SCOTTISH GOVERNMENT
ENERGY CONSENTS AND DEPLOYMENT UNIT

GORDONBUSH WIND FARM EXTENSION
SCOPING OPINION

FOR ON SHORE WIND FARM DEVELOPMENTS
SECTION 36 APPLICATIONS

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SCOPING OPINION FOR THE PROPOSED GORDONBUSH WIND FARM EXTENSION NEAR BRORA

1. Introduction

Any proposal to construct or operate a power generation scheme with a capacity in **excess of 50 megawatts** requires Scottish Ministers' consent under Section 36 of the Electricity Act 1989.

Schedule 9 of the Act places on the applicant a duty to "have regard to the desirability of preserving the natural beauty of the countryside, of conserving flora, fauna and geological and physiological features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest". In addition, the applicant is required to give consideration to National Planning Framework 2, Scottish Planning Policy, Planning Advice Notes, the relevant planning authority's Development Plans and any relevant supplementary guidance.

Under the Electricity Works (Environmental Impact Assessment) (Scotland)(EIA) Regulations 2000, the Scottish Ministers are required to consider whether any proposal for a wind farm is likely to have a significant effect on the environment. In terms of these Regulations, we must consult the planning authority, Scottish Natural Heritage and the Scottish Environment Protection Agency and other relevant consultees.

2. Aim Of This Scoping Opinion

Scottish Ministers are obliged under the EIA regulations to respond to requests from applicants for a scoping opinion on outline design proposals.

The purpose of this document is to provide advice and guidance to applicants which has been collated from expert consultees whom the Scottish Government has consulted. It should provide clear advice from consultees and enable applicants to address the issues they have identified and address these in the EIA process and the Environmental Statement associated with the application for Section 36 consent.

3. Land Use Planning

The Scottish Government's planning policies are set out in the National Planning Framework, Scottish Planning Policy, Designing Places and Circulars.

The National Planning Framework is the Scottish Government's Strategy for Scotland's long term spatial development.

Scottish Planning Policy (SPP) is a statement of Scottish Government policy on land use planning and contains:

- The Scottish Government's view of the purpose of planning,
- The core principles for the operation of the system and the objectives for key parts of the system,
- Statutory guidance on sustainable development and planning under Section 3E of the Planning etc. (Scotland) Act 2006,
- Concise subject planning policies, including the implications for development planning and development management, and
- The Scottish Government's expectations of the intended outcomes of the planning system.

Online renewables planning advice for onshore wind, preparing spatial frameworks and wind farm developments on peat land is available at http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables, including advice on spatial planning, typical planning considerations, detailed siting matters and useful references. This is regularly updated to reflect emerging best practice.

Other land use planning documents which may be relevant to this proposal can be found at http://www.scotland.gov.uk/Topics/Built-Environment/planning
This includes a range of Planning Advice Notes on different subjects. These can be found at: http://www.scotland.gov.uk/Topics/Built-Environment/planning/publications/pans

The ES should also include full reference to the relevant development plan.

4. Natural Heritage

Scottish Natural Heritage (SNH) has produced a service level statement (SLS) for renewable energy consultation. This statement provides information regarding the level of input that can be expected from SNH at various stages of the EIA process. Annex A of the SLS details a list of references, which should be fully considered as part of the EIA process. A copy of the SLS and other vital information can be found on the renewable energy section of their website – http://www.snh.org.uk.

5. General Issues

5.1 Aviation

In the wake of recent consultation with the aviation organisations such as NATS, BAA, CAA, MOD etc, it is clear that large scale wind farm proposals can impact significantly on primary, secondary or weather radar stations and thus affect operational safety. Applicants are encouraged to engage all aviation

stakeholder organisations and airport operators at an early stage in the design process, to establish the potential impacts and agree acceptable technical solutions. Where actual or potential conflicts exist, it is important that a solution is identified and that the relevant consultee agrees to that solution being realised within a suitable timescale.

A link to relevant aviation guidance is available at the following website link, however it should be note that this guidance is being reviewed; http://www.berr.gov.uk/files/file17828.pdf

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 request that any feature/structure 70 feet in height, or greater, above ground level is notified to the Defence Geographic Centre ICGDGC-ProdAISAFDb@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 6 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. Smaller structures may also be required to be lit by aviation stakeholders particularly if they fall under Section 47 of the Aviation Act.

NATS En Route Plc ("NERL") is responsible for the safe and expeditious movement in the en-route phase of flight for aircraft operating in controlled airspace in the UK. To undertake this responsibility NERL has a comprehensive infrastructure of radars, communication systems and navigational aids throughout the UK, all of which could be compromised by the establishment of a wind farm. In this respect NERL is responsible for safeguarding this infrastructure to ensure its integrity to provide the required services to Air Traffic Control (ATC). In order to discharge this responsibility NERL assess the potential impact of every wind farm development in the UK which have applied for planning approval.

NERL offer services to assist in pre-planning for wind farm developments. Details of these services are available on http://www.bwea.com/aviation/nats.html or by contacting NERL directly on NATSSafeguarding@nats.co.uk or writing to:

NERL Safeguarding – Mailbox 27
NATS - CTC
4000 Parkway
Solent Business Park
Whiteley
Hampshire
PO15 7FL

NATS are unable to evaluate the proposal until the ground to blade tip height and OS Grid Reference for each individual wind turbine (eastings and northings) is received.

The Wind Energy Team at the Defence Infrastructure Organisation (DIO) is the focal point for all wind farm proposals in the Ministry Of Defence (MOD). The team seeks to work with industry at the earliest stages of proposed development to minimise the impact on Defence, to ensure public safety is not compromised, and maximise the likelihood of planning success. Some of the main concerns the MOD have are interference with Air Defence Radar and Air Traffic Control Radar, plus the creation of obstacles in Low Flying Areas, which negate the usefulness of the training undertaken there. Aviation safety lighting should also be considered through consultation with the aviation authorities and the relevant planning authority.

The pre-planning consultation form found at http://www.bwea.com/aviation/proforma.html should be completed and e-mailed to DIO at DIO-Safeguarding-Wind@mod.uk.

Civil Aviation Authority Directorate of Airspace Policy (DAP) is the civil aviation regulatory focal point for all wind farm proposals. DAP seeks to work with industry at the earliest stages of proposed development to establish potential civil aviation issues associated with any particular wind turbine proposalGeneric CAA policy and guidance on wind turbines is set out within Civil Air Publication 764, available at http://www.caa.co.uk/docs/33/Cap764.pdf.

Furthermore, applicants should demonstrate that a solution to potential aviation issues is either agreed or well advanced, **prior to** submission of the application.

5.2 Economic Benefit

The Government Economic Strategy (2011) establishes a new Strategic Priority – Transition to a Low Carbon Economy – to reflect the excellent opportunity we have to secure investment and jobs from this growing sector and ensure that the benefits of this transformational change are shared across the economy and our communities. The concept of economic benefit as a material consideration is explicitly confirmed in the SPP. Further details of the Government's approach to realising its ambitions for renewables are set out in the "2020 Routemap for Renewable Energy in Scotland", which highlights the manufacturing potential of the renewables sector and opportunities for communities to share in the rewards of our next energy revolution.

The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction operation and decommissioning of the development.

5.3 Local Planning Agreements

There are two main tests in determining whether a consideration is material and relevant. These are:

- it should serve or be related to the purpose of planning – it should therefore relate to the development and use of land; and

- it should fairly and reasonably relate to the particular application.

Only those issues that meet the above tests can be taken into account when considering applications. Where relevant, applicants should identify such issues in their application, including evidence to support compliance with these tests.

6. Contents Of The Environmental Statement (ES)

We recommend the contents of the ES should be structured as follows below:

6.1 Format

High resolution and low resolution PDF versions should be provided. A description of the methodology used in assessing all impacts should be included.

It is considered good practice to set out within the ES the qualifications and experience of all those involved in collating, assessing or presenting technical Information.

6.2 Non Technical Summary

This should be written in simple non-technical terms to describe the various options for the proposed development and the mitigation measures against the potential adverse impacts which could result.

6.3 Site Selection And Alternatives

The applicant should set out the alternatives sites considered and the rationale and methods used to select the chosen site. The applicant should demonstrate that a fairly wide set of environmental and economic parameters have been used to narrow down choice of sites and how this choice takes account of the spatial framework set out in the SPP. Secondly, there should be a detailed examination on these parameters to minimise the impact of the proposal by sensitive design and layout.

Wind potential and access to the grid are key to initial sieve-mapping exercises for site selection, but environmental constraints other than landscape character should also be included in this initial site selection process. For example, areas of deep peat, watercourse crossings, wetlands and locations of protected species would be other examples of additional environmental constraints to be considered both from the outset and in the detailed design and layout.

Architecture+Design Scotland (A+DS) suggest that a planning and design strategy should first look at the proposed location and address whether this is a sensible location in relation to wind, access to the grid and to the character of the landscape.

6.4 Description Of The Development

The description of the proposed development in the Environmental Statement should comprise information on the site boundary, design layout, and scale of the development.

Where it is required to assess environmental effects of the development (see EIA regulation 4 (1)(b), the Environmental Statement should include;

(a) a description of the physical characteristics of the whole development and the land use requirements during the construction, operation, decommissioning and restoration phases;

(b) a description of the main characteristics of the production processes and nature and quality of the materials used; and

(c) an estimate by type and quantity of expected residues and emissions resulting from the operation of the proposed development.

6.5 Track Construction

The applicant should set out the alternative access routes considered and the rationale and methods used to select the chosen access routes. Applicants should set out the intended use of access routes i.e.: for transportation of turbine components, delivery of construction materials, every day operational use etc. Applicants should specify which access routes/ roads are temporary and which are required for the operational duration of the development. Considered design details will be required for all aspects of site work that might have an impact upon the environment, containing further preventative action and mitigation to limit impacts.

The applicant should be aware of useful guidance on, among other things, minimising the impact from construction of the type of access roads used in wind farms. Such guidance can be found in “Forests and Water Guidelines” Fifth Edition (2011) which can be obtained from the Forestry Commission via http://www.forestry.gov.uk/forestry/infd-8bvgx9 and “Control of water pollution from linear construction projects” (CIRIA C648, 2006) which can be obtained from CIRIA. However, given that tracks in some cases will be located on peat and will carry very heavy loads, evidence will be necessary of additional consideration of specific measures required in similar schemes elsewhere to deliver best practice. Additional guidance is also available in ‘Constructed tracks in the Scottish Uplands’ (2006) published by SNH and available at http://www.snh.org.uk/pdfs/publications/heritagemanagement/constructedtracks.pdf

6.6 Decommissioning

The subsequent application and supporting environmental statement should include a programme of work complete with outline plans and specifications for the decommissioning and reinstatement of the site. Information should be provided on the anticipated working life of the development and after use site reinstatement. For developments involving the upgrade or replacement of existing turbines such outline plans should include specifications for the decommissioning of all turbines being removed as well as those being installed.

6.7 Grid Connection Details

The impacts of constructing, installing and operating the following infrastructure components should be considered and assessed by applicants, if known;

- Substation.
- Cabling (Underground).
- Cabling (Overhead).
- Monitoring and control centre.

7. Baseline Assessment And Mitigation

Under each section below applicants are asked to consider:

- Aspects of the environment likely to be affected by the proposals.
- Environmental impacts of the proposals.
- Methods to offset adverse environmental effects.
- Effects of the phases of the development; Construction, Operation, Decommissioning and Restoration.

This section should clearly set out a description of the environmental features of the proposed wind farm site, the likely impacts of the wind farm on these features, and the measures envisaged to prevent, mitigate and where possible remedy or offset any significant effects on the environment. It should incorporate details of the arrangements and the methodologies to be used in monitoring such potential impacts, including arrangements for parallel monitoring of control sites, timing and arrangements for reporting the monitoring results. It should be noted that there is a danger that these measures could themselves have secondary or indirect impacts on the environment.

7.1 Air And Climate Emissions

The Environmental Statement should fully describe the likely significant effects of the development on the environment, including direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and

temporary e.g. construction related impacts, positive and negative effects of the development which result from:

(a) the existence of the development.
(b) the use of natural resources.
(c) the emission of pollutants, the creation of nuisances and the elimination of waste.

7.2 Carbon Emissions

To assist Scottish Ministers in making a determination on the application, applicants must produce a statement of expected carbon savings over the lifetime of the wind farm. The statement should include an assessment of the carbon emissions associated with track preparation, foundations, steel, and transport; any carbon losses from tree felling (and offsetting from tree planting); and any carbon losses from loss or degradation of peaty soils. Reference can be made to the technical note "Calculating Potential Carbon Losses and Savings from Wind Farms on Scottish Peatlands" (Scottish Government, 2011). The spreadsheet tool it refers to should be used for developments on peat but can also be used for sites that will be drained, are located on carbon rich soils or require a significant amount of deforestation.

It is important to ensure that the carbon balance of renewable energy projects is not adversely affected by management of peat resource. There need to be measures in place to ensure that the development does not lead to significant drying or oxidation of peat through, for example, development of access tracks and other infrastructure, drainage channels, or "landscaping" of excavated peat. The basis for these measures should be set out within the ES, on which a detailed peat management scheme, required through planning condition, can subsequently be designed to ensure that the carbon balance benefits of the scheme are maximised.

Applicants are required to submit full details of the potential carbon losses and savings of the wind farm, and demonstrate how the scheme has been designed to minimise the payback figure.

The ES should include a dedicated chapter on carbon assessment which has printed copies of all worksheets along with an explanation of how the data entered is derived, referring to the relevant section of the ES as appropriate. An electronic version of the spreadsheet should be emailed to econsentsadmin@scotland.gsi.gov.uk and SEPA.

References must be given to the data sources used as inputs to the tool and the rationale behind their use must be made clear, especially where sources outside the data presented elsewhere in the ES are used. Where assumptions or estimates have been made these should be explained and justified.

Guidance on the above technical note, planning policy, site surveys and assessments for developments on peatland, re-use of peat and minimisation of waste, as well as the supporting research and spreadsheet tools are all available from the Scottish Government "Wind Farms and Carbon" website at www.scotland.gov.uk/WindFarmsAndCarbon. Prior to submission of the

application, applicants should make a final check that they have used the most up to date version of the tool. This will always be available from the link above.

7.3 Design, Landscape And The Built Environment

Scottish Ministers place particular importance on the layout design of wind farms and considers there is a need for a coherent, structured and quality driven approach to wind farm development. The appearance of wind farms is of particular interest and the need for a coherent design strategy to be considered at scoping stage and to be prepared before submission of the Environmental Statement. The strategy should explain the design principles behind the layout plan in a rational way that can be easily understood. The design strategy for the wind farm should be expressed through a design statement. The Design Statement should describe a clear strategy for meeting these objectives, a justification for the resulting layout and evidence that the design ideas have been tested against the objectives.

Wind farms are prominent features in the landscape and hence a full assessment of the effects on landscape and visual amenity is important. The assessment methodology should follow the approach promoted by the Landscape Institute and Institute of Environmental Management and Assessment ('Guidelines for Landscape and Visual Impact Assessment', third edition, April 2013). General guidance on the range of issues to be considered in assessment of wind farms is set out, in the form of a scoping checklist, at Appendix 1 of 'Hydroelectric schemes and the natural heritage (SNH 2010).

