely significant effects, and noting that the RVAA Study Area is 2km, the baseline of other wind energy development considered in this assessment has been limited to those wind farms within 10km of the proposed development.

Although other wind energy development may be visible within the wider area, it is considered unlikely that it would contribute to an effect on the RVAA.

STAGE 2: RESIDENTIAL VISUAL AMENITY ASSESSMENT

The second stage is to consider the residential visual amenity and whether, in terms of the wider public interest, the visual effects would result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live. Relevant information considered as part of the assessment may include, but is not limited to the following:

- Scale of Wind Farm:
  - Number and height of visible turbines;
  - The horizontal extent or Angle of View (AOV) of the visible turbine array; and
  - Separation distance (closest and furthest visible turbines).
- Description of Property, as far as this can be ascertained:
  - Orientation and size of property and whether views from the property towards the wind farm would be direct or oblique;
  - Location of principal rooms and main living areas such as living/dining rooms, kitchens and conservatories, as opposed to upstairs rooms (bedrooms / bathrooms), working areas such as farm buildings and utility areas;
  - Location of principal garden areas which may include patios and seating areas as opposed to less well used areas such as paddocks or garages; and
  - The effects of any screening by landform, vegetation or nearby built development.
- Location and Context:
  - The aspect of the property in terms of the overall use and relationship to the garden areas and surrounding landscape;
  - The principal direction of main views and visual amenity;
  - The context and nature of any intervening structures e.g., other existing wind farm development, farm buildings or forestry.

The assessment has been further supported by aerial and ground level photography as well as map-based data, the production of ZTV plots and visualisations such as wirelines. The assessment takes account of the likely views from the ground floors of properties and main garden areas but excludes upper floors and other non-residential land that may be connected with the property. These areas cannot usually be assessed from public areas unless they have been subject to further on-site assessment with the resident's permission.

Other factors affecting residential amenity such as noise and shadow flicker are not considered as part of this assessment.

The RVAA is reported in **Technical Appendix 7.3**.

NIGHT-TIME ASSESSMENT

The night-time assessment follows the same methodology used for the assessment of landscape, visual and cumulative effects. The only difference is that it is conducted during periods of dawn to dusk and assesses the baseline night-time environment against the proposed additional, artificial lighting, in this case aviation warning lights, fitted to the proposed turbines.

The Study Area for the night-time assessment is also the same as the LVIA Study Area used for the landscape, visual and cumulative assessment.

As with the landscape and visual assessment, the sensitivity of the receptor to the proposed development (aviation warning lights) and the magnitude of change are combined to determine the level of effect likely to result from the aviation warning lights. The evaluation of significance and the nature of these effects is also described following the methodology used for the assessment of landscape, visual and cumulative effects.

Importantly, the night-time assessment is not a technical lighting impact assessment based on quantitative measurement of light levels, rather the assessment relies on professional judgement of what the human eye can reasonably perceive at the viewpoints / receptor locations.

The night-time assessment is supported by a baseline night-time environment or darkness survey and ZTV plots, baseline photography, wirelines and photomontages from selected viewpoints. These visualisations help to assess both the level of night-time visual impact for particular receptors and focus the assessment.

The night-time assessment is reported in **Technical Appendix 7.4**.

NIGHT-TIME VIEWPOINT ANALYSIS

A range of viewpoints are examined in detail and analysed to determine whether a significant visual effect would occur. By arranging the viewpoints in order of distance it is possible to define a threshold or outer limit, beyond which there would be no further significant effects.

The night-time viewpoint analysis involves visiting the viewpoint locations during periods between dusk and dawn and viewing wirelines and photomontages prepared for each viewpoint location. The fieldwork is conducted in periods of fine weather with clear skies and considers seasonal changes such as reduced leaf cover or hedgerow maintenance.

BASELINE NIGHT-TIME ENVIRONMENT OR DARKNESS SURVEY

During site visits a baseline night-time environment survey or ‘darkness survey’ is carried out at each viewpoint location. The purpose of the darkness survey is to establish the existing light levels perceived by the landscape architects at the viewpoints and determine their sensitivity to change. The following observations are recorded:

- Areas of darkness with no artificial light;
- Direct artificial lighting (where the light source is directly visible from the viewpoint);
- Indirect artificial lighting (where the light source is not visible but the light emanating from the light source is visible as in the case of ‘sky glow’);
- Static lighting, for example emanating from a residential property or street light; and
- Mobile or transient lighting, for example associated with moving vehicles, trains or aircraft.

Baseline photographs at each of the night-time assessment viewpoints are recorded.

ASSESSMENT OF NIGHT-TIME SENSITIVITY

In terms of landscape effects, a key determinant of the value and susceptibility of a landscape is the degree to which the landscape character can be discerned at night and the quality of the baseline 'darkness' – essentially is the area unlit or lit? There is a limited period of the night, during the twilight periods just after sunset or just before dawn when the landscape character maybe partially perceived and during periods when there are clear skies and under conditions such as a full moon. During these limited periods it may be possible to discern sufficient number of the key landscape characteristics, in particular, topography / skyline and some of the perceptual qualities, although other features such as colour, pattern, texture will be muted or not discernible. As darkness progresses these features cease to be visible. The susceptibility of the landscape at night is therefore variable and reduces from its highest or most susceptible during the day, through the twilight period, until the night when susceptibility would be at its lowest, during periods of greatest darkness.

The value of the landscape at night is recognised in designations that include National Parks and dark sky parks and more rarely in relation to local landscape designations and particular landscape character types, although the landscape value of non-designated landscapes is usually lower.

In terms of visual effects, the susceptibility of the receptor is primarily influenced by the activity of the viewer and residents are generally considered to be of higher sensitivity. A number of tourist locations are likely to be closed to the public during the hours of darkness, residents are most likely to be indoors, and hill walkers and people viewing the landscape from recognised viewpoints are less likely or unlikely to be present at those locations during the night. Again, the susceptibility of the receptor at night is most likely to reduce from its highest or most susceptible during the day, through the twilight period, until the night under conditions of greatest darkness when it would be at its lowest, although exceptions include may locations such as dark sky park viewpoints.

The value of the specific views and visual amenity at night is also recognised in designations that include National Parks and dark sky parks but more rarely in association with OS viewpoints, and scenic qualities associated with local landscape designations or tourist routes which tend to be focused on an appreciation of the landscape during the day with consequentially a less or a lower value ascribed during the night.

Factors affecting the susceptibility and value of landscape and visual receptors are combined to determine the sensitivity of the receptor and afforded a rating of High, Medium, Low or Very Low in a similar manner to that set out in **Tables C-3**. For all of the above reasons it is likely that in most cases the overall sensitivity of the landscape and visual receptors will tend to be reduced under night-time conditions in comparison to the day-time receptors.

ASSESSMENT OF NIGHT-TIME MAGNITUDE

In assessing the magnitude of change the assessment has focused on the size or scale of change and its geographical extent. The duration and reversibility are stated separately in relation to the assessed effects (i.e., as short / medium / long-term and temporary or permanent).

The number of lights likely to be visible as well as their intensity can be described in objective terms and ZTVs indicating the theoretical visibility of numbers of lights and their intensity is mapped in order to assist the assessment process. Other objective factors include the FoV and the distance over which the lights may be seen. More subjectively the proposed development is considered

against the baseline or darkness survey in terms of whether the proposed lighting would contrast with an unlit area or assimilate with other lights in a landscape or view that may already have multiple light sources. In this manner the assessment has to consider the degree to which the proposed development would affect the landscape character or designation, as far as that can be perceived at night.

In visual terms, a further consideration is the numbers of viewers which are likely to experience the views and visual amenity at night. It is reasonable to assume that the numbers of tourists and hill walkers, viewing the landscape at night for example, will tend to be few in number or rare, with most tourist destinations closed during the hours of darkness for example. Exceptions may include specific viewpoints within a dark sky park. Walkers and road users out at night, will also themselves tend to be sources of light from torches and vehicle headlights and thus affect the baseline or darkness survey.

The 'magnitude' or 'degree of change' resulting from the proposed development is described as 'High', 'High – Medium', 'Medium', 'Medium – Low', 'Low', 'Low – Very Low', 'Very Low' or 'Zero'. in similar terms to the descriptions set out in **Tables C-2** and **C-4**.

EVALUATION OF NIGHT-TIME LEVEL OF EFFECTS AND SIGNIFICANCE

The level effect is evaluated through the combination of sensitivity and magnitude of change. Once the level of effect has been assessed, and the nature of the effect is determined (whether this is direct / indirect; its duration, temporary / permanent; and whether it is beneficial / neutral / adverse or cumulative) a judgement is then made as to whether the level of effect is 'significant' or 'not significant' as required by the relevant EIA Regulations. This process is assisted by the matrix illustrated in **Table C-5** which is used to guide the assessment. The factors considered in the evaluation of the sensitivity and the magnitude of the change resulting from the proposed development and their conclusion, is presented in a comprehensive, clear and transparent manner.

PRODUCTION OF ZTVS AND VISUALISATIONS

Zones of Theoretical Visibility (ZTVs) and visualisations (wirelines / wirelines and photomontages) are graphical images produced to assist and illustrate the LVIA and the cumulative assessment. The methodology used for viewpoint photography and photomontages accords with the SNH guidance *Visual Representation of Wind Farms*, Version 2.2, February 2017, whilst the methodology for the ZTV's, night-time and wild land visualisations follow the SNH guidance *Visual Representation of Wind Farms*, Version 2.2, February 2017. Further, additional guidance is provided by the Landscape Institute Technical Guidance Note: *Visual Representation of Development Proposals*, 17 September 2019.