As regards the portrayal of visual and landscape impacts within Environmental Statements, guidance has also been developed, jointly by SNH and the Scottish Renewables Forum, on 'Visual Representation of Wind Farms – Good Practice Guidance' (SNH 2007), published at: http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind.

Visual information should be presented in a way which communicates as realistically as possible the actual visual impact of the proposal. The format of the images and the focal length of the lens will have to be taken into consideration.

All visualisation images should be accompanied by a description of how to view the image so that it best replicates what will be seen if the proposal is constructed. This should include the required viewing distance between the eye and the image, and whether it is a single frame image or a composite panoramic image. If a composite image, it is desirable either to curve the edges of panoramic images so that peripheral parts of the image are viewed at the same intended viewing distance, or to 'pan' across the image with the eye remaining at the recommended viewing distance. This is not required for single frame images.

The viewpoints from which the photographs are taken should be agreed with the planning authority and SNH. The horizontal field of view should be shown on a map so that the images can be used accurately on site.

The ES should include a description of the landscape character of the area and how that character will be affected by the impact on any landscapes designated for their landscape or scenic value, including National Parks, National Scenic Areas, or local landscape designations such as Area of Great Landscape Value or Regional Scenic Area (the terminology is varied) and the impact on any area which is a recognised focus for recreational enjoyment of the countryside, eg a Regional Park or Country Park.

7.4 Construction and Operation

The ES should contain site-specific information on all aspects of site work that might have an impact upon the environment, containing further preventative action and mitigation to limit impacts. Elements should include: fuel transport and storage management; concrete production (including if batching plants are proposed and measures to prevent discharges to watercourses); stockpile storage; storage of weather sensitive materials at lay-down areas; haul routes and access roads (and if temporary or permanent); earthworks to provide landscaping; mechanical digging of new or existing drainage channels; vehicle access over watercourses; construction of watercourse crossings and digging of excavations (particularly regarding management of water ingress); temporary and long-term welfare arrangements for workers during construction ; maintenance of vehicles and plant; pollution control measures during turbine gearbox oil changes; bunding or roofing of transformer areas; use of oil-cooled power cables and related contingency measures; and dewatering of turbine base excavations. With regards to oil, it is imperative that there is a detailed contingency plan to deal with large oil spills that cannot be dealt with at a local level. The ES should identify if there are particularly sensitive receptors of pollution (e.g. salmonid rivers, rivers with freshwater pearl mussels etc.).

Such information is necessary in order to assess the environmental impact of the proposals prior to determination and provide the basis for more detailed construction method statements which may be requested as planning conditions (it is recommended that the relevant Planning Authorities, SNH and SEPA are provided with the opportunity to view these method statements in draft form, prior to them being finalised should development take place).

The applicant should be aware of information provided by SEPA that may be of use such as rainfall and hydrological data. The need to plan the works in order to avoid construction of roads, dewatering of pits and other potentially polluting activities during periods of high rainfall is important. The ES needs to demonstrate which periods of the year would be best practice for construction for the site, taking into account the need to avoid pollution risks and other environmental sensitivities affecting operational timing, such as fish spawning and bird nesting.

The impact of the proposed development on public footpaths and rights of way should be clearly indicated. If any re-routing of paths under a Right of Way is required alternative routes should be highlighted for consideration. Further guidance can also be found within the Scottish Outdoor Access Code at http://www.outdooraccess-scotland.com.

The ES should set out mechanisms to ensure that workers on site, including sub-contractors, are aware of environmental risks, and are well controlled in this context. The ES should state whether or not appropriately qualified environmental scientists or ecologists are to be used as Clerk of Works or in other roles during construction to provide specialist advice. Details of emergency procedures to be provided should be identified in the ES.

The process whereby a method statement is consulted upon before commencement of work is satisfactory at many sites where sensitivities are non-critical. However for environmentally sensitive sites it is recommend that, following consultation, method statements be approved by the planning authority in consultation with SNH, prior to the commencement of construction work.

Scottish Natural Heritage would normally only wish to comment on Construction Method Statements where there are relevant and significant natural heritage interests involved. Applicants should avoid submitting multiple versions of the Construction Method Statement to SNH.

8. Ecology, Biodiversity and Nature Conservation

Scottish Government suggests that all ecological survey methods conform to the best available standard methods for each habitat and species, and follow guidance published by SNH where this is available. Where standard methodologies do not exist, applicants should propose and agree an appropriate methodology with SNH specialist advisers. SG also requires that all ecological survey data collected during ES survey work should be made available by the applicant to SG and SNH, in a form which would enable them to make future analysis of the effects of wind farms if appropriate.

8.1 Designated Sites

The ES should address the likely impacts on the nature conservation interests of all the designated sites in the vicinity of the proposed development. It should provide proposals for any mitigation that is required to avoid these impacts or to reduce them to a level where they are not significant. Information on designated sites and the law protecting them can be found on the SNH website. Maps of the boundaries of all natural heritage designated sites and information on what they are designated for are also publicly available via SiteLink in the SNHi section of the SNH website http://www.snh.org.uk/snhi/. The applicant is referred to this resource to ensure that they have the correct information on designated sites within the locality that may be affected by the proposed development. The potential impact of the development proposals on other designated areas such as NSA, LSA, SSI or Regional/National Parks etc should be carefully and thoroughly considered and appropriate mitigation measures outlined in the ES. Early consultation and agreement with SNH, the relevant planning authority and other stakeholders is imperative in these circumstances.

For developments with a potential to affect Natura sites, applicants must provide in the ES sufficient information to make clear how the tests in the Habitats Regulations will be met, as described in the June 2000 Scottish Government guidance. The information in the ES should enable the assessments required by the legislation to be completed by the Scottish Government. Specific guidance on the Habitats and Birds Directive regarding the appropriate impact assessments and associated alternative solution and IROPI tests is available on the following website link http://www.scotland.gov.uk/library3/nature/habd-00.asp

Within the Regulations, the first test is whether the proposal is necessary for the management of the site: this will not be the case for wind farm applications. The next step is to ask whether the proposal (alone or in combination with other proposals) is likely to have a significant effect on the site. If so, the Scottish Government as the Competent Authority under the Habitats Directive will draw up an 'appropriate assessment' as to the implications of the development for the site, in view of that site's conservation objectives.

The scoping report should aim to present sufficient information to enable a conclusion to be drawn on this test, i.e. as to whether there is likely to be a significant effect on the site. If that information is provided, SNH will be able to advise, when consulted upon the scoping request, whether an appropriate assessment will be necessary. In the event that detailed survey or analysis is required in order to reach a view, the survey and analysis should be regarded as information contributing to that assessment. Note that such information should be provided for the wind farm itself together with any ancillary works such as grid connections and vehicle tracks, and cumulatively in combination with any other wind farm consented or formally proposed in the vicinity.

8.2 Habitats

Surveys should be carried out at appropriate times or periods of the year by appropriately qualified and experienced personnel, and suitability of the timing needs to be considered within the ES.

The ES should provide a comprehensive account of the habitats present on the proposed development site. It should identify rare and threatened habitats, and those protected by European or UK legislation, or identified in national or local Biodiversity Action Plans. Habitat enhancement and mitigation measures should be detailed, particularly in respect to blanket bog, in the contexts of both biodiversity conservation and the inherent risk of peat slide. Details of any habitat enhancement programme (such as native- tree planting, stock exclusion, etc) for the proposed wind farm site should be provided. It is expected that the ES will address whether or not the development could assist or impede delivery of elements of relevant Biodiversity Action Plans.

Particular attention should be paid to the effects of the proposals on any priority habitats, as listed in Annex 1 of the EU Habitats Directive, on the site. SEPA emphasises that the ES should demonstrate that turbine locations have been determined on the basis of habitats on the site, especially with regard to any areas of deep peat and intact hydrological units of mire vegetation. Turbines therefore need to be located in the light of vegetation survey work.

Similarly, the ES needs to demonstrate that roads have been located to minimise impact on vegetation communities, peat habitats and peat depth. Measures to avoid pH impact on peatland from use of cement/concrete (e.g. use of blinding cement on roadways, wash-out during construction, integrity of shuttering) should be set out.

8.3 Habitat Management

SNH and RSPB may wish to see a Habitat Management Plan for the area of the wind farm and any area managed in mitigation or compensation for the potential impacts of the wind farm. A commitment to maintain and/or enhance the biodiversity of the overall area is expected. Monitoring of any specific potential impacts of the development, and of the outcome of any habitat management measures, should form part of the ES proposals. Applicants may also want to consult other interested parties in preparation of the HMP information or relevant studies/surveys.

The ES should also outline provisions made regarding public access, having regard for the requirements of the Land Reform (Scotland) Act 2003 and the Scottish Outdoor Access Code at http://www.outdooraccess-scotland.com, clarifying the extent of any access restrictions proposed, if any, during construction or operation, and indicating any new facilities for access to be provided on or off site.

8.4 Species: Plants And Animals

The ES needs to show that the applicants have taken account of the relevant wildlife legislation and guidance, for example but not limited to, Council Directives on The Conservation of Natural Habitats and of Wild Flora and Fauna, and on Conservation of Wild Birds (commonly known as the Habitats and Birds Directives), the Wildlife & Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Protection of Badgers Act 1992, the 1994 Conservation Regulations, Scottish Government Interim Guidance on European Protected Species, Development Sites and the Planning System and the Scottish Biodiversity Strategy and associated Implementation Plans. In terms of the SG Interim Guidance, applicants must give serious consideration to/recognition of meeting the three fundamental tests set out in this Guidance. **It may be worthwhile for applicants to give consideration to this immediately after the completion of the scoping exercise.**

It needs to be categorically established which species are present on the site, and where, before the application is considered for consent. The presence of legally protected species and habitats, for example bird species listed in Annex 1 of the EU Birds Directive, Schedules 5 (animals) and 8 (plants) of the Wildlife & Countryside Act 1981, (as amended in Scotland), must be included and considered as part of the application process, not as an issue which can be considered at a later stage. Any consent given without due consideration to these species may breach European Directives with the possibility of consequential delays or the project being halted by the EC. Likewise the presence of species on Schedules 5 (animals) and 8 (plants) of the Wildlife & Countryside Act 1981 should be considered where there is a potential need for a licence under Section 16 of that Act.

Plants

A baseline survey of the plants present on the site should be undertaken, and field and existing data on the location of plants should be used to determine the presence of any rare or threatened species of vascular and no-vascular plants and fungi.

Birds

The ES should provide an assessment of the impact of the wind farm on birds. The assessment should follow the available guidance on the SNH website at http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/. A baseline survey of the species and number of birds present on the site throughout the year should be undertaken. Particular attention should be paid to specially protected and/or vulnerable species. All ornithological survey work should conform to the SNH guidance at the above link..

Survey work should include assessments of the flight lines of breeding birds and birds whose migrations or other seasonal distributions traverse or are in close proximity to the site. Collision risk analyses will be necessary for species which regularly pass through the site at any time of year. The analysis should follow the principles set out in the SNH guidance at the above link.

In the interests of all stakeholders involved in the consultation exercise, the presence of protected species must be included and considered as part of the Section 36 application process. Submitting this information as an addendum at a later date will require further publicity and consultation which will delay the overall determination.

An Annex of Environmentally Sensitive Information may be required to provide information on nest locations or other environmentally sensitive information related to specially protected species, the information should follow the principles set out in the SNH guidance "Environmental Statements and Annexes of Environmentally Sensitive Bird Information" (September 2009) at http://www.snh.gov.uk/docs/A285693.pdf. However, the annex should not include any information that is not confidential, or if it does this information should be contained elsewhere within the text of the environmental statement.

Mammals

A baseline survey of the species and number of mammals present on the site should be undertaken. Particular attention should be paid to specially protected and/or vulnerable species, especially European Protected Mammals. Consideration should also be given to indirect impacts on species outwith the site.

Reptiles and Amphibians

A baseline survey of the species and number of reptiles and amphibians present on the site should be undertaken. Particular attention should be paid to specially protected and/or vulnerable species, especially European Protected species, and those potentially affected by the development.

Fish and other Freshwater Aquatic Species

Fish populations and other freshwater aquatic species can be impacted by subtle changes in water quality and quantity and changes in channel morphology that influence suitability of habitat and consequently performance and production. Further impacts can occur if issues of habitat continuity are not adequately considered when planning site drainage and river crossings. A baseline survey should be undertaken to demonstrate the species and abundance of fish present in the still and running water bodies on and around the site throughout the year. This should extend to watercourses which may be affected by run-off from the site during construction, operation or decommissioning.

Particular attention should be paid to specially protected and/or vulnerable species, especially European Protected species, and those potentially affected by the development. However, fish and fisheries should be given due consideration regardless of conservation designation.

Applicants should be aware that wind farm developments have considerable construction implications which should not be conducted without proper regard or understanding of their potential impacts on watercourses and water quality, and on fish and aquatic invertebrate populations.

The applicant should ensure that the implications of changing water quality, quantity, channel morphology and habitat continuity are addressed specifically with reference to potential impacts on fish and that mitigation addresses these issues. Where this information is provided elsewhere in the document, it should be specifically highlighted.

Where a development has the potential to impact on local fish populations the applicant will be asked to develop an integrated fish and water quality monitoring programme with baseline, development and post-development sampling. Details of any proposed monitoring should be detailed.

Applicants are encouraged to submit fish information in a collective document or with the relevant cross references to other areas of the ES. (i.e. hydrology, hydro-geology, water quality and hydro-morphology)

Terrestrial and Aquatic Invertebrates

A baseline survey of invertebrates present on the site and in the water bodies and watercourses on and around the site throughout the year should be undertaken. This should be guided by existing information on the presence, distribution and abundance of notable invertebrates. Sampling of aquatic invertebrates should extend to watercourses which may be affected by run-off from the site during construction, operation or decommissioning. Particular

attention should be paid to specially protected and/or vulnerable species, especially European Protected species, and those potentially affected by the development.

9. Water Environment

Applicants are strongly advised at an early stage to consult Scottish Environment Protection Agency (SEPA) as the regulatory body responsible for the implementation of the Controlled Activities (Scotland) Regulations 2005 (CAR), to identify 1) if a CAR license is necessary and 2) clarify the extent of the information required by SEPA to fully assess any license application. Energy Consents will identify a requirement for flood prevention comments from SEPA.

All applications (including those made prior to 1 April 2006) made to Scottish Ministers for consent under Section 36 of the Electricity Act 1989 to construct and operate a electricity generating scheme will require to comply with CAR . In this regard, we will be advised by SEPA concerning the requirements of these Regulations on the proposed development and will have regard to this advice in considering any consent under Section 36 of the Electricity Act 1989.

SEPA produces a series of Pollution Prevention Guidelines, several of which should be usefully utilised in preparation of an ES and during development. These include SEPA's guidance note PPG6: Working at Construction and Demolition Sites, PPG5: Works in, near or liable to affect Watercourses, PPG2 Above ground storage tanks, and others, all of which are available on SEPA's website at:
http://www.sepa.org.uk/about_us/publications/guidance/ppgs.aspx

SEPA would look to see specific principles contained within PPG notes to be incorporated within mitigation measures identified within the ES rather than general reference to adherence to the notes.

Prevention and clean-up measures should also be considered for each of the following stages of the development;

- Construction.
- Operational.
- Decommissioning.

Construction contractors are often unaware of the potential for impacts such as these but, when proper consultation with the local District Salmon Fishery Board (who have a statutory responsibility to protect salmon stocks) and Fishery Trust is encouraged at an early stage, many of these problems can be averted or overcome.

- Increases in silt and sediment loads resulting from construction works.
- Point source pollution incidents during construction.
- Obstruction to upstream and downstream migration both during and after construction.

- Disturbance of spawning beds during construction – timing of works is critical.
- Drainage issues.
- Alteration to hydrological regime and water quality
- Impacts on stream morphology

The ES should identify location of and protective/mitigation measures in relation to all private water supplies within the catchments impacted by the scheme, including modifications to site design and layout.

Applicants should also be aware of available CIRIA guidance on the control of water pollution from construction sites and environmental good practice (http://www.ciria.org). Design guidance is also available on river crossings and migratory fish (SE consultation paper, 2000) at http://www.scotland.gov.uk/consultations/transport/rcmf-00.asp.

9.1 Hydrology and Hydrogeology

The ES should contain detailed statements of the nature of the hydrology and hydrogeology of the site, and of the potential effects the development on these. Applicants should be aware that wind farm developments will have considerable construction implications and these should not be conducted without proper regard or understanding of the potential impacts on hydrology, water courses, water quality, water quantity and on aquatic flora and fauna. The assessment should include statements on the effects of the proposed development at all stages on;

- Hydrology
- Water Quality and quantity
- Flood Risk

The high rainfall often experienced at proposed wind farm sites means that run-off, high flow in watercourses, and other hydrological and hydrogeological matters require proper consideration within the ES.

Hydrological and hydrogeological issues should be addressed within the ES, and the following hydrological baseline information should be included.

- Long term average monthly rainfall figures.

Where the project includes significant watercourse engineering works, then SEPA would expect the following information to be included within the ES for at least a typical watercourse within the development area:

- Flood flow statistics - the flows for the Mean Annual Flood, 1:100 and 1:200 year return period.

- From a flow duration curve, the mean daily flow and Q95 flow.

- Methods used to calculate these must be identified; if non-standard methods are used, these should be described in detail with rationale for use.

Impacts on watercourses, lochs, groundwater, other water features and sensitive receptors, such as water supplies, need to be assessed. Measures to prevent erosion, sedimentation or discolouration will be required, along with monitoring proposals and contingency plans.

The applicant should refer to SEPA policy on groundwater which can be found at: http://www.sepa.org.uk/planning/groundwater.aspx which will assist in identifying potential risks. It should also be noted that 1:625000 groundwater vulnerability map of Scotland often referred to in Environmental Statements has been superseded by the digital groundwater vulnerability map of Scotland (2003) and the digital aquifer map of Scotland (2004) and it is the information used on these newer maps, available on request from SEPA, that should be used in any assessment.

If culverting should be proposed, either in relation to new or upgraded tracks, then it should be noted that SEPA has a policy against unnecessary culverting of watercourses. **Schemes should be designed to avoid by preference crossing watercourses, and to bridge watercourses which cannot be avoided. Culverting is the least desirable option.**

The ES must identify all water crossings and include a systematic table of watercourse crossings or channelising, with detailed justification for any such elements and design to minimise impact. The table should be accompanied by photography of each watercourse affected and include dimensions of the watercourse. It may be useful for the applicant to demonstrate choice of watercourse crossing by means of a decision tree, taking into account factors including catchment size (resultant flows), natural habitat and environmental concerns.

Culverts are a frequent cause of local flooding, particularly if the design or maintenance is inadequate. The size of culverts needs to be large enough to cope with sustained heavy precipitation, and allow for the impact of climate change. This must be taken into account by applicants and planning authorities. SPP and PAN69 provide more information on this aspect.

Measures to avoid erosion of the hillside associated with discharge from road culverting need to be set out in the ES.

All culverts must be designed with full regard to natural habitat and environmental concerns. Where migratory fish may be present (such as trout, salmon or eels) the river crossing should be designed in accordance with the Scottish Government guidance on River Crossings and Migratory Fish. This guidance can be found on the Scottish Government website at: http://www.scotland.gov.uk/consultations/transport/rcmf-06.asp.

Where the watercourse is used as a pathway by otters and other small mammals, the design of culverts will need to be modified to accommodate this.

The need for, and information on, abstractions of water supplies for concrete works or other operations should also be identified in the ES.

SEPA requests that evidence should also be provided to demonstrate that the proposals have been designed to minimise engineering works within the water environment, including crossing watercourses. Further to this, SEPA wishes to highlight the following Scottish National Policy, and legislative aims.

Environment, including crossing watercourses. Further to this, SEPA wishes to highlight the following Scottish Planning Policy and legislative aims.

Scottish Planning Policy (paragraph 130) states 'Lochs, ponds, watercourses and wetlands also form valuable landscape features, recreational resources and wildlife habitats and should be protected and enhanced wherever possible both as part of developments and green networks.'

In addition, where water abstraction is proposed, SEPA requests that the ES assesses whether a public or private source is to be utilised. If a private source is to be utilised, the following information should be included within the ES to determine the environmental acceptability of the proposals.

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

Although it is appreciated that many of the issues highlighted above will be scoped out during the EIA process they are important to consider. Equally, the applicant should be aware that the drilling activity does not fall under Water Environment (Controlled Activities) Regulations (CAR) and therefore would not require authorisation from SEPA as the proposal is within coastal waters.

9.2 Geology and Soils

The Environmental Statement should fully describe the likely significant effects of the development on the environment including direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary e.g. construction related impacts, positive and negative effects of the development which result from:

- The existence of the development.
- The use of natural resources (including borrow pits, the need for which and impact of which, including dust, blasting and pollution of the water environment, should be appraised as part of the overall impact of the scheme)

- The emission of pollutants, the creation of nuisances and the elimination of waste.

The ES should identify the intended source of any rock or fill material to be used for tracks or foundations, and should describe the environmental impacts associated with any new quarries or borrow pits or road or track cuttings.

SEPA seeks in relation to substantial new development, that applicants demonstrate that the development includes construction practices to minimise the use of raw materials and maximise the use of secondary aggregates and recycled or renewable materials. Further information is available from AggRegain (http://www.aggregain.org.uk);

Where borrow pits are proposed, the ES should include information regarding the location, size and nature of these borrow pits including information on the depth of the borrow pit floor and the borrow pit final reinstated profile.

The impact of such facilities (including dust, blasting and impact on water) should be appraised as part of the overall impact of the scheme. Information should cover, in relation to water, at least the information set out within Planning Advice Note 50: Controlling the Environmental Effects of Surface Mineral Workings in relation to surface water (pages 24-25) and, where relevant, in relation to groundwater (pages 22-23). Information on the proposed depth of the excavation compared to the actual topography, the proposed restoration profile, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement should be submitted.

9.3 Assessment of Peat Slide Risk

If the proposed development is to take place on peatland habitats, the Environmental Statement should incorporate a comprehensive peat slide risk assessment in accordance with the Scottish Government Best Practice Guide for Developers, published at:
http://www.scotland.gov.uk/Publications/2006/12/21162303/0

Particular attention should be paid to the risks of engineering instability relating to presence to peat on the site. Turbines locations should be identified in the light of survey work on peat depth and nature, and roads will need to be carefully aligned and designed with regard to peat habitats and depth. It is recommended that both engineers and ecologists are involved in the assessment and management of the risk of peat slide.

The peat slide risk assessment should also address pollution risks to and environmental sensitivities of the water environment. It should include a detailed map of peat depth and evidence that the scheme minimises impact on areas of deep peat. The ES should include outline construction method statements or the site-specific principles on which such construction method statements would be based for engineering works in peat land areas, including access roads, turbine bases and hard standing areas, and these should include particular reference to drainage impacts, dewatering and disposal of excavated peat.

10. Forests and Woodlands

Internationally there is now a strong presumption against deforestation (which accounts for 18% of the world's greenhouse gas emissions). Reflecting this, Scottish Ministers have now approved a policy on Control of Woodland Removal published at http://www.forestry.gov.uk/forestry/infd-7hyhwe (refer Scottish Planning Policy paragraph 148) which seeks to protect the existing forest resource in Scotland, and supports woodland removal only where it would achieve significant and clearly defined additional public benefits. In some cases, including those associated with development, a proposal for compensatory planting may form part of this balance.

The criteria for determining the acceptability of woodland removal and further information on the implementation of the policy is explained in the Control of Woodland Removal Policy. These should be taken into account when preparing the development plans for this wind farm proposal. The applicant should also be aware of the *National Planning Framework 2* (published at http://www.scotland.gov.uk/Publications/2008/12/12093953/0) and specifically paragraph 93 which reiterates Scottish Government determination to decrease the loss of existing woodland and aspiration for further expansion.

The ES should indicate proposed areas of woodland for felling to accommodate new turbines and other infrastructure such as roads. Details of the area to be cleared around those structures should also be provided, along with evidence to support the proposed scale and sequence of felling. The ES should also detail any trees or woodland areas likely to be indirectly affected by the proposed development (e.g. through changes in hydrology, loss of neighbouring plantation causing instability, etc) and provide full details of alternatives and/or protection and mitigation measures in the ES.

The applicant should consider the wildlife implications of any tree felling in the relevant sections of the ES. The ES should also consider any impacts of forestry activities on the water environment, with particular attention paid to acidification and nutrient leaching. The applicant should make full use of the *Forests and Water Guidelines* in proposing forestry activity and mitigation procedures.If timber is to be disposed of on site, details of the methodology for this should be submitted. Areas of retained forestry or tree groups should be clearly indicated and methods for their protection during construction clearly described.

If areas of woodland are to be temporarily removed but then replanted shortly afterwards (typically within 1-5 years) this should be indicated in the ES, and details of the replanting plan provided.

Where there is a change in land use (e.g. to non-woodland habitats) the woodland should be described in sufficient detail (e.g. including details of the age of the trees; the species type and mix; the soil types; any particular natural heritage designations or protected species present in the woodland; and the landscape and historical environment context) to enable its intrinsic public benefit value to be assessed. This will facilitate decisions on whether woodland

removal is acceptable and if so, whether compensatory planting will be required.

The applicant should refer to guidance documents[1] issued by the Forestry Commission in relation to good forestry practice and associated environmental issues.

In summary, the applicant should consider their response to the Control of Woodland Removal Policy, including the consequences of such removal on carbon sequestration and mitigating the potential effects of climate change.

Forestry Commission Scotland can advise on all aspects of woodlands and forestry associated with developments and early consultation with them to clarify proposals and any particular restrictions or conditions on woodland removal that may apply to the area is recommended. Contact details of the nearest Forestry Commission Conservancy office can be accessed at: http://www.forestry.gov.uk or from fcscotland@forestry.gsi.gov.uk.

10.1 Forest and woodland ecology

The *UKFS Forests and Biodiversity, Scottish Forestry Strategy* (SFS) (2006) and *Scottish Biodiversity Strategy* (both of which have Ministerial endorsement) and *Nature Conservation (Scotland) Act 2004* should be essential documents that the applicant should be aware of.

The SFS recognises the importance of native woodlands, especially those that are of ancient and semi-natural origin. It also incorporates targets for priority habitats and species, sets priorities for action in terms of improving the management of semi-natural woodlands, and extending and enhancing native woodlands by developing forest habitat networks (page 48).

The SFS also recognises the potential for well designed productive forests to contribute environmental benefits through the restructuring process and future management systems, such as habitat and landscape value from increased open space (page 48).

The SFS also identifies and promotes the importance of sustainable forest management as an essential contributor to the conservation of soils, the quality of water and air (page 44), and the general contribution that forests and woodlands can make to tackle climate change.

The *Scottish Biodiversity Strategy* contains delivery of targets for priority habitats and species as key aims as well as enhanced management of whole landscapes for biodiversity, including reducing fragmentation of habitats. This strategy has been designated by Ministers under the terms of the *Nature Conservation (Scotland) Act 2004*, to confirm that all public bodies have a duty

[1] The UK Forestry Standard and its suite of associated guidelines are available at: http://www.forestry.gov.uk/forestry/INFD–8BVECX . Further guidance is available at: http://www.forestry.gov.uk/forestry/INFD-5XFLS7.

to further biodiversity where consistent with their functions, in ways which are guided by the strategy.

This would suggest that the applicant should be obliged to carry out an assessment of the implications of the wind farm proposals on biodiversity.
This should be in both general terms of effects on the biodiversity strategy aims, and specifically the impacts on priority habitats and species; i.e. those with national targets (*HAPs* and *SAPs* identified in the *Biodiversity Action Plan*).

It would also suggest that the applicant should be obliged to carry out an assessment of the implications of the wind farm proposals on water, soil and air resources, and an appreciation of the potential consequences of the loss of woodland cover with regards climate change, specifically carbon sequestration.

Consultation with the local Forestry Commission Scotland Conservancy should also be undertaken during the development of proposals for the planned restructuring and/or woodland removal to accommodate the wind farm proposals.

Regards the FC *Forest and Water Guidelines* please note that this publication is now in its 5th Edition, published 2011 with the revised UKFS and suite of Guidelines.

10.2 Landscape and visual assessment

The new *UK Forestry Standard* and associated *Forests and Landscape UKFS Guideline,* FC Forestry Practice Guide: *Forest Design Planning – A Guide to Good Practice*, The *Scottish Forestry Strategy 2006* and SNH suite of *Landscape Character Assessments* should all be on the list of documents that the developer should be aware of. All are free to view and download from FC and SNH web-sites.

The *Scottish Forestry Strategy* identifies that forests and woodlands contribute to Scotland's diverse and attractive landscape. It promotes the benefits of well designed and managed woodlands that reflect local landscape character, and that their contribution to the wider landscape should help Scotland meet the undertakings of the *European Landscape Convention* (page 44).

The Scoping Report should promote a full assessment by the applicant of all the landscape and visual issues. This should include a full description of the general landscape character within which the applicant proposes to introduce the wind farm, and a statement of the landscape and visual sensitivities that may be potentially affected by that development.

It should also include an assessment of the cumulative landscape and visual impacts as a consequence of the wind farm proposal, and identify relevant criteria that may have a bearing on that assessment.

The *UK Forestry Standard* sets out Requirements for each element of sustainable forest management, one of which is forests and landscape (page 34). There are two UKFS Requirements for landscape:

- Landscape context
- Forest landscape design

Landscape context refers to the appraisal of the landscape with regard to appreciating its local character. The *Scottish Forestry Strategy* specifically advocates the use of Scottish Natural Heritage's suite of *Landscape Character Assessments*, which provide valuable descriptive information about the landscape of Scotland. The potential removal of all or some of the existing woodlands within the wind farm proposal area may create significant areas of open ground (that is, ground without woodland cover) and thereby have a significant effect on the recognised character of the local landscape.