METHODOLOGY FOR PRODUCTION OF ZTVS

The ZTVs are calculated using Resoft Wind Farm© software to generate the zone of theoretical visibility of the proposed development. This software creates a 3D computer model of the existing landscape and the proposed development using digital terrain data as follows:

- Ordnance Survey Terrain 50: Used to produce the main or standard ZTV plot and wirelines, these tiles provide a digital record of the existing landform of Great Britain, or Digital Terrain Model (DTM) at 10m elevation intervals based on 50m grid squares and models representing the specified geometry and position of the proposed turbines. The computer model includes the entire LVIA Study Area and takes account of the effects caused by atmospheric refraction and the Earth's curvature; and
- Ordnance Survey Terrain 5: Used to produce a more detailed ZTV plot or wireline for limited areas, often used where there are small undulations or crags within the landscape. These tiles provide a digital record of the existing landform of Great Britain based on 5m grid squares and models representing the specified geometry and position of the proposed turbines. The computer model includes the central LVIA Study Area and takes account of atmospheric refraction and the Earth's curvature.

The resulting ZTV plots are overlaid on Ordnance Survey mapping at an appropriate scale and presented as figures using desktop publishing/graphic design software.

The same computer software is also used to calculate cumulative ZTV plots based on the intervisibility of the proposed development with other existing, consented and application wind farms included in the CLVIA. In addition to the methods as described above, the layouts and geometries of the surrounding existing, consented and application wind farms are loaded into the same computer programme.

METHODOLOGY FOR BASELINE PHOTOGRAPHY

Once a view has been selected, the location is visited, confirmed, and assessed with the aid of a wireline or similar visualisation in the field. The viewpoint location is micro-sited to avoid as far as reasonable foreground clutter and photographed during fair weather and light conditions. A photographic record is taken to record the view and the details of the viewpoint location and associated data are recorded to assist in the production of visualisations and to validate their accuracy.

The following photographic information is recorded:

- Date, time, weather conditions and visual range;
- GPS recorded 12 figure grid reference accurate to ~5-10 m;
- GPS recorded Above Ordnance Datum (AOD) height data;
- The focal length of lens is confirmed;
- Horizontal field of view (in degrees); and
- Bearing to Target Site (proposed development).

All photographs included in this assessment were recorded with a digital SLR camera set to produce photographs equivalent to that of a manual 35 mm SLR camera with a fixed 50mm or 75mm focal length lens as required.

All the resulting visualisations have been prepared to show other cumulative wind energy development in order that they may assist the cumulative assessment as well as the LVIA.

Whilst no two-dimensional image can fully represent the real viewing experience, the visualisation aims to provide a realistic representation of the proposed development, based on current information and photomontage methodology.

Weather Conditions

GLVIA 3 para 8.22 states:

"In preparing photomontages, weather conditions shown in the photographs should (with justification provided for the choice) be either:

- Representative of those generally prevailing in the area; or
- Taken in good visibility, seeking to represent a maximum visibility scenario when the development may be highly visible".

In preparing photomontages for the LVIA, photographs will be taken in favourable weather conditions that are representative of the weather conditions generally and where possible, will be taken during periods of 'good' or 'excellent' visibility conditions.

METHODOLOGY FOR PRODUCTION OF VISUALISATIONS

Each view has been illustrated with a photograph, a wireline and / or a photomontage indicating the proposed development. Definitions of each of these are described as follows:

- Baseline photograph: A photograph of the existing view recorded in fair weather conditions and usually presented as a panorama as required by the relevant SNH guidance.
- Wireline or Wireframe: A computer generated model of the landscape and the proposed development.
- Photomontage is a visualisation which superimposes an image of a proposed development (in this case the wireline or wireframe) upon the baseline photograph, which is then rendered by computer software to produce an image of how the proposed development would appear from that viewpoint. Photomontage is a widespread and popular visualisation technique, which allows changes in views and visual amenity to be illustrated and assessed.

Baseline Photograph Production

Photographs are then taken using a digital SLR camera in combination with a panoramic head equipped tripod. Detailed information is then recorded on site to enable the accurate alignment of the photographs with the wireline model (data such as: GPS grid co-ordinates; ground level information; compass bearings; and any other known references and viewpoint information).

To create the baseline panorama, the photographs from the viewpoint are then digitally joined using Adobe Photoshop or PTGui software to form a planar or cylindrical projection image or panorama using computer software to remove 'barrel distortion' caused by the camera lens. There are practical limitations to shooting viewpoint photographs only in very good or excellent visibility and at particular times of day or from location that avoid foreground clutter or other vertical features such as telegraph poles, particularly where this is a true representation of the view from that viewpoint area.

Wireline or Wireframe Production

The wirelines and photomontages are produced using Resoft Wind Farm© software to generate a perspective view of the wind farm. This software creates a 3D computer model of the existing

landscape and the proposed development using digital terrain data and models representing the specified geometry and position of the proposed turbines. The computer model includes the entire LVIA Study Area, and all visualisations take account of the effects caused by atmospheric refraction and the Earth's curvature. The computer model does not take account of the screening effects of any intervening objects and forestry, unless specified (see individual figures).

A wireline of the proposed development and the existing landform is generated for each viewpoint within the LVIA Study Area. These wirelines are used to assist the assessment on location at each viewpoint, the position of which, if required, is adjusted on site to achieve the most visible vantage-point of the proposed development (e.g., to avoid buildings, forestry, other features, potentially interfering with the view).

Photomontage Production

Visualisations will be produced for the agreed viewpoints identified in the LVIA and photomontages will aim to provide a photorealistic image of the appearance of the proposed development. 3D model representations are combined with the baseline view photographs to create a photorealistic rendered photomontage image of the development.

Visualisations that illustrate the proposed development are produced using a range of computer software, most commonly in this case Resoft WindFarm©. Others such as True View and 3D AutoCAD or Studio Max are also used for example.

The photomontage is produced by digitally combining or superimposing the wireline / wireframe or computer generation 3D model of the landscape and the proposed development onto the baseline photograph and rendering this in order to add colour, texture and lighting effects.

To produce the photomontage, the wireline turbines are rendered to appear ‘life-like’ taking into account the time of the photography and weather conditions occurring on the day.

The completed panoramas, wirelines, photomontages and accompanying data are then presented as figures using desktop publishing/graphic design software.

Limitations of Visualisations

The photomontage visualisations used in the LVIA are for illustrative purposes only and, whilst useful tools in the assessment, are not considered to be completely representative of what will be apparent to the human eye. The assessments are carried out from observations in the field and therefore may include elements that are not visible in the photographs. SNH guidance advises that beyond 20km the visibility of turbines in the printed photomontages is difficult to see or reproduce realistically.

The photomontage visualisations of the proposed development have a number of limitations when using them to form a judgement on visual effect. These include:

- A visualisation can never show exactly what a proposed development will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
- The images provided give a reasonable impression of the scale and the distance to the proposed development but can never be 100% accurate to the as constructed effect;

- A static image cannot convey movement such as turbine blade rotation or other features such as the movement of water or the reflection from the sun. The assessment however will take account of turbine movement by examining animated versions of the photomontages on screen and / or other examples of existing wind farm development on site;
- The viewpoints illustrated are representative of views in the area but cannot represent visibility at all locations;
- To form the best impression of the effects, these images are best viewed at the viewpoint location shown;
- The visualisations must be printed and viewed at the correct size as indicated on the figures;
- Images should be held flat at a comfortable arm's length. If viewing these images on a wall or board at an exhibition, stand at arm's length from the image presented to gain the best impression; and
- It is preferable to view printed images rather than view images on screen. Images on screen should be viewed using a normal PC screen with the image enlarged to the full screen height to give a realistic impression.

PRINTING OF MAPS AND VISUALISATIONS

All electronic visualisations and maps should be printed out and viewed at the correct scale as noted on the document.

GLOSSARY OF TERMS AND ABBREVIATIONS

Note: Descriptions marked with an asterisk are repeated from the GLVIA 3 glossary.

Term/abbreviation	Definition
AOD	Above Ordnance Datum
AoV / FoV	Angle of View / Field of View
Artificial light	Light produced by electrical means.
BT	Blade Tip
Candela	A unit of measure of luminous intensity, in a given direction.
CLVIA	Cumulative Landscape and Visual Impact Assessment
Constant light	Uninterrupted light source over a given time period.
Cumulative effects	Additional changes caused by a proposed development in conjunction with other similar developments or as a combined effect of a set of developments, taken together' (Scottish Natural Heritage, 2012)
Cumulative landscape effects	Effects that 'can impact on either the physical fabric or character of the landscape, or any special values attached to it' (Scottish Natural Heritage, 2012)
Cumulative visual effects:	Effects that can be caused by combined visibility, which 'occurs where the observer is able to see two or more developments from one viewpoint' and/or

Term/abbreviation	Definition
In combination In succession Sequentially	sequential effects which 'occur when the observer has to move to another viewpoint to see different developments' (Scottish Natural Heritage 2012) ▪ In combination: Where two or more developments are or would be within the observer's arc of vision at the same time without moving his/her head (GLVIA 3, 2013 Table 7.1). ▪ In succession: Where the observer has to turn his/her head to see the various developments – actual and visualised (GLVIA 3, 2013 Table 7.1). ▪ Sequential cumulative effect. Occurs where the observer has to move to another viewpoint to see the same or different developments. Sequential effects may be assessed for travel along regularly used routes such as major roads or popular paths (GLVIA 3, 2013 Table 7.1).
Darkness survey	Visual survey the night-time environment and the identification of artificial light sources.
Development*	Any proposal that results in change to the landscape and/or visual environment.
Degree of change	A combination of the scale, extent and duration of an effect also defined as 'magnitude'.
Designated Landscape*	Areas of landscape identified as being of importance at international, national or local levels, either defined by statue or identified in development plans or other documents.
Direct light	The artificial light source is visible. Note that light emanating from the window of a building is considered to be a 'direct' light source.
EIA	Environmental Impact Assessment
Elements*	Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.
Enhancement*	Proposals that seek to improve the landscape resource of the site and its wider setting beyond its baseline condition.
Environmental fit	The relationship of a development to identified environmental opportunities and constraints in its setting.
Feature*	Particularly prominent or eye-catching elements in the landscape such as tree clumps, church towers or wooded skylines OR a particular aspect of the project proposal.
FoV	Field of View – the horizontal angle of the view illustrated in a visualisation.
GDL	Garden and Designed Landscape