Forest landscape design refers to the principles and process of planning a new forest on current open ground or the restructuring an existing forest. The practice of forest restructuring is described in the aforementioned FC Forestry Practice Guide: *Forest Design Planning – A Guide to Good Practice*. Not only should such a plan consider how best to restructure a forest for the wind farm development, but also describe how the remaining woodland elements both within and beyond the scheme boundary can be best integrated with the development site. Such integration could be achieved, for example, by the selective restocking of strategic areas within the wind farm site area.

Besides referring to the *UKFS Forests and Landscape Guidelines*, for a comprehensive handbook on forest landscape design the developer should refer to *The Design of Forest Landscapes* (Oliver W.R. Lucas; pub. Oxford University Press 1991). We would also advise that when forest landscape design is being considered as part of the forest management associated with such a development, a chartered Landscape Architect with a comprehensive knowledge of forestry should be commissioned.

10.3 Historic environment of forests and woodlands

The applicant should recognise the wider aspects of the wind farm proposals on historic environment policies. In terms of forests and woodlands, besides the legacy of the past to be found within woodlands, the cultural heritage of ancient woodlands and veteran trees are particularly important. The value of the historic environment in woodlands is recognised in the *UK Forestry Standard* and associated *Forests and Historic Environment Guidelines,* the *Scottish Forestry Strategy* (SFS) (page 45) and FCS Policy Statement *Scotland's Woodlands and the Historic Environment*.

The UKFS states the Legal Requirements for the historic environment, covering:

- Scheduled Monuments
- Archaeological finds
- Listed buildings and structures

It also outlines the Requirements for sustainable forest management and evidence of the historic environment in relation to:

- Historic landscape character
- Historic features

The SFS not only identifies the duty to safeguard evidence of the historic environment but also encourages their active management, enhancement and interpretation.

10.4 Management Plan

With regards both ecological and landscape considerations for the site and immediate environs, we would advocate the preparation of a long-term management plan.

This should be carried out in consultation with FCS, Local Authority, SNH, landowners and other interested parties. Essentially, what is required is an integrated land-use and management plan that fosters optimising the ecological and landscape benefits of both the wind farm site and neighbouring land uses.

10.5 FCS Conservancy consultation

Prior to the preparation of the Environmental Statement (ES) on the issues outlined above, the developer should consult with the FCS Conservancy office that covers the wind farm development area. Once prepared, it is to this office that the ES should be sent to. An area map and contact details for the five Conservancy offices covering Scotland can be found on the FCS web-site: http://www.forestry.gov.uk/website/forestry.nsf/byunique/infd-8see6d

11. Historic Environment and Cultural Heritage

General Principles

The ES should address the predicted impacts on the historic environment and describe the mitigation proposed to avoid or reduce impacts to a level where they are not significant. Historic environment issues should be taken into consideration from the start of the site selection process and as part of the alternatives considered.

National policy for the historic environment is set out in:

- Scottish Planning Policy *Planning and the Historic Environment at:* http://www.scotland.gov.uk/topics/built-environment/planning/National-planning-policy/themes/historic
- The Scottish Historic Environment Policy (SHEP) sets out Scottish Ministers strategic policies for the historic environment and can be found at: http://www.historic-scotland.gov.uk/index/heritage/policy/shep.htm
- Managing Change in the Historic Environment. Further guidance on setting can be found here http://www.historic-scotland.gov.uk/managing-change-consultation-setting.pdf

Planning Advice Note (PAN) 02/2011 sits alongside SPP, SHEP and Historic Scotland's Managing Change in the Historic Environment guidance notes. Together these documents form the Scottish Ministers' guidance for planning and the historic environment.

Amongst other things, SPP paragraph 118, Historic Environment, stresses that scheduled monuments should be preserved *in situ* and within an appropriate setting and confirms that developments must be managed carefully to preserve listed buildings and their settings to retain and enhance any features of special architectural or historic interest which they possess. Consequently, both direct impacts on the resource itself and indirect impact on its setting must be addressed in any Environmental Impact Assessment (EIA) undertaken for this proposed development.. Further information on Historic Scotland's role and the level of information required for EIA developments can be found on their website Historic Scotland - Looking after our heritage - Environmental Impact Assessment FAQs.

Historic Scotland recommend that the applicant engages a suitably qualified archaeological/historic environment consultants to advise on, and undertake the detailed assessment of impacts on the historic environment and advise on appropriate mitigation strategies.

Baseline Information

Information on the location of all archaeological/historic sites held in the National Monuments Record of Scotland, including the locations and, where appropriate, the extent of scheduled monuments, listed buildings and gardens and designed landscapes can be obtained from http://www.pastmap.org.uk.

Data on scheduled monuments, listed buildings and properties in the care of Scottish Ministers can also be downloaded from Historic Scotland's Spatial Data Services websiteWarehouse at http://data.historic-scotland.gov.uk. For any further information on those data sets and for spatial information on gardens and designed landscapes and World Heritage Sites which are not currently included in Historic Scotland's Spatial Data Warehouse please contact hsgimanager@scotland.gsi.gov.uk hs.heritagemanagement@scotland.gsi.gov.uk. Historic Scotland would also be happy to provide any further information on all such sites.

12. Other Material Issues

12.1 Waste

Potential requirement for waste management licences or licensing exemptions in relation to waste disposed to or from borrow pits should be discussed at an early stage with SEPA as decisions on waste management are likely to affect site design and layout.

The ES should identify all of the waste streams (such as peat and other materials excavated in relation to infrastructure) associated with the works. It should demonstrate a) how the development can include construction practices to minimise the use of raw materials and

maximise the use of secondary aggregates and recycled or renewable materials and b) how waste material generated by the proposal is to be reduced and re-used or recycled where appropriate on site (for example in landscaping not resulting in excessive earth moulding and mounding).

Further to the above advice, SEPA would like to highlight the use of site waste management plans which SEPA are now seeking on all large scale construction projects and which the applicant should consider during the formulation of the ES. In SEPA's experience, waste management is becoming an increasing issue on large scale projects.

Coherent consideration should be given to the handling, use, short term storage and final disposal of surplus material, including peat and soils, and to waste minimisation and management. Should it be proposed that peat should be used at depth to restore excavations such as borrow pits, the applicant would need to demonstrate that this could be done without the release of carbon through oxidisation, and without risk to people and the environment. Please note that waste peat or soil from excavations spread on this land would not necessarily be to ecological benefit; if excavated peat or soil is to be used in landscaping the site, then this should be included in the plans, and not dealt with in an ad-hoc fashion as it arises.

SEPA therefore requests that the ES gives consideration to a full site specific Site Waste Management Plan (SWMP). The SWMP should detail the measures for managing and minimising waste produced during construction. Further information on the preparation of these plans can be obtained from the Zero Waste Scotland web site which may be found at http://www.zerowastescotland.org.uk/category/service/business-support.

The SWMP should also include a soils balance carried out to demonstrate need for importation/export of materials including any backfill of excavations. Given experience on other sites, clarification is sought specifically on whether or not waste materials are to be imported. Clarification of the amount of surplus materials to be permanently deposited on mounds and scale of these mounds should also be included.

SEPA encourages the recovery and reuse of controlled waste, provided that it is in accordance with the Waste Management Licensing Regulations 1994. The applicant should note the regulatory advice below. The applicant should note that SEPA has produced guidance to assist in the consideration as to whether any particular material is waste, which is available on SEPA's website at http://www.sepa.org.uk/waste/waste_regulation/is_it_waste.aspx.

12.2 Telecommunications

British Telecom will offer advice in respect of EMC and related problems, BT point to point microwave links and satellite. Any information on the likely interference to BT's current and presently planned radio networks should be enclosed.

Ofcom only comment in respect of microwave fixed links and does not include broadcast transmissions or scanning telemetry links that may be affected by the proposals. Ofcom will have sent a copy of the scoping request to:

CSS Spectrum Management Services Ltd. David Tripp 01458 273 789 david.tripp@css.gb.com (for Scanning Telemetry)

Joint Radio Company (JRC). David Priestley 020 7953 7015 david.priestley@jrc.co.uk (for Scanning Telemetry)

With regard to assessing the affects to TV reception, the BBC now have an online tool available on their website, at http://www.bbc.co.uk/reception/info/windfarm_tool.shtml. Ofcom will no longer be forwarding enquiries received to the BBC or carrying out assessments. Applicants are advised to access the online tool.

Ofcom only comment in respect of fixed microwave links managed by Ofcom, in addition the applicant is obliged to do further checks of the proposals with the CAA, NATS, and the MOD. Further details may be obtained on the British Wind Energy Association (BWEA) website at http://www.bwea.com.

12.3 Noise

Wind farms have the potential to create noise through aerodynamic noise and mechanically generated noise. Noise predictions should be carried out to evaluate the likely impacts of airborne noise from the wind turbines and associated construction activities including noise from blasting or piling activities which may affect local residents, during construction, operational and decommissioning stages of the project. Advice should be sought from the relevant Council planning and/or environmental health departments in respect to the potential impacts on the local community.

The applicant should be aware of the guidance produced by ETSU on behalf of the DTI titled “The Assessment and Rating of Noise from Wind Farms”. This publication provides applicants with best practice noise monitoring and reporting techniques. Cumulative noise effects should also be considered in assessing the specific circumstances prevailing at the development site. Applicants may also want refer to PAN 1/2011 in this respect.

12.4 Shadow Flicker

Information on the impact of shadow flicker on the local community should be enclosed within the ES. Information on this can be found at: http://www.scotland.gov.uk/Resource/0042/00427805.pdf

12.5 Traffic Management

The Environmental Statement should provide information relating to the preferred route options for delivering the turbines etc. via the trunk road network. The Environmental Impact Assessment should also address access issues, particularly those impacting upon the trunk road network, in particular,

potential stress points at junctions, approach roads, borrow pits, bridges, site compound and batching areas etc.

Where potential environmental impacts have been 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 has been undertaken, e.g. transport assessment;
- what this has shown i.e. what impact if any has been identified, and
- why it is not significant.

12.6 Cumulative Impacts

Where a wind farm development might have cumulative impacts with other existing, approved or current wind farm applications, then the assessment of environmental impacts should include consideration of these cumulative effects. Visual or landscape cumulative effects may arise where more than one wind farm is visible from certain viewpoints, or along a journey by road or other route. Ecological cumulative effects may arise where more than one wind farm impacts upon a bird population, or on the hydrology of a wetland or peatland habitat.

SPP introduces new requirements in relation to considering cumulative impacts through the development plan process. Where relevant, proposals should identify how they comply with development plans. We also refer to the SNH guidance note 'Cumulative Effect of Wind Farms' (version 2 revised 13.4.05) for further guidance. A cumulative assessment should include other existing wind farms in the vicinity of the proposal, any wind farms which have been consented but are still to be constructed, and any which are the subject of undetermined consent applications. Inclusion within a cumulative assessment of other proposed wind farms which have not yet reached application stage is not required, unless in exceptional circumstances we advise otherwise.

http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/

12.7 Other Planning or Environmental Impact Issues Unique to the Application

The ES should include information on any other potential impacts connected with the project.

13. General ES Issues

In the application for consent the applicant should confirm whether any proposals made within the Environmental Statement, eg for construction methods, mitigation, or decommissioning, form part of the application for consent.

13.1 Consultation

Applicants should be aware that the ES should be submitted in a user-friendly PDF format. Applicants are asked to issue ESs directly to all consultees. An up to date consultee list can be obtained from the Energy Consents and Deployment Unit. The Energy Consents and Deployment Unit also requires **1 hard copy and 2 CDs**.

Where the applicant has provided Scottish Ministers with an environmental statement, the applicant must publish their proposals in accordance with part 4 of the Environmental Impact Assessment (Scotland) Regulations 2000. Energy consents information and guidance, including the specific details of the adverts to be placed in the press can be obtained from the Energy Consents website; http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents

13.2 Gaelic Language

Where Section 36 applications are located in areas where Gaelic is spoken, applicants are encouraged to adopt best practice by publicising the project details in both English and Gaelic (see also Energy consents website above).

13.3 OS Mapping Records

Applicants are requested at application stage to submit a detailed Ordinance Survey plan showing the site boundary and all turbines, anemometer masts, access tracks and supporting infrastructure in a format compatible with the Scottish Government's Spatial Data Management Environment (SDME), along with appropriate metadata. The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data should be supplied in ESRI shapefile format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by the Scottish Government), all metadata should be provided in this format.

13.4 Difficulties In Compiling Additional Information

Applicants are encouraged to outline their experiences or practical difficulties encountered when collating/recording additional information supporting the application. An explanation of any necessary information not included in the Environmental Statement should be provided, complete with an indication of when an addendum will be submitted.

13.5 Application and Environmental Statement

A checklist is enclosed with this report to help applicants fully consider and collate the relevant ES information to support their application. In advance of publicising the application, applicants should be aware this checklist will be used by government officials when considering acceptance of formal applications.

13.6 Consent Timescale and Application Quality

In December 2007, Scottish Ministers announced an aspirational target to process new Section 36 applications within a 9 month period, provided a Public Local Inquiry (PLI) is not held. This scoping opinion is specifically designed to improve the quality of advice provided to applicants and thus reduce the risk of additional information being requested and subject to further publicity and consultation cycles.

Applicants are advised to consider all aspects of the scoping opinion when preparing a formal application, to reduce the need to submit information in support of the application. The consultee comments presented in the scoping opinion are designed to offer an opportunity to considered all material issues relating to the development proposals.

In assessing the quality and suitability of applications, Government officials will use the enclosed checklist and scoping opinion to scrutinise the application. Applicants are encouraged to seek advice on the contents of ESs prior to applications being submitted, although this process does not involve a full analysis of the proposals. In the event of an application being void of essential information, officials reserve the right not to accept the application. Applicants are advised not to publicise applications in the local or national press, until their application has been checked and accepted by SG officials.

Applicants are advised to refer to the Energy Consents website at http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents

13.7 Judicial Review

All cases may be subject to judicial review. A judicial review statement should be made available to the public.

Authorised by the Scottish Ministers to sign in that behalf.

Annex 1

Consultee Comments relating specifically to Gordonbush Wind Farm

Statutory Consultees

1. The Highland Coucil - The Planning Authority
2. SEPA
3. SNH

Scottish Government Internal Consultees

4. Forestry Commission Scotland
5. Historic Scotland
6. Marine Scotland
7. Transport Scotland

Non Statutory External Consultees

8. Association of Salmon Fishery Boards
9. BT
10. CAA Airspace
11. Crown Estate
12. Defence Infrastructure Organisation
13. Joint Radio Company
14. Mountaineering Council of Scotland
15. NATS
16. RSPB Scotland
17. Scottish Water
18. Visit Scotland
19. Scottish Wildlife Trust
20. Highlands and Islands Airports
21. John Muir Trust

APPLICATION AND ENVIRONMENTAL STATEMENT CHECKLIST

	Enclosed
1. Applicant cover letter and fee cheque	□
2. Copies of ES and associated OS maps	□
3. Copies of Non Technical Summary	□
4. Confidential Bird Annexes	□
5. Draft Adverts	□
6. E Data – CDs, PDFs and SHAPE files	□

Environmental Statement	Enclosed	ES Reference (Section & Page No.)
7. Development Description	□	
8. OS co-ordinates for site and turbine layout	□	
9. Planning Policies, Guidance and Agreements	□	
10. Natural Heritage	□	
11. Economic Benefits	□	
12. Site Selection and Alternatives	□	
13. Construction and Operations (outline methods)	□	
14. Decommissioning	□	
15. Grid Connection details	□	
16. Carbon Assessment (include spreadsheet)	□	
17. Design, Landscape and Visual Amenity	□	
18. Archaeology	□	
19. Ecology, Biodiversity & Nature Conservation	□	
20. Designated Sites	□	
21. Habitat Management	□	
22. Species, Plants and Animals	□	
23. Water Environment - Hydrology	□	
24. Geology - Peat survey data and risk register	□	
25. Forestry	□	
26. Waste	□	
27. Aviation	□	
28. Telecommunications	□	
29. Noise	□	
30. Shadow Flicker	□	
31. Traffic Management	□	
32. Cumulative Impacts	□	

FORMAL SUBMISSION OF APPLICATION AND GATE-CHECKING

Applicants should note that prior to any application being accepted by the Energy Consents and Deployment Unit it will pass through a two stage gate-checking exercise:-

- Stage 1: Approximately 3 months before full submission of the application (we expect this to be around design-freeze) the developer will produce a very short paper/table summarising their activities since scoping and detailing how they have taken forward the advice received at scoping. We would ask the statutory consultees to consider their own section in this

document (should only amount to a few paragraphs) and advise whether they believe this accurately reflects the position.