Term/abbreviation	Definition
Geographical Information System (GIS)	A system that captures, stores, analyses, manages and presents data linked to location. It links spatial information to a digital database.
GLVIA 3	Guidelines for Landscape and Visual Impact Assessment, Third Edition, published jointly by the Landscape Institute and Institute of Environmental Management and Assessment, 2013.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
HH	Hub Height
Historic Landscape Characterisation (HLC) and Historic Land-use Assessment (HLA)	Historic characterisation is the identification and interpretation of the historic dimension of the present-day landscape or townscape within a given area. HLC is the term used in England and Wales, HLA is the term used in Scotland.
Indirect effects*	Direct effects relate to the host landscape and concern both physical and perceptual effects on the receptor. Indirect effects relate to those landscapes and receptors which separated by distance or remote from the development and therefore are only affected in terms of visual or perceptual effects. The Landscape Institute also defines indirect effects as those which are not a direct result of the development but are often produced away from it or as a result of a complex pathway.
Indirect light	The light source is not visible but the light emanating from the source is apparent.
Infrared light	A type of light not visible to the human eye.
Iterative design process	The process by which project design is amended and improved by successive stages of refinement which respond to growing understanding of environmental issues.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.
Landscape Character Area (LCA)*	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscapes distinctive. The process results in the production of a Landscape Character Assessment.

Term/abbreviation	Definition
Landscape Character Types (LCTs)*	Distinct types of landscape which are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement patterns, and perceptual and aesthetic attributes.
Landscape capacity	The amount of specified development or change which a particular landscape and the associated visual resource is able to accommodate without undue negative effects on its character and qualities. (NE 2019)
Landscape character*	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape classification	A process of sorting the landscape into different types using selected criteria but without attaching relative values to different sorts of landscape.
Landscape constraints	Components of the landscape resource such as views or mature trees recognised as constraints to development. Often associated with landscape opportunities.
Landscape effects*	Effects on the landscape as a resource in its own right. An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern here is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. (GLVIA 3 2013, Para 5.1).
Landscape fit	The relationship of a development to identified landscape opportunities and constraints in its setting.
Landscape patterns	Spatial distributions of landscape elements combining to form patterns, which may be distinctive, recognisable and describable e.g., hedgerows and stream patterns.
Landscape quality (condition)*	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Landscape qualities	A term used to describe the aesthetic or perceptual and intangible characteristics of the landscape such as scenic quality, tranquillity, sense of wildness or remoteness. Cultural and artistic references may also be described here.
Landscape receptors *	Defined aspects of the landscape resource that have the potential to be affected by a proposal
Landscape resource	The combination of elements that contribute to landscape context, character, and value.
Landscape sensitivity	The sensitivity of the landscape to a particular development considers the susceptibility of the landscape and its value.

Term/abbreviation	Definition
Landscape strategy	The overall vision and objectives for what the landscape should be like in the future, and what is thought to be desirable for a particular landscape type or area as a whole, usually expressed in formally adopted plans and programmes or related documents.
Landscape value*	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. The value of the Landscape Character Types or Areas that may be affected, based on review of any designations at both national and local levels, and, where there are no designations, judgements based on criteria that can be used to establish landscape value.
Level of effect	Determined through the combination of sensitivity of the receptor and the proposed magnitude of change brought about by the development.
LLA	Local Landscape Area
Lux	A unit of illumination, the amount of light on a surface per unit area.
Magnitude (of effect)*	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short term or long term in duration.
Mitigation	Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible, remedy identified effects. (GLVIA 3, 2013 Para 3.37).
Natural light	Light supplied by the sun, directly or indirectly, the moon and stars.
NSA	National Scenic Area
Perception	Combines the sensory (that we receive through our senses) with the cognitive (our knowledge and understanding gained from many sources and experiences).
Perceptual Aspects	A landscape may be valued for its perceptual qualities, notably wildness and/or tranquillity. (GLVIA 3, 2013 Box 5.1)
Photomontage*	A visualisation which superimposes an image of the proposed development upon a photograph or series of photographs.
Beneficial or Adverse Types of Landscape Effect	The landscape effects may be beneficial, neutral, or adverse. In landscape terms – a beneficial effect would require development to add to the landscape quality and character of an area. Neutral landscape effects would include low or negligible changes that may be considered as part of the 'normal' landscape processes such as maintenance or harvesting activities. An adverse effect may include the loss of landscape elements such as mature trees and hedgerows as part of construction leading to a reduction in the landscape quality and character of an area.
Beneficial or Adverse Types of Visual Effect	The visual effects may be beneficial, neutral, or adverse.

Term/abbreviation	Definition
	In visual terms – beneficial or adverse effects are less easy to define or quantify and require a subjective consideration of a number of factors affecting the view, which may be beneficial, neutral, or adverse. Opinions as to the visual effects of wind energy developments vary widely, however it is not the assumption of this assessment that all change, including substantial levels of change is an adverse experience. Rather this assessment has considered factors such as the visual composition of the landscape in the view together with the design and composition, which may or may not be reasonably, accommodated within the scale and character of the landscape as perceived from the receptor location.
Probability of Effect	The probability of a landscape and visual effect occurring as a result of this Development should be regarded as certain, subject to the stated project design and the continuance of the existing, baseline landscape resource, including known changes such as other permitted wind farm development. The probability of cumulative effects however is variable. Whereas those effects related to existing wind energy development and those under construction are considered as certain, effects related to development with planning consent are only considered as likely. Wind energy development sites for which there is a submitted planning application are considered as uncertain and other wind energy development for which no planning application has been made are considered as uncertain / unknown, as the level of uncertainty would be greater.
Proximity activated lighting	Lighting which is turned on by the detection of moving objects, such as aircraft detected by radar.
Rarity	The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type. (GLVIA 3 2013, Box 5.1)
RD	Rotor Diameter
Receptor	Physical landscape resource, special interest, or viewer group that will experience an effect.
Recreation Value*	Evidence that the landscape is valued for recreational activity where experience of the landscape is important. (GLVIA 3 2013, Box 5.1)
Representativeness*	Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
Residual effects	Likely environmental effects, remaining after mitigation.
Scale Indicators	Landscape elements and features of a known or recognisable scale such as houses, trees, and vehicles that may be compared to other objects, where the scale of height is less familiar, to indicate their true scale.
Scenic quality	Depends upon perception and reflects the particular combination and pattern of elements in the landscape, its aesthetic qualities, its more intangible sense of place or ‘genius loci’ and other more intangible qualities. (GLVIA 3 2013, Box 5.1)
Seascape	Landscapes with views of the coast or seas, and coasts and adjacent marine environments with cultural, historical and archaeological links with each other.

Term/abbreviation	Definition
Sense of Place (genius loci)	The essential character and spirit of an area: 'genius loci' literally means 'spirit of the place'.
Sensitivity*	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Significant Effects	It is a requirement of the EIA Regulations to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. The significance of an effect gives an indication as to the degree of importance (based on the magnitude of the effect and the sensitivity of the receptor) that should be attached to the impact described. Whether or not an effect should be considered significant is not absolute and requires the application of professional judgement. Significant – 'noteworthy, of considerable amount or effect or importance, not insignificant or negligible'. The Concise Oxford Dictionary. Those levels and types of landscape and visual effect likely to have a major or important / noteworthy or special effect of which a decision maker should take particular note.
Sky glow	The brightness of the night sky in a built-up area as a result of light pollution, apparent as a diffuse artificial light in the sky above major towns and cities.
SNH / NatureScot	Scottish Natural Heritage Now known as NatureScot.
Susceptibility*	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.
Sustainability*	The principle that the environment should be protected in such a condition and to such a degree that ensures new development meets the needs of the present without compromising the ability of future generations to meet their own needs.
Temporary or permanent effects	Effects may be considered as temporary or permanent. In the case of wind energy development, the application is for a 40 year period after which the assessment assumes that decommissioning will occur and that the site will be restored. For these reasons the development is referred to as long term and reversible.
Time depth	Historical layering – the idea of landscape as a 'palimpsest', a much written-over asset of landscape.
Townscape	The character and composition of the built environment including the buildings and the relationships between them, the different types of urban open space, including green spaces, and the relationship between buildings and open spaces.
True View Visuals	A mobile 3D augmented reality (AR) tool used to aid with the assessment. The True View Visuals tool indicates visibility of the Proposed development to assist

Term/abbreviation	Definition
	in confirming viewpoint positions as well as indicating limited or no visibility of turbines in particular locations. Whilst the images are indicative only, the AR tool provides a comparable image to the accurate wirelines produced.
Type or Nature of effect	Whether an effect is direct or indirect, temporary or permanent, beneficial (positive), neutral or adverse (negative) solus or cumulative.
Viewpoints	Selected for illustration of the visual effects fall broadly into three groups: Representative Viewpoints: selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included individually and where the significant effects are unlikely to differ – for example certain points may be chosen to represent the view of users of particular public footpaths and bridleways. Specific Viewpoints: chosen because they are key and sometimes promoted viewpoints within the landscape, including for example specific local visitor attractions, such as landscapes with statutory landscape designations or viewpoints with particular cultural landscape associations. Illustrative Viewpoints: chosen specifically to demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations. (GLVIA 3 2013, Para 6.19)
Visual amenity	The overall views and surroundings, which provide a visual setting or backdrop to the activities of people living, working, participating in recreational activities, visiting or travelling through an area.
Visual dominance	A visual effect often referred to in respect of residential properties that in relation to development would be subject to blocking of views, or reduction of light / shadowing, and high levels of visual intrusion.
Visual effect*	Effects on specific views and on the general visual amenity experienced by people.
Visual Receptors*	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Visual sensitivity	The sensitivity of visual receptors such as residents, relative to their location and context, to visual change proposed by development.
Visualisation	Computer visualisation, photomontage, or other technique to illustrate the appearance of the development from a known location.
WLA	Wild Land Area
Wireline / Wireframe	A computer-generated line drawing of the DTM (digital terrain model) and the proposed development from a known location.
Zone of Theoretical Visibility (ZTV)*	A map, usually digitally produced, showing areas of land within which, a development is theoretical visible.