- Stage 2: The content of the final Environmental Statement will be checked against the above checklist and against the comments made by all consultees in the Scoping Opinion and Stage 1 gatecheck responses. Applicants should ensure that their final ES pays cognisance to the advice, and fully addresses all concerns raised. The checklist above should be finalised and submitted with the application.

Applicants should not publicise applications in the local and national press until the application and the corresponding press notices have been checked and confirmed as acceptable by officials.

1. The Highland Council - The Planning Authority

The supporting document has already identified, in some detail, elements of the project and its expected impact. This provides some confidence to the approach being taken to develop this project. This understanding of the issues was also demonstrated at a recent meeting with the applicant's. In this regard I can advise that the Council has met with the applicant and highlighted a number of key issues. There was considerable discussion of the design elements of this proposals, landscape and visual impact including cumulative impact.

It has also been highlighted to the applicant that this estate has already been through the process of a Section 36 wind farm application and all that that entails. The project application was successful and set out a framework for the current operation of the existing wind farm. This includes the provision of extensive mitigation in respect of land management, deer culling, ornithological works etc. In effect it is a mature wind farm site. Consequently any future application needs to take this position and commitments into account and highlight how such programmes, if relevant, can be extended.

I would also expect that the successful outcomes of the initial project should be used to demonstrate how this applicant has already tackled environmental mitigation. Therefore there is no great need over-explain the approach to be deployed on this site, if it has already been demonstrated.

Highland Council request that any Environmental Statement (ES) submitted in support of the above development take the comments highlighted below into account. A future application and supporting ES should clearly highlight the following elements: -

Description of the Development: - The development for an ES is often much more than would be set out in a particular application, so the specific elements of the submitted application for approval must be made clear. A statement is also required which outlines the main development alternatives studied by the applicant.

Environmental Elements Affected: - The ES must provide a description of the aspects of the environment likely to be significantly affected by the development.

Mitigation: - The ES should present a **clear summary table of all mitigation measures** associated with the development proposal. This table should be entitled draft Scheme of Mitigation.

With regard to the range of specific issues expected within the ES, this should:

- Recognise the existing land uses affected by the development, having particular regard for Highland Council's Development Plan, other supplementary planning policies and Scottish Planning Policy. In this regard the following Council documents are particularly relevant: -

- Approved Highland Wide Local Development Plan (HwLDP)
- The Council's Interim Supplementary Guidance – Onshore Wind Energy
- Highland Renewable Energy Strategy and

Much of the above guidance is under review or will soon be under review following the continuing development of the Scottish Government's National Planning Framework and Scottish Planning Policy.

It was noted that there are a number of applications in the area both Section 36 Electricity Act Applications and Planning Applications which are yet to be determined / concluded in the vicinity of this application which may or may not help clarify the weight towards particular policy elements in the final planning balance. So there is some uncertainty, but hopefully our pre application advice to the applicant has helped them to understand the complexities.

- Estimate who may be affected by the development, in all or in part, which may required individual households to be identified, local communities or a wider socio economic groupings such as tourists & tourist related businesses, recreational groups, economically active, etc. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction, operation and decommissioning of the development. In this regard SSE has produced and published an economic impact statement associated with the initial project. This should be used as the basis of future predicted impact.

- Recognise community assets that are currently in operation for example road network (see below), footpaths, TV, radio, tele-communication links, radar, aviation interests, etc. It is expected that mitigation will be offered in respect of these matters; for example maintenance and improvement of public access. The new track(s) for the extension could create a circular route back to main access track for the existing WF. This would enhance the access resource provided by the proposed development.

- With regard to the visual impact of the development. Viewpoints (VP) for the assessment of impacts of a proposed development must be discussed with the Highland Council in consultation with Scottish Natural Heritage. The Council has Photography Standards – see Visualisation Standards document on Council's Web Site which the applicant will be expected to adopt when presenting information on the expected visual impact of the development. The attached link directs parties to this information on standards.

http://www.highland.gov.uk/yourenvironment/planning/energyplanning/renewbleenergy

- There will be expectation that many of the viewpoints used in the initial wind farm will form the basis of further visualisations. However there will need to be a review of the proposed ZVI of the proposal and a need to take into account the spate of recent applications in this locality. The development will further extend the number of proposals of this type in the surrounding area, necessitating appropriate cumulative impact. This should feature in the final ES. It is considered that this subject will be a significant material consideration in the final determination of any future application.

- A Transport Assessment should be submitted as part of the planning application detailing proposed routes and volumes for all construction related traffic. This Transport Assessment should also identify potential impacts of this traffic on local transport infrastructure and measures to mitigate these impacts.

The Council anticipates that improvement work may be required on the local road network to make it suitable to cater for the anticipated construction traffic, particularly on the public road between the A9(T) junction near Brora and the existing windfarm site entrance. The extent and detail of all road improvement and strengthening works shall be agreed with TEC Services. All improvements to the public road shall be completed prior to windfarm construction commencing, other than where agreed with TEC Services.

An assessment of the capacity of existing bridges and other structures along the construction access route(s) to cater for all construction traffic will be required. Approval of this assessment by TEC Services will be required prior to commencement of construction. Any work necessary as a result of this assessment shall be carried out by the developer to the satisfaction of TEC Services. This work shall be completed prior to windfarm construction commencing, other than where agreed with TEC Services.

All works on the public road will require approval through either a Road Construction Consent, or permits under section 56 of the Roads (Scotland) Act 1984, together with any necessary structural approvals.

Once any works required to accommodate abnormal vehicles have been carried out, we anticipate that a trial run will be required to confirm the ability of the local road network to cater for turbine delivery. We will require three weeks' notice of this trial run to allow us the opportunity to attend.

A Wear and Tear agreement in accordance with Section 96 of the Roads (Scotland) Act 1984 will be required under which the developer is responsible for the repair of any damage to the Council's road network that can reasonably be attributed to construction related traffic. As part of this agreement, pre-start and post construction road condition surveys will need to be carried out by the developer to the satisfaction of TEC Services. On-going monitoring and inspection of the public road during the construction phase, along with prompt repair of any damage caused to the public road, will be required. Records of inspection and maintenance will require to be kept and be available for inspection by TEC Services.

- Likely impacts on the nature conservation interests of all the designated sites in the vicinity of the proposed development. It should provide proposals for any mitigation that is required to avoid these impacts or to reduce them to a level where they are not significant. It is noted that SNH and SEPA will respond directly on these matters

- Identify rare and threatened habitats, and those protected by European or UK legislation, or identified in national or local Biodiversity Action Plans. Habitat enhancement and mitigation measures should be detailed in the contexts of both biodiversity conservation and the inherent risk of peat slide.

- Likely significant effects of the development on the local geology including aspects such as borrow pits, earthworks, site restoration and the soil generally including direct effects and any indirect.

- If the proposed development is to take place on peatland habitats, the ES must consider the risks of engineering instability relating to presence to peat on the site as well as the issue of carbon balance.

- Address the nature of the hydrology and hydrogeology of the site, and of the potential impacts on water courses, private supplies and the aquatic interests within local watercourses. The assessment should then lead on to appropriate mitigation being identified with measures proposed to prevent contamination or physical disruption.

- The applicant will require to identify any private water supplies which may be adversely affected by the development and to submit details of the measures proposed to prevent contamination or physical disruption.

- Address existing air quality and the general qualities of the local environment including background noise, sunlight, prevailing wind and all relevant climatic factors which can greatly influence the impact range of many of the preceding factors on account of seasonal changes affecting, rainfall, sunlight, prevailing wind direction, etc. Any affected properties should clearly indicate whether or not there is any financial interest with the project.

- The applicant will be required to submit a noise assessment with regard to the operational phase of the development. The assessment must be able to demonstrate that noise levels will comply with either a simplified standard of 35dB LA90 at wind speeds up to 10m/s or the Council's composite standards of 35dB LA90 (daytime) and 38dB LA90 (night time) or +5dB above background noise levels.

- The assessment should be carried out in accordance with ETSU-R-97 "The Assessment and Rating of Noise from Wind Farms" and the associated Good Practice Guide published by the Institute of Acoustics. The noise assessment must take into account the potential cumulative effect from any other existing, consented or proposed wind turbine developments. Where applications run concurrently, it is strongly

recommended that a joint approach be taken with regard to noise assessments. In fact it may not be possible for this Service to assess such applications otherwise. The noise assessment must take into account any consented levels from such developments as well as predicted levels.

- The use of Planning conditions to control construction noise is not considered appropriate as controls are available to the Local Authority under Section 60 of the Control of Pollution Act 1974. However, the applicant will be required to undertake an assessment of the impact of noise from the construction phase including construction traffic. The assessment should be carried out in accordance with BS 5228-1:2009 "Code of practice for noise and vibration control on construction and open sites – Part 1: Noise". It is expected that the developer/contractor will employ the best practicable means to reduce the impact of noise from construction activities. Details of any mitigation measures should be provided including proposed hours of operation. Where construction noise has the potential to cause significant disturbance it is recommended that the applicant/contractor considers applying for a consent under Section 61 of the Act.

- This Council has received complaints regarding dust generated during the construction of the existing wind farm and subsequently from forestry traffic using the access road. The applicant will be require to submit details of a scheme for suppression of dust arising from construction works and traffic.

- The proposed extension area has probably already a level of archaeological survey in part as part of the work supporting the existing Gordonbush wind farm. I also note that a significant number of features were identified on the boundary of, with some extending into, the proposed site as a consequence of a survey undertaken for the Gordonbush access route. However, this work was undertaken some time ago now and will require updating.

- A thorough desk-based analysis to include a synthesis of all previous work undertaken here, and a fresh walkover survey of the area (to include associated infrastructure, borrow pits, compounds etc) will need to be undertaken to inform this ES. This must seek to identify all designated heritage / cultural sites which may be affected by the development either directly or indirectly.

- The Cultural Heritage chapter of the Environmental Statement will need to be undertaken by a professional and competent historic environment consultant. The ES chapter will need to follow Highland Council Standards for Archaeological Work, specifically Section 4 which deals with Environmental Statements (I would particularly draw their attention to 4.14) and Section 3. The Standards are available at

http://www.highland.gov.uk/NR/rdonlyres/4FAA681F-979F-478C-870DCBB4D00DCFFF/0/HCSAWv1.pdf.

The assessment will consider the potential direct impacts of the development to cultural heritage as well as indirect impacts. The indirect impact assessment will need to include a study of cumulative impacts. Where indirect impacts are predicted, these will be illustrated using photomontages.

Mitigation to off-set any predicted impact, including re-design (site layout and turbine height) and where appropriate compensatory measures will need to be clearly set out as part of the assessment.

Leading from the assessment of the environmental elements the ES needs to describe the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development.

The effects of development upon baseline data should be provided in clear summary points. The Council requests that when measuring the positive and negative effects of the development a four point scale is used advising any effect to be either strong positive, positive, negative or strong negative.

2. SEPA

We have already met to discuss this proposal and visited the site. We consider that the most significant issues will be avoiding areas of deep peat and minimising impacts on groundwater dependant terrestrial ecosystems, however, our full scoping advice is provided below.

We would welcome the opportunity to comment on the draft ES. Please note that we can process files only of a maximum size of 25 MB and therefore, when the ES is submitted, it should be divided into appropriately sized and named sections.

Carbon balance

Scottish Planning Policy (SPP) recognises that "the disturbance of some soils, particularly peat, may lead to the release of stored carbon, contributing to carbon emissions" (Paragraph 133). In line with SPP and government guidance, we recommend that the ES or planning submission contains a section systematically assessing carbon balance. This assessment should quantify the gains over the life of the project against the release of carbon dioxide during construction. It should include all elements of the proposal, including borrow pits, construction of roads/tracks and other infrastructure and loss of peat bog. Please refer to the Scottish Government guidance Calculating carbon savings from windfarms on Scottish peat lands - A New Approach, which provides a revised methodology for estimating the impacts of this type of development on carbon dynamics of peat lands. We will validate carbon balance assessments for Section 36 windfarm applications that use this revised version of the tool. In order to validate such assessments, all input data, assumptions and workings need to be provided on an Excel spreadsheet

within one dedicated section of the ES. In addition we will provide comment on drainage and waste management aspects of the peat management scheme to ensure that the carbon balance benefits of the scheme are maximised.

Disruption to wetlands

The applicant has provided us with a copy of the National Vegetation Classification information which has been collected to date. This is very helpful and we can confirm that we consider the survey work to be of a suitable quality.

The layout of the scheme should avoid impacts on highly groundwater dependant terrestrial ecosystems (GWDTE) such as M6c (even if species poor) and minimise impacts on those habitats that are generally considered moderately groundwater dependant such as M15b and U6 (as defined in Appendix 2 of our Planning guidance on windfarm developments). A map should be provided with all the proposed infrastructure overlain on the vegetation maps to clearly show how important habitats have been avoided and where impacts are likely.

Generally the route of roads, tracks or trenches within 100 m of GWDTEs (identified in Appendix 2) should be reconsidered. Similarly, the locations of borrow pits or foundations within 250 m of such ecosystems should be reconsidered. If infrastructure cannot be relocated outwith the buffer zones of these ecosystems then the likely impact on them will require further assessment. This assessment should be carried out if these ecosystems occur within or outwith the site boundary so that the full impacts on the proposals are assessed. The results of this assessment and necessary mitigation measures should be included in the ES.

We note that some of the plans submitted only identify highly groundwater dependant habitats and do not map the impacts on M15b which covers approximately 30% of the site. We highlight the need for the ES to consider the impact on all GWDTEs, including M15b. We note that the report suggests that M15b may not be "particularly groundwater dependent on site"; the ES should provide further justification for this statement. Even if the habitat is only partially groundwater dependant, information should be provided to explain what effect the development could have on this flow.

For areas where avoidance is clearly demonstrated to be impossible, details of how impacts upon GWDTEs are minimised and mitigated should be provided within the ES. In particular impacts that should be considered include those from drainage, pollution and waste management. This should include preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, dewatering, excavations, drainage channels, cable trenches, or the storage and re-use of excavated peat. Any mitigation proposals should also be detailed within the Construction Environmental Management Plan, as detailed below.

We also note the comments on historic ditching and peat cutting and would welcome the submission of a draft Habitat Management Plan for the area which could identify areas for wetland improvement post construction.

Disturbance and re-use of excavated peat

Where the proposed infrastructure will impact upon peatlands as is the case here, it is now best practice for developers to produce a Peat Management Plan within the ES which sets out the principles as to how any surplus peat will be managed within the site. It is important this is done prior to the application gaining consent to ensure all opportunities to minimise peat disturbance are considered within the site design and that acceptable proposals to re-use the surplus peat can be accommodated within the site layout without significant environmental impact.

The Peat Management Plan can then form a basis for any detailed peat management proposals required within the Construction Environmental Management Plan.

The Peat Management Plan should include:

- A detailed map of peat depths (this must be to full depth) with all the built elements overlain so it can clearly be seen how the development avoids areas of deep peat. The peat depth survey should include details of the basic peatland characteristics, including a break down of acrotelmic, catotelmic and amorphous peat. This information is often already required as part of any peat slide risk assessment.

- A table showing where surplus peat will be generated and what the quantities will be.

- A table showing what quantity of this surplus peat will catotelmic and what quantity will be acrotelmic;

- A map showing where any temporary peat storage areas will be located and how these storage areas, along with any associated access roads, avoid any watercourses, groundwater dependant terrestrial ecosystems or other sensitive areas. In addition details should be submitted of how the storage areas will be constructed, calculations demonstrating the need for these storage areas, how thick the peat will be stored, what types of peat will be stored and how the peat will be maintained fit for re-use. This information may also be of interest to geotechnical engineers assessing the peat stability proposals. Please note that any soils or peat stored for greater than 3 years will require a permit under The Landfill (Scotland) Regulations 2003.

- A table demonstrating the principles of where catotelmic peat will be re-used and approximately how much will be re-used including details of width and thickness;

- A table demonstrating the principles of where acrotelmic peat will be re-used and approximately how much will be re-used including details of width and thickness;

We would expect all these proposals to 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.

An example of a peat balance table is enclosed in Appendix 1 of this letter however this is just an example and the applicant may have a better way of illustrating the required peat information. The use of a table often illustrates where further peat minimisation is necessary and where best to re-use any surplus peat.

In our experience there a number of common issues which we often query within Peat Management Plans and therefore we wish to take the opportunity to highlight these below so that they can be addressed in the Peat Management Plan.

Any proposals for road shoulders should follow the best practice guidance detailed in Pages 14 and 15 of the Scottish Renewables Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste, Page 27 of the Scottish Natural Heritage (SNH) and Forestry Commission (FCS) Floating Roads on Peat guidance and Pages 38 and 39 of SEPA, SNH and Scottish Renewables and FCS guidance Good practice during windfarm construction. Please note that only fibrous peat is likely to be suitable for battering road verges. Any landscaping or road batters should be limited to the areas of ground already disturbed.

- Details of where alternate construction techniques have been used such as piling or floating roads should be submitted and then this should be detailed within the Peat Management Plan as it shows how the disturbance of peat has been minimised where possible. For example this could be simply shown on a map showing the location of floating or upgraded roads and piled turbine bases alongside a peat balance table.

- Where peat is re-used details of how the hydrology and drainage will be managed to maintain the peat integrity should be detailed. For example how will peat turves be used, how will hydrology be maintained to prevent drying out and subsequent oxidisation?

- Where it is proposed to re-use peat for any borrow pit restoration or peat land restoration works, details of the target National Vegetation Community and how the drainage will be designed to achieve and maintain this vegetation should be submitted.

- Please note that current good practice is that any crane hardstanding areas should be left in place with no peat cover to allow access for maintenance. In addition the aggregate layer of the hardstanding may act as a drain and peat can dry out.

By adopting an approach of minimising disruption to peatland, the volume of excavated peat can be minimised and the commonly experienced difficulties in

dealing with surplus peat reduced. The generation of surplus peat is a difficult area which needs to be addressed from the outset given the limited scope for re-use.

There are important waste management implications of measures to deal with surplus peat as set out within our Regulatory Position Statement - Developments on Peat. Landscaping with surplus peat (or soil) may not be of ecological benefit and consequently a waste management exemption may not apply. In addition we consider disposal of significant depth of peat as being landfilled waste, and this again may not be consentable under our regulatory regimes. Experience has shown that peat used as cover can suffer from significant drying and oxidation, and that peat redeposited at depth can lose structure and create a hazard when the stability of the material deteriorates. This creates a risk to people who may enter such areas or through the possibility of peat slide and we are aware that barbed-wire fencing has been erected around some sites in response to such risks.

It is therefore essential that the scope for minimising the extraction of peat is explored and alternative options identified that minimise risk in terms of carbon release, human health and environmental impact. Early discussion of proposals with us is essential, and an overall approach of minimisation of peatland disruption should be adopted. If it is proposed to use some excavated peat within borrow pits or bunding then details of the proposals, including depth of peat and how the hydrology of the peat will be maintained, should be outlined in the ES or planning submission. Our Planning and Energy webpage provides links to current best practice guidance on peat survey, excavation and management.

Existing groundwater abstractions

Roads, foundations and other construction works associated with large scale developments can disrupt groundwater flow and impact on groundwater abstractions. To address this risk a list of groundwater abstractions both within and outwith the site boundary, within a radius of i)100 m from roads, tracks and trenches and ii) 250 m from borrow pits and foundations) should be provided. If none are present, as seems likely, this should simply be confirmed in the ES.

If groundwater abstractions are identified within the 100 m radius of roads, tracks and trenches or 250 m radius from borrow pits and foundations, then either the applicant should ensure that the route or location of engineering operations avoid this buffer area or further information and investigations will be required to show that impacts on abstractions are acceptable. Further details can be found in Appendix 2 (which is also applicable to other types of developments) of our Planning guidance on windfarm developments.

Engineering activities in the water environment

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.

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. 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. There are only a couple of watercourses within the site boundary and it should be ensured that turbines are located away from these features and tracks are designed to make single, direct crossings.

Water abstraction

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.

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.

Pollution prevention and environmental management

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.

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 and draft Construction Environmental Management Plan 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. Details of the specific

issues that we expect to be addressed are available on the Pollution Prevention and Environmental Management section of our website.

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.

Borrow pits

Detailed investigations in relation to the need for and impact of such facilities should be contained in the ES. Where borrow pits are proposed, information should be provided regarding their location, size and nature. In particular, details of the proposed depth of the excavation compared to the actual topography and water table should be submitted. In addition details of the proposed restoration profile, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement should be submitted.

The impact of such facilities (including dust, blasting and impact on water) should be appraised as part of the overall impact of the scheme. Information should cover, in relation to water; at least the information set out in 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 abstraction or groundwater dependent terrestrial ecosystem within 250 m of the borrow pit. Additional information on groundwater is provided above.

Flood risk

The site should be assessed for flood risk from all sources in line with Scottish Planning Policy (Paragraphs 196-211). If all infrastructure, apart from watercourse crossings, are located well away from the watercourses and the crossings themselves are designed to allow passage of the 1 in 2000 year flood event we do not foresee the need for detailed consideration of this issue

However if a flood risk is identified then a Flood Risk Assessment should be carried out following the guidance set out in our "Technical flood risk guidance for stakeholders" and (if relevant) "Technical Guidance Revision Note 1 - the Estimation of Coastal Sea Levels" both of which can be found on the planning and flood risk section of our website.

Regulatory advice for the applicant

Details of regulatory requirements and good practice advice for the applicant can be found on our website at www.sepa.org.uk/planning.aspx. 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:

Graesser House, Fodderty Way, Dingwall Business Park, Dingwall IV15 9XB
Tel: 01349 862 021

Should you wish to discuss this consultation, please do not hesitate to contact SEPA on 01349 860359 or planning.dingwall@sepa.org.uk.

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									

3. SNH

SNH provided some pre-application advice to the applicant during a site visit in August.

Natural heritage advice

Our advice is that development in this area raises two main concerns. Careful consideration of these issues will be required during the design iteration process as part of the Environmental Impact Assessment (EIA):

Landscape and visual

Detailed information regarding the development is understandably limited at this early stage. However, it is possible for us to advise on the general approach to landscape and visual impact assessment (LVIA) and a number of potential impacts. Our advice is that the scale of the proposed development is likely to produce major landscape and visual impacts across some areas, notably Strath Brora, both in its own right and cumulatively. It is also likely to produce impacts on an area of wild land character, contributing to cumulative attrition of wild land characteristics**.** At this stage it is not possible for us to advise if the proposed Gordonbush extension would have such significant adverse impacts that could lead us to object. However we highlight this as a possibility, given the sensitivities of the location**.** We have the following advice to inform the LVIA and reduce the potential impacts:

The ZTV provided in the scoping report suggests widespread visibility, illustrating the potential for major impacts to occur. Our advice is that the design process should consider and seek to reduce potentially significant landscape impacts. For example, from the information presented in the scoping report, there may be acute impacts on Strath Brora, which includes areas within the Loch Fleet, Loch Brora & Glen Loth Special Landscape Area (SLA). The SLA citation document, produced by the Highland Council, recognises the contribution made by the local character of such straths and the attributes across the hills between Strath Brora and Glen Loth. The citation document also refers to existing wind energy development and the potential for further development to adversely affect the SLA. The LVIA should refer to the key characteristics, special qualities and sensitivities contained in the citation.

During the design iteration process, our advice is that the following landscape and visual impacts and effects will also require to be considered and minimised:

- The visual influence of the development on road users travelling on the minor road between Brora and Rogart.
- Potential effects on recreational users.
- Potential effects on residential visual amenity.
- Visibility of the development through the Strath Brora ‘corridor’.
- Effects on westward views from hills between Strath Brora and Glen Loth.

- Other visual impacts of associated development, for example housing transformers in turbine towers and siting the construction compound, welfare building and borrow pits so as to reduce impacts.

We welcome the intention, once the design process has progressed, to seek further advice from us and the Highland Council over the proposed view point list. With regard to the presentation of visualisations, our advice is that the *Visual Representation of Wind Farms* guidance is currently under review, and is likely to be published before the end of 2013. We recommend that the applicant monitors our website to ensure that they follow the most appropriate version of the guidance for the time of their planned Environmental Statement (ES) submission.

We are pleased that a Wild Land Assessment (WLA) will be carried out. Our advice is that although the Search Areas for Wild Land (SAWLs) currently continue to be applied, the WLA should also be supported and informed by other information. For example, our 2012 wildness maps, which have informed the proposed Core Areas of Wild Land (CAWLs). As stated within our wild land guidance, the applicant should consult us on their draft wild land assessment methodology prior to carrying out their WLA.

Carrying out a robust and up to date cumulative assessment will be a critical part of the EIA process, given the level of consented, constructed, application and scoping wind farms in the area. Given the diverse combinations of developments that could arise, it would be beneficial for the cumulative assessment to separately consider the below scenarios. For each scenario, our advice is that the assessment should focus on the additional effects and impacts that would be produced by the proposed Gordonbush extension:

- The proposal's cumulative impacts in conjunction with consented and operational wind farms in the study area.
- The proposal's cumulative impacts in conjunction with consented and operational wind farms in the study area plus those for which planning applications have been submitted.
- The proposal's cumulative impacts in conjunction with consented and operational wind farms in the study area, those for which planning applications have been submitted plus those for which scoping reports have been submitted and there is detailed layout information.

In addition, our advice is that the following cumulative issues should be used to inform the design process:

The existing Gordonbush wind farm comprises 35 turbines, each at a height of 110m to blade tip. The proposed extension turbines are stated as being up to 132m to blade tip. Our advice is that the notable difference in turbine scale is likely to produce visual conflict, so alternative design should be considered.

- Minimising visual conflict with other wind farm development, eg scale and layout.
- Minimising cumulative effects on designated landscapes.

- Minimising cumulative effects on landscape character. The development has the potential to produce major cumulative effects on the landscape and visual experience of Strath Brora, for example. Avoidance and mitigation of such effects should be demonstrated.
- Minimising cumulative effects on the SAWL and other areas possessing wild land character.

Protected areas

Otter using the Allt a Mhuilinn and associated watercourses along the western boundary of proposed development site are likely to be connected to the Caithness & Sutherland Peatlands Special Area of Conservation (SAC). Otter are a qualifying interest of the SAC. Our advice is that results from the proposed otter survey should be used to ensure that impacts on otter are avoided or reduced to a minimal level through mitigation.
Our advice is that the proposed development site is also within the foraging range of all of the qualifying interests of the Caithness & Sutherland Peatlands Special Protection Area (SPA), and the golden plover feature of the nearby Coir an Eoin Site of Special Scientific Interest (SSSI), which is also a component of the SPA. Our advice is that the bird interests from these protected areas will require thorough assessment as part of the EIA process. However, from the available information, we do not consider that the habitat features of the above SSSI, or associated SAC, will be affected. Effects on the habitats of these protected areas can therefore be scoped out.

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 applicant 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.

There are other protected areas in the vicinity of the proposed development. However, based on the information presented in the scoping report, we do not consider that they will be affected either directly or indirectly. Should the proposal change significantly, we would expect the applicant to review the list of sites and assess any additional sites affected as part of the EIA process.

Advice on the scope of the EIA

In addition to the advice provided in section 1 above, we are broadly content with the scope of proposed EIA for other natural heritage interests within our remit. We welcome the approach of using lessons learnt at the existing Gordonbush wind farm to inform the EIA for the proposed extension, whilst also referring to subsequent good practice and guidance.
In addition to the two main concerns identified in section 1, there are other natural heritage interests likely to be affected by the proposed development. These include protected species and sensitive habitats. Careful design and mitigation will be required to reduce these impacts to a minimal level. We refer the applicant to our general scoping advice (available via

http://www.snh.gov.uk/planning-and-development/renewable-energy/onshore-wind/general-advice-and-information/) for more information on this, aswell as advice on the format of the ES. We also have the following specific advice in relation to information provided in the scoping report:

- Based on the information provided in the scoping report and supplementary information provided separately by the applicant, we do not consider that further bird survey work is required to inform the EIA. This is because surveys and monitoring at the existing Gordonbush wind farm provide useful supplementary information on the pattern of bird activity in the area. Because of this, and the low levels of bird activity recorded during the 2012/13 survey work carried out for the proposed extension, it should be possible to use the previous survey/monitoring information collected for the existing Gordonbush wind farm to supplement the 2012/13 survey work for the extension.
- We note that reptile surveys are included in the proposed scope of work. Our advice is that provided appropriate mitigation measures are put in place pre and during construction, then a reptile survey would not be required prior to application submission. An example mitigation plan for a large scale development that may be useful for the applicant to refer to is the plan produced for the Beauly-Denny power line. However our advice is that it would be appropriate to scale down the survey effort for the developments of a smaller scale than the Beauly-Denny line. A mitigation plan should be provided in the ES for the Gordonbush extension.
- We note that one of the proposed borrow pits is located outwith the proposed development boundary, and that borrow pits used for the existing Gordonbush wind farm are intended to be re-opened. We welcome the intended reuse of the existing borrow pits, as this should prevent additional environmental damage occurring. However, we recommend that the advice of the Highland Council is sought in relation to any planning conditions applied to the original borrow pits and their restoration, to ensure that full consideration is given to planning and environmental needs during the EIA.

Concluding remarks

While we are supportive of the principle of renewable energy, our advice is that, without careful design and layout, there may be adverse cumulative landscape and visual impacts from a wind farm in this location. This may lead to an objection should an application be submitted. Our comments are however 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 response, please contact Nina Turner (Renewable Energy Casework Advisor, North) at SNH, Great Glen House, Leachkin Road, Inverness

4. Forestry Commission Scotland

Introduction

This document represents Forestry Commission Scotland (FCS) opinion and advice on the proposed Gordonbush Wind Farm Extension, as described in the Scoping Report for the project.

In this response FCS gives its advice on the inclusion of a Long Term Forest Plan for the development area and the possible requirement for a Compensatory Planting Plan.

Background

FCS supports the Scottish Government's commitment on renewables. FCS is the Scottish Government's (SG) competent authority on forests and woodlands. As such, FCS advises on the evaluation of development proposals when they may have an effect on a woodland environment.

FCS Assessment of the Scoping Report in relation to woodland

2.10 describes the Habitat Management Plan. 2.10.3 refers to a Woodland Plan. FCS welcomes the inclusion of a woodland plan. This will be expected to take the form of a Long Term Forest Plan to be included within the Gordonbush Extension ES.

The key to this is in the production of a LTFP for the area to include any felling or thinning and the restocking proposals for the sites. This should also include any other woodland management proposals taking into account not only the site but the wider environment. The LTFP should be prepared in consultation with FCS, Local Authority, SNH, landowners and other interested parties. Guidance on the compilation of a LTFP can be found here: http://www.forestry.gov.uk/pdf/fcfc134.pdf/$FILE/fcfc134.pdf

The LTFP should also include reference to the Highland Council Highland Forest and Woodland Strategy which can be found here: http://www.highland.gov.uk/yourenvironment/agriculturefisheriesandforestry/treesandforestry/highland-forest-and-woodland-strategy.htm

Woodland Removal

If there is felling and woodland removal proposed then the Scottish Government Woodland Removal Policy must be taken into account, this can be found here: http://www.forestry.gov.uk/woodlandremoval

Compensatory Planting Plan

Details of the proposed mitigation should not be left to post-consent Habitat Management Plans (or others) to decide and implement. The specifics of the proposed mitigation should be included in a Compensatory Planting Plan, appropriately described in the ES, as they are vital in understanding the development in full.

The ES should contain information about the exact area of compensatory planting (in hectares) that is to be carried out both on site and off site. Any woodland removal is likely to result in a requirement for compensatory planting for an area yet to be determined. FCS would seek that this was a condition of approval and that compensatory planting had to be in place prior to construction commencing.

Any compensatory planting outside the current planning area would be subject to The Environmental Impact Assessment (Forestry)(Scotland) Regulations 1999. These can be found here: http://www.forestry.gov.uk/forestry/infd-5zgkwl

FCS would be happy to work with the developers as plans progress so that a Compensatory Planting plan can be developed.

If you have any queries on this advice please contact Richard Wallace. The contacts are given below.

Richard Wallace
Forestry Commission Scotland
Highland and Islands Conservancy
Woodlands, Fodderty Way
Dingwall
Ross-shire
IV15 9XB

Email: richard.wallace@forestry.gsi.gov.uk

Office: 01349 862144
Direct: 01349 860911

5. Historic Scotland

Our comments here concentrate on our statutory remit for scheduled monuments and their setting, category A listed buildings and their setting and gardens and designed landscapes and battlefields appearing in their respective Inventories. I am responding on behalf of Historic Scotland. The Highland Council's Conservation and Archaeology Services will also be able to advise on the potential for significant impacts on the historic environment and of potential impacts and mitigation for any sites of regional and local importance.

I welcome the recognition within the scoping report of the need to consider the potential impact on the setting of historic environment assets within the vicinity of the proposal as well as the potential for direct impact on sites within the footprint of the development. In terms of our statutory remit we would request that an assessment of the potential impact on the following sites is provided:

- Ascoile, earthwork 890m SE of (Index no 3288).
- Kilbraur, hut circle & clearance cairns 270m SW of (Index no. 1793)
- Balnacoil Hill, cairn 530m NE of Balnacoil Lodge, Strath Brora (Index no. 1769)

Particular consideration should be given to the potential for cumulative impacts on the setting of these sites in relation to the original Gordonbush Windfarm and other proposals in the area. It would be helpful if identified impacts on these sites be illustrated with wireframes or photomontages. In carrying out the assessment I would advise you to consider our guidance on the setting of historic environment assets which can be found at http://www.historic-scotland.gov.uk/setting-2.pdf.

In terms of the potential for direct impact on the scheduled earthwork at Ascoile from the access arrangements in the construction phase, the assessment should recommend appropriate mitigation in line with that previously issued for the original Gordonbush application. For information, in response to a consultation on a Planning conditions compliance statement from The Highland Council regarding this issue we offered the following comments in our letter to the council dated 7 April 2010.

Our interest lies in the prevention of direct impacts to the scheduled monument known as Ascoile, earthwork SE of (Index no 3288). You should seek advice on unscheduled archaeology from your Council's archaeological advisor if you have not already done so.

I can confirm the we are content with the mitigation proposed in the cultural heritage appraisal document for our scheduled monument interests. For ease of reference, that is

- Archaeological surveyor to set out a buffer zone 2m outwith the scheduled area and mark with wooden posts to ensure the system is not moved/removed
- Erect champion barrier system around buffer zone
- Temporary widening of the track floated over suitable terram like membrane to be created on the east side of the road opposite the earthwork to reduce the risk of damage to the monument
- All construction staff to be briefed on the importance/relevance of the barriers
- The barrier will be regularly monitored by the developer's archaeologist

Should you wish to discuss any issue raised in this response please do not hesitate to contact me at the above details.

6. Marine Scotland

Onshore wind farm and transmission line developments which are considered under Section 36 and 37 of the Electricity Act (1989) may adversely affect freshwater and diadromous fish and associated fisheries through a number of mechanisms. These include: increased sediment transport and deposition; pollution incidents; altered hydrological pathways; removal or degradation of fish habitat, including spawning areas; reduction in food supply and obstruction to upstream and downstream migration of fish. The principal species of concern are Atlantic salmon, trout (sea and brown trout) and European eel.

Marine Scotland Science Freshwater Laboratory (MSS-FL), which is part of the Scottish Government, provides internal advice to the Energy Consents and Deployment Unit (ECDU) in relation to the above potential impacts. This guidance note outlines MSS-FL's advice on matters which we consider should be addressed in Environmental Statements (ES).

Fish and fisheries issues are also of concern to local District Salmon Fishery Boards (DSFBs), which have a statutory responsibility to protect salmon and sea trout populations. If a DSFB is in place, it should also be consulted. In addition to the DSFBs, local Fisheries Trusts have information regarding local fish populations. The following web sites have lists which include most DSFBs and Fisheries Trusts in Scotland:

http://www.asfb.org.uk
http://www.rafts.org.uk

Fish and fisheries issues are also of concern to Scottish Natural Heritage (SNH) when species of conservation interest are involved (see http://www.snh.gov.uk/about-scotlands-nature/species/fish/freshwater-fish/) and to the Scottish Environment Protection Agency (SEPA) due its role in ensuring compliance with the requirements of the Water Framework Directive.

Environmental Statement

In preparation of the ES careful consideration should be given to the following activities during construction, operation and decommissioning which can have an impact on fish and fisheries: construction of turbine foundations, excavation of borrow pits, road construction/upgrading, cable laying, water abstraction and discharge.

Water-bodies and stream crossings

It is recommended that construction avoids water bodies wherever possible. If construction is to be carried out near waterbodies and watercourses, a buffer zone of at least 50m should be established. Where river crossings are proposed the Scottish Executive guidance "River Crossings and Migratory Fish" (2000) http://www.scotland.gov.uk/Topics/marine/science/Publications/publicationslatest/rivercrossings should be consulted in addition to SEPA's "Engineering in the Water Environment Good Practice Guide Construction of River Crossings" (http://www.sepa.org.uk/water/water_regulation/guidance/engineering.aspx).

Peat stability

Peat slides can have a direct impact on fisheries and peat disturbance can have indirect effects on water quality, therefore all construction should avoid areas of deep peat and where this is not possible appropriate mitigation measures should be put in place. Natural peat drainage channels should be preserved throughout the development; excavated material should not be stock piled in areas of unstable peat; concentrated water flows onto peat slopes should also be avoided.

Flooding

The propensity of the development site to flooding, prior to any construction activities, should be considered. Drainage throughout the proposal should be designed such that it does not alter surface water runoff leading to a reduction in baseflows or influence the magnitude and/or frequency of flooding. Such changes in the hydrological regime can have a large impact on local fish populations.

Abstraction and discharge of water

SEPA, through The Water Framework Directive, regulates abstraction from and discharge of polluting matter to all wetlands, surface waters and groundwaters. (SEPA-The Water Environmental (Controlled Activities) (Scotland) Regulations 2005 A Practical Guide http://www.sepa.org.uk/water/water_regulation.aspx*).* Surface water run-off must be discharged in such a way to minimise the risk of pollution of the water environment.

Pollution

The Water Framework Directive requires any activity that is liable to cause water pollution to be authorised by SEPA. This includes point source pollution (eg sewage and trade effluent) and diffuse pollution (fuel, concrete spills, sediment discharge) all of which can be detrimental to the survival of fish see SEPA Pollution Prevention Guidelines http://www.netregs.gov.uk/netregs/links/107968.aspx

Acidification

Particular attention should be paid to acidification issues if they are known to be a problem in the area. Anthropogenic acidification of freshwaters is largely caused by the input of sulphur and nitrogen compounds, derived from the combustion of fossil fuels, exceeding the buffering capacity of the soils and underlying rocks through which the streams flow. Peat deposits and marine derived sulphates can also contribute to acidity. Salmonid fish are particularly sensitive to acid water, particularly due to the increased mobility of labile aluminium in acid conditions which is toxic to aquatic organisms.

Forestry

The developer should be aware of the potential impacts of tree felling on the aquatic environment including nutrient release, increased acidification risk, loss of habitat, impacts on hydrology, increased fine sediment transport and deposition, all of which can have a detrimental impact on fish populations and should therefore be addressed in the ES. “The Forest and Water Guidelines” should be consulted for further information http://www.forestry.gov.uk/forestry/infd-8bvgx9.

Monitoring Programmes

In order that MSS- FL can assess the potential impact of developments the developer should provide information on all species and abundance of fish within the development area and on fisheries which depend on these. MSS- FL may not have local knowledge of the site and consequently the onus is on the developer to provide adequate information on which to base an assessment of risk.

Where local salmonid and eel populations are present and the development has the potential to have an impact on the freshwater environment MSS FL requests that a baseline study be carried out at least one year prior to construction to assess all species and abundance of fish and water quality in standing and running waters likely to be affected by the proposed development. Particular attention should be paid to species of high economic and/or conservation value as outlined below:

Atlantic salmon, sea lamprey, river lamprey and brook lamprey are listed under the European Habitat Directive. Atlantic salmon, trout (ancestral forms and sea trout), European eel, river lamprey, sea lamprey and Arctic charr are UK Biodiversity Action Plan (UKBAP) species-listed as priorities for conservation. European eel is also protected by EU regulation (EC No 1100/2007). The following links provide further information regarding the protection of fish species and water bodies in Scotland.
http://www.jncc.gov.uk/ProtectedSites/SACselection/SAC_species.asp
http://www.jncc.gov.uk/ProtectedSites/SACselection/SAC_list.asp?Country=S
http://www.jncc.gov.uk/page-5164
http://www.nasco.int/pdf/far_habitat/HabitatFAR_Scotland.pdf

Although MSS-FL will be primarily concerned with species of fisheries interest (e.g. salmon, trout and eels), other consultees will have an interest in other species.

Adherence to best available techniques is expected throughout the development. Site specific mitigation measures and/or enhancement programmes to protect and/or compensate freshwater habitats should always be included in the ES.
Monitoring throughout the development phase should be carried out to identify impacts and allow remediation at the earliest opportunity for sites where there are thought to be risks to fish populations. The experimental design of the monitoring programme should focus on the risks presented by the development and be clearly justified. Methods of analysis, reporting mechanisms and links to site management should also be clearly identified. The following publication may be helpful in considering fish monitoring programmes; http://www.scotland.gov.uk/Uploads/Documents/SFRR_67.pdf .

Developers should ensure that all fish work complies with the Animal (Scientific Procedures) Act (1986) and Animal Health and Welfare (Scotland) Act (2006) where required.

The combined effect on water quality and fisheries from all existing and proposed construction developments in the area should be addressed in the

ES in addition to angling, as a recreation interest, and the impact that the proposed development may have on it.

Where the development can be clearly demonstrated to be of low risk to fish populations the developer should still draw up **site specific** mitigation plans to minimise any impact to fish and their inhabiting waters. If the developer considers that there will be no significant impact from the development and as such no monitoring will be required this should be clearly presented in the ES with supporting data and information thereby enabling MSS-FL to finalise the decision on monitoring requirements. If this information is not provided, MSS-FL will have no information on which to base an assessment of risk and as such will recommend that the developer carry out a full monitoring survey of fish and water chemistry in addition to appropriate mitigation plans. Due to limited staff resources MSS-FL normally do not attend meetings held in relation to proposed developments.

Summary

- MSS-FL is an internal Scottish Government consultee providing scientific advice to ensure onshore wind farm and transmission lines have minimal impact on fish populations and fisheries in Scotland.
- Other organisations including DSFBs, Fishery Trusts, SNH and SEPA also have an interest in fish and fisheries issues and should be consulted as appropriate.
- Energy developments can impact fish populations through a wide range of mechanisms that need to be considered in the ES.
- It is the responsibility of the developer to provide data on the distribution, species and abundance of fish within and around the development site to allow MSS-FL to assess levels of risk from the proposed development.
- It is the responsibility of the developer to provide a clear and honest assessment of the risks posed to fish populations as a result of the proposed development.
- If there is any reasonable doubt as to the potential impacts a monitoring plan should be put in place to assess impacts and allow remedial action at the earliest opportunity.
- Monitoring plans should be clearly defined and justified and must tie into site management.

Useful links

Good practice during windfarm construction:
http://www.snh.org.uk/pdfs/strategy/renewables/Good%20practice%20during%20windfarm%20construction.pdf

SEPA water publications:
http://www.sepa.org.uk/water/water_publications.aspx

Peat Landslide Hazard and Rish Assessments: Best Practice Guide for proposed Electricity Generation Developments.

http://www.scotland.gov.uk/Publications/2006/12/21162303/0

SFCC electrofishing protocols:
http://www.scotland.gov.uk/Topics/marine/science/sfcc/Protocols/ElectrofishingSurveys

Construction of floating roads:
http://www.roadex.org/uploads/publications/Seminars/Scotland/FCE:SNH%20Floating%20Roads%20on%20Peat%20report.pdf

7. Transport Scotland

With reference to recent correspondence received from Ash Design and Assessment Limited on the above development, we write to inform you of our involvement as Term Consultants to Transport Scotland – Trunk Road and Bus Operations Directorate (TRBOD) in relation to the provision of advice on issues affecting the trunk road network.

We have received a copy of the Environmental Statement (ES) Scoping Report prepared by Ash on behalf of SSE Generation Limited in support of the above development. Having reviewed the information provided, we would make the following comments on behalf of Transport Scotland.

Development Proposals

We understand from the Scoping Report provided by the applicant that the proposed development is to erect an additional 20 wind turbines with an installed capacity in excess of 50 Mega Watts (MW) on land adjacent to the existing and operational Gordonbush Wind Farm. We note that the operational Gordonbush Wind Farm consists of 35 wind turbines and associated infrastructure with a total installed capacity of 72MW of electricity.

The proposed Gordonbush Extension is located approximately 9.5 km to the north-west of Brora within the Highland region of Scotland. The site is located to the south of the operational Gordonbush Wind Farm. The site is located to the north of the C6 Strath Brora Road. This road provides access to the A9(T) which is the nearest trunk road providing strategic access to the site.

Access Strategy

We note from the scoping note that access to the development site will be off the C6 Strath Brora road located on the west of the site. It is noted that the C6 Strath Brora Road is part of the local road network and in these circumstances, Transport Scotland have no specific comments to make on the actual access point itself.

The Scoping Report does not identify where Abnormal Loads will be transported from but we assume that they will be transferred via the A9 from the nearest available port. The Report notes that abnormal loads are likely to follow the same routes as the loads associated with the adjacent Gordonbush Wind Farm which is now operational.

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, notwithstanding any previous use of the route. The details required would include a report which considers the movement of abnormal loads including swept path analysis, 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.

Assessments of Impacts

With regard to the potential environmental impact of 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 Scoping Report does note that the construction phase is likely to last approximately 18 months but there is little further detail at this stage. The Environmental Statement should provide more detailed information with regard to the construction stage including the preferred route options for the movement of heavy loads, and any anticipated construction staff movements via the trunk road network during the construction period along with an estimate of vehicle trip generation from the site and an indication of distribution / assignment of these trips.

In addition, information must be supplied identifying potential environmental impacts on the trunk road once the development is operational.
We would generally advise that the assessment of environment effects of road traffic should be undertaken in accordance with the guidance set out within the Institute of Environmental Assessment (IEA) publication “Guidelines on the Environmental Assessment of Road Traffic (Guidance Note 1)”, 1993. The IEA guidelines generally advises that further assessment should be undertaken on:

- “Highway links where traffic flows will increase by more than 30% (or the number of HGV’s will increase by more than 30%); and
- Any specifically sensitive areas where the traffic flows have increased by 10% or more.”

Potential trunk road related environmental impacts such as noise, air quality, driver delay, pedestrian amenity, safety etc should be considered and assessed where appropriate (i.e. Where IEA thresholds for further assessment are exceeded). In the case of the Environmental Statement, 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 and Vibration

Chapter 4.10.6 summarises the relevant legislation and standards for noise assessment, including CTRN and PAN1/2011. Operational traffic noise and construction traffic noise should be assessed by considering the increase in traffic flows and following the principles of 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.

The report notes that predictions will be made for construction noise and this is acceptable. Noise impacts to sensitive receptors during the operational phase should also be considered although it is recognised that the site is in a sparsely populated area and is some distance from the trunk road, suggesting that these effects may be scoped out at this stage. As detailed above, if noise and vibration issues are scoped out, the justification for this should be documented within the EIA.

Air Quality

The Scoping Report proposes not to consider the impact of the development on Air Quality. Again if this is to be scoped out, the reasons should be documented with the EIA. Where a significant change in road traffic characteristics has been identified as a result of the proposed development, changes in air quality at a worst case scenario sensitive receptor adjacent to the trunk road will require further assessment. We note the IEMA guidelines for identifying when an impact is significant; however we would advice that should an assessment be required, we would request the use of the alternative guidelines below.

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. Transportation/ 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 me at our Glasgow Office.

8. Association of Salmon Fishery Boards

No response received.

9. BT

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 indicated should not cause interference to BT's current and presently planned radio networks.

10. CAA Airspace

Having reviewed the Scoping Report for the proposed Gordonbush Wind Farm Extension, appropriate aviation consultees have been identified in Section 4.14

although the positions of each consultee regarding the proposed development should be established by consultation. The report correctly discusses the potential impact that wind turbines have on the communications, navigation and surveillance infrastructure but it should be remembered that turbines can cause a physical obstruction to aviation stakeholders which must be taken into account.

I would add the need, if the proposed development is approved, to inform the Defence Geographic Centre icgdgc-aero@mod.uk of the locations, heights and lighting status of the turbines and meteorological masts, the estimated and actual dates of construction and the maximum height of any construction equipment to be used, prior to the start of construction, to allow for the appropriate inclusion on Aviation Charts, for safety purposes.

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

11. Crown Estate

This proposal does not affect the interests of The Crown Estate. I can confirm that we have no comment to make

12. Defence Infrastructure Organisation

I am writing to inform you that the MOD objects to the proposal. Our assessment has been carried out on the basis that there will be 20 turbine(s), 132 metres in height from ground level to blade tip and located at the grid references (only the 4 corners of the development) below as stated in the planning application or provided by the developer:

Turbine	100km Square letter	Easting	Northing
1	NC	83158	11912
2	NC	84186	11529
3	NC	86122	13540
4	NC	84583	15008

Low Flying

The turbines will be within low flying area LFA 14 and will affect military aircraft approaching the RAF Tain Air Weapon Range.

The MOD will require that the proposed Windfarm is fitted with 25 candela omni-directional red lighting or infrared lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration. These warning beacons will need to be fitted to the highest practical point of relevant turbine structures. This would need to be finalised when a detailed layout plan for the Windfarm is submitted

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*:**
http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm

13. Joint Radio Company

Cleared with respect to radio link infrastructure operated by:-

Scottish Hydro (Scottish & Southern Energy) and Scotia Gas Networks

JRC analyses proposals for wind farms on behalf of the UK Fuel & Power Industry and the Water Industry in north-west England. This is to assess their potential to interfere with radio systems operated by utility companies in support of their regulatory operational requirements.

In the case of this proposed wind energy development, JRC does not foresee any potential problems based on known interference scenarios and the data you have provided. However, if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the proposal.

In making this judgement, JRC has used its best endeavours with the available data, although we recognise that there may be effects which are as yet unknown or inadequately predicted.JRC cannot therefore be held liable if subsequently problems arise that we have not predicted.

It should be noted that this clearance pertains only to the date of its issue. As the use of the spectrum is dynamic, the use of the band is changing on an ongoing basis and consequently, developers are advised to seek re-coordination prior to considering any design changes.

14. Mountaineering Council of Scotland

MCofS will not make a formal response to the scoping opinion request.

15. NATS

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.

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 application 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..

16. RSPB Scotland

We are concerned that this scoping consultation is taking place **after** bird surveys have been completed which is not good practice. Had there been significant shortcomings in methods, there would likely be a need for repeat surveys which would cause unnecessary delays in consideration of development proposals, something the industry is keen to minimise.

Whilst bird survey methods conform generally to SNH guidance current at the time, there is a lack of detail provided in the Scoping document eg locations of vantage points and maps showing viewsheds. However, it is made clear (Para 1.4.4) that further consultation, to include agreement on specialist assessment methodologies, with relevant statutory and non-statutory bodies will follow receipt of the Scoping Opinion. RSPB Scotland wishes to be involved in this process.

Since bird surveys were carried out – but, crucially, before this Scoping consultation started – SNH issued revised guidance on recommended bird survey methods to inform impact assessment of onshore wind farms. This specifies a 4-visit Brown and Shepherd survey. A 3-visit survey has been undertaken; highlighting the inadequacy of a Scoping consultation after fieldwork has been done. However in this instance, we do not consider a resurvey necessary.

The new SNH guidance places greater emphasis on the likely requirement for two years of survey. In this instance, a second season of breeding bird surveys were undertaken as the 2012 survey was done at a time when site traffic was greater than would typically occur during operations and disturbance levels were atypical of the operational wind farm. The Applicant must clearly demonstrate that the surveys are "*robust and appropriate to the specific proposal."* SNH Guidance says of extensions "*Where further survey is needed a suitable gap should be left between the construction of the first phase and the commencement of survey work for the extension. This will avoid bird activity and the results of the survey work for the extension being influenced by ongoing or recently completed construction work nearby*."

"A schedule of mitigation measures would also be included as an ES appendix "(ES Para 1.5.4). We wish to see a clear statement on commitment to mitigation measures in any future ES produced to accompany a development proposal.

We commend the stated intention to consider within the EIA process lessons learnt from the constructed Gordonbush wind farm. (ES Para 1.5.10)

We concur with the stated intention to treat the Habitat Management Plan (HMP) for Gordonbush as a receptor. This site (where the extension is proposed) forms part of the area to be managed to compensate for adverse impacts of the built windfarm. Therefore locating an extension here will not just impact on existing bird populations but will also detract from the agreed measures to compensate for adverse impacts of the constructed wind farm. Although a relatively small part of the HMP area, it is quite large in absolute terms: the core survey area, defined by a 500m buffer around the core development area (Figure 1), covers an area of 9.87 km^2.

Gordonbush wind farm was consented, subject to a number of planning conditions relating specifically to ornithology and was commissioned in 2012. One condition required SSE to facilitate a research project on golden plover – a species recognised then to be potentially affected by wind farm development. RSPB Scotland has carried out this work for SSE but results have not yet been

released into the public domain. It would be premature to progress an application for a wind farm extension to this site until project conclusions have been published and subjected to peer review. Furthermore consent for the existing windfarm was conditional on the developer undertaking ornithological monitoring to elucidate impacts of windfarms and the effectiveness of mitigation measures on breeding birds. Given the proximity of the proposed extension, it would be premature to grant consent without the benefit of this knowledge.

Although bird surveys in 2012 and 2013 did not find breeding merlins on the proposed wind farm site (and we acknowledge that two flights outside the core development area, perhaps relating to the same juvenile male may not indicate local breeding) the consented wind farm site was designed in part to avoid two breeding merlin sites and also to avoid the deeper peats. Adequate justification will need to be given to explain why the site may now be suitable.

We hope you find our comments helpful, should you have any further queries please contact us at the address below in the first instance.

17. Scottish Water

A review of our records indicates that the proposed wind farm does not fall within a Scottish Water Drinking Water Protected Area (DWPA) or catchment, please see attached plan. Loch Horn and Loch Lunndaidh located to south of the proposed wind farm are Scottish Water DWPA that supply Backies Water Treatment Works, the Golspie catchment is no longer in use. It is unlikely that the proposed wind farm would impact on the DWPAs to the south, however if it is determined through the Environmental Impact Assessment process that there could be a potential impact, then Scottish Water would request to be consulted at that stage.

It is essential that sources and assets are protected from the risk of contamination and damage. The precautions in relation to watercourses will only be relevant if it is determined that the wind farm could impact on the DWPAs mentioned above. The following is a list of precautions that we would ask you to take to ensure that the aforementioned does not occur or affect our assets:

- A detailed method statement and a risk assessment must be submitted to Scottish Water and agreed prior to any operations taking place.

- Scottish Water will not accept liability for any costs incurred by you and your developer in fulfilling any of these requirements.

- You should at all times allow Scottish Water access to assets belonging to Scottish Water and must avoid the obstruction or hindrance to them.

- If a connection to the water or waste water network is required, you must make a separate application to the Customer Connections section for permission to connect. It is important to note that the granting of

planning consent does not guarantee a connection to Scottish Water assets.

- You will give full facilities to Scottish Water and our representatives to determine by inspection or otherwise whether our assets and pipelines are protected and whether special requirements of Scottish Water are being observed.

Watercourses

- You and your developer must make every effort to reduce the risk of soil erosion and pollution from oils, etc. during and after the construction phase.

Locations where public water supplies may be vulnerable should be identified and the impact assessed. In particular:

- Any impact to the hydrology of the area should be assessed throughout all stages of the site's development and operation. This should include natural drainage patterns, base flows / volume, retention / run off rates and water quality.
- Any potential pollution risk which could affect water quality should be considered. This includes sediment run-off, erosion and management of chemicals and oils throughout all operations at all stages of development. You should follow appropriate General Binding Rules under the Controlled Activities Regulations and follow the guidance provided by the Scottish Environment Protection Agency (SEPA) on pollution prevention, visit www.sepa.org.uk/guidance/ppg/index.htm
- Any new road infrastructure should take into account local watercourses that are feeding into the watercourse that Scottish Water abstract from and any crossing of these 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 constructed at regular intervals to minimise the risk from pollution. Once constructed, site roads should be regularly maintained to ensure minimal erosion and hence pollution, from the road surface. Sites roads should be constructed from inert materials.
- Depending on the vulnerability of the public water supply, a sampling programme to assess the baseline water quality and to monitor any damaging effects caused by the development may be advised.
- A site pollution prevention plan and contingency plan should be developed to prevent or to deal with pollution incidents.
- Depending on the vulnerability of the public water supply, Scottish Water may request for a dedicated Environmental Manager to be appointed and present on site to assess and monitor any damaging effects caused by the development.

Mitigation measures to ensure minimum pollution to water courses / bodies should be highlighted.

In addition, any forestry activity likely to affect the drinking water supply should follow strict guidelines. Please contact us if you are likely to carry out any such activity.

No refuelling to take place within the catchment area or storage of fuel or hazardous materials.

Water mains, waste water mains and other assets

All structures must be a minimum distance of 10 metres from the nearest water main. All structures must be a minimum distance of either, 3 metres or depth plus 1 metre, whichever is greater, from the nearest sewer.

No stationary plant, equipment, scaffolding, construction or excavated material, etc. should be placed over or close to any Scottish Water assets.

Special care must be taken to avoid covering or filling Scottish Water assets. Arrangements for altering the level of any chambers must be made in agreement with Scottish Water and constructed in accordance with our specifications. You will have to cover the costs of this work.

Excavation or pumping should not be carried out in the proximity of a water or waste water main without due notice having been given to Scottish Water. You will then be asked to comply with our requirements for the particular situation. Special care should be taken to prevent the removal of ground support systems. If they are exposed during excavation work, they must be supported and re-covered according to our requirements.

In the event of any of our assets being damaged, full details must be passed immediately to our local Operations team. No-one can interfere with or operate any Scottish Water apparatus.

You must provide us with adequate notice and full information regarding all proposals for piling or other construction methods that may create vibrations in SW pipelines or ancillary apparatus. It is imperative that your methods of construction adhere to the accepted SW standards in order to minimise vibrations and their effect on the pipelines which could create damage or leakage.

When construction plant is crossing over Scottish Water's existing apparatus, you should ensure the effective use of temporary protection to spread the weight on the water pipes and sewers to within safe working limits.

You or anyone working for you should not interrupt the flow of water or waste water mains.

You should at all times allow us access to assets belonging to Scottish Water. You must avoid the obstruction or hindrance to the prompt and efficient use and manipulation of valves, hydrants, meters