Appendix D

GLOSSARY AND ABBREVIATIONS

Glossary and Abbreviations

AADF	Annual Average Daily Flow
AIL	Abnormal Indivisible Load
Ancient Woodland	Ancient woods are areas of woodland that have persisted since 1600 in England, Wales and Northern Ireland, and 1750 in Scotland.
ANO	Air Navigation Order
AONB	Area of Outstanding Natural Beauty
AoD	Above Ordnance Datum – refers to heights above the Ordnance Datum (mean sea-level and the basis of the national height system for Britain).
The "Applicant"	The "Applicant" is EDF Renewables.
A Roads	A Roads are major roads that are intended to provide large-scale transport links across the UK.
AST	Above-ground Storage Tank
ATC	Terminal Air Traffic Control – air traffic control at RAF Spadeadam (Deadwater Fell).
B Roads	B Roads are roads intended to connect different areas, and to feed traffic between A roads and smaller roads on the network
BT	British Telecoms
CAA	Civil Aviation Authority
Conservation Areas	Conservation Areas are areas designated to manage and protect the architectural and historic interest of a place (the elements of areas that make them particularly unique).
CAR	Controlled Activities Regulation
CEMP	Construction Environment Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
Core Native Woodland	Core Native woodland are woodlands that are composed entirely or primarily of tree species that occur naturally within the Scottish Borders region. This also includes woodlands with a continuous history of natural regeneration and those where either the current or a previous generation of trees has been planted within their natural range.
Core Paths	Core paths are paths, waterways, or any other means of crossing land to facilitate, promote and manage the exercise of access rights under the Land

Glossary and Abbreviations	
	Reform (Scotland) Act 2003. They can range from faint tracks to fully paved pathways.
Country Parks and Gardens	Country Parks and Gardens are parks and gardens that are designated and protected for public use.
CRM	Collision Risk Model
CSL	Construction Site Licence
CTMP	Construction Transport Management Plan
Db	Decibel
DfT	Department for Transport
Dark Sky Park	Dark Sky Park are a park that has restrictions on artificial lighting (light pollution) within them and their surroundings to maintain darker skies at night.
EA	Environment Agency – England agency that seeks to protects its environment and natural places.
EIA	Environmental Impact Assessment
FLS	Forestry Land Scotland, and the Landowner
FWPM	Fresh Water Pearl Mussel
Geological Conservation Review Sites	Geological Conservation Review Sites are sites containing geological and geomorphological features of national and international importance.
GEART	Guidelines for the Environmental Assessment of Road Traffic. *Institute of Environmental Assessment (IEA). (1993)*
GWDTE	Ground Water Dependant Terrestrial Ecosystems – these are wetlands that critically depend on groundwater flows or chemistries.
HEPS	Historic Environment Policy for Scotland
HES	Historic Environment Scotland – is in charge of protecting, conserving and enhancing Scotland's historic environment.
HER	Historic Environment Records – register and library of information on the historic environment and heritage assets.
HGV	Heavy Goods Vehicle
HLA	Historic Land use Assessment - is a technique for helping understand the historic aspects of the landscape from an archaeological perspective.

Glossary and Abbreviations

IEF	Important Ecological Feature
IEMA	Institute of Environmental Management and Assessment
IoA GPG	Institute of Acoustics: A Good Practice Guide to Applications of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise
km	Kilometre
LCA	Landscape Character Area
LCT	Landscape Character Types
Listed Buildings (English)	Listed Buildings within England are identified against three different grades as identified below: ▪ Grade I Listed Buildings – are historical buildings that are listed due to their exceptional historical interest. Grade I Listed Buildings are the rearrest form of Listed Building within England. ▪ Grade II* Listed Buildings – are historical buildings of particular historical importance of more than special interest. ▪ Grade II Listed Buildings – are historical buildings with a special interest. Grade II Listed Buildings are the majority of Listed Buildings within England.
Listed Buildings (Scottish)	Listed Buildings within Scotland are identified against three categories as identified below: ▪ Category A – Are historical buildings with national or international architectural or historical importance and are the rarest Listed Buildings within Scotland. ▪ Category B – Are historical buildings with regional or outside local importance and are major examples of a particular architectural style. ▪ Category C – Are historical buildings of local importance.
LCREE	Low Carbon and Renewable Energy Economy
LLA	Local Landscape Areas are areas where their scenery is highly valued locally, such that the relevant local authority has given the areas landscape a designation. LLA help to protect important local landscapes.
l/s	Litres per second.
LNR	Local Nature Reserve a Local Nature Reserve is a protected area of land designated by a local authority because of its special natural interest and/ or educational value.
Local Roads	Local roads provide limited mobility and are the. primary access to residential areas, businesses, farms, and other local areas.
LUPS	Land Use Planning System

Glossary and Abbreviations

LVIA	Landscape Visual Impact Assessment
m	Meter
mm	Millimetre
MPH	Miles Per Hour
Minor Roads	Minor Roads are only ever a single carriageway and are roads that are often walked by pedestrians.
MSS	Marine Scotland Science
MW	Mega Watts – 1,000 kilowatts, 1,000,000 watts.
M3/s	Volume Flow Rate – the measurement of how much fluid is flowing past a selected point over a length of time.
M3/d	Volume Flow Rate
NATS	National Air Traffic Service
National Cycle Network	National Cycle Network is a network of signed paths and routes across the UK that allow for walking and cycling across it.
NCC	Northumberland County Council
NO_2	Nitrogen Dioxide
NLA	Night-time Lighting Assessment
NLS	National Library of Scotland
NPF4	National Planning Framework 4
NS	NatureScot – Scottish body that seeks to protect Scotland's natural environment and species.
NSA	National Scenic Areas – the finest landscapes in Scotland.
NSR	Noise Sensitive Receptors
NGR	National Grid Reference
NNR	National Nature Reserves is land or water designated due to it containing habitats and/or species of national importance.
OFCOM	The Office of Communications.

Glossary and Abbreviations

OS	Ordinance Survey
Permissive / Customary Path	Are paths that a landowner has identified as accessible to the public, though is not a designated PRoW.
Proposed Development	The "Proposed Development" comprises up to 80 wind turbines with tip heights up to 250 metres and would have an installed capacity in excess of 50 Megawatts. It is located within Wauchope Forest and Newcastleton Forest, to the west of the Northumberland National Park, between the A7 and the A68 roads. It is located entirely within the administrative boundary of the Scottish Borders Council.
PIRP	Pre-planned Pollution Incident Response Procedure
PIA	Personal Injury Accidents
PM10	Fine particulate matter that has a diameter of 10 microns or less.
PM2.5	Fine particulate matter that has a diameter of 2.5 microns or less.
Promoted Paths	Promoted paths are routes that form part of Scottish Borders identified self-guided walks, which are often sign posted and improved with landowner agreement.
PPP	Pollution Prevention Plan
PRoW	A PRoW is a linear route over land that the public can always access and can operate through private and public land.
PWS	Private Water Supplies
RAF	Royal Air Force
RAMSAR	RAMSARs are an area of wetland that is considered to be of international importance and is therefore designated in order to protect its important species, habitats and character.
RSPB Reserves	Royal Society for the Protection of Birds Reserves are areas identified by the RSPB charity for protection in order to preserve an areas species and habitats. RSPB reserves can range from heathland to estuaries and offer opportunities for people to access nature.
RVAA	Residential Visual Amenity Assessment
SAM	Scheduled Ancient Monuments are nationally important archaeological sites that are protected due to their historic value.
SAC	Special Area of Conservation protect one or more special habitats and/or species (terrestrial or marine) listed within the Scottish Habitats Directive.
SBC	Scottish Borders Council

Glossary and Abbreviations	
Special Landscape Area	Special Landscape Areas are areas of countryside of very high visual quality; a combination of impressive landscape, buildings of architectural and historical significance and areas of ecological importance.
SNH	Scottish Natural Heritage – replaced by NatureScot
SEPA	Scottish Environment Protection Agency – Seeks to protect Scotland's natural resources, environment and the health of its population. Important statutory consultee.
SPA	Special Protection Area are areas designated due to the area containing rare, threatened or vulnerable bird species (as listed in Annex I of the Birds Directive). SPA's can also be created in areas that are highly populated by migratory species, to ensure such species migratory patterns and homes are not compromised.
SSSI	Site of Special Scientific Interest are protected areas that are designated due to it containing rare species of fauna and/or flora that are of interest to science. Important geological or physiological features can also be designated as a SSSI.
TEMPRo	Trip End Model Presentation Program
Unesco	United Nations Educational, Scientific and Cultural Organization
WFD	Water Framework Directive
WLA	Wild Land Area – are the most extensive areas of high wildness within Scotland, defined as nationally important.
WMP	Water Management Plan
WSP	WSP UK Ltd is the "Agent" on this project.
ZTV	Zone of Theoretical Visibility - indicates the areas from where it may be theoretically possible to view all or some of the proposed turbines

Appendix E

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Amber Court
William Armstrong Drive
Newcastle upon Tyne
NE4 7YQ

wsp.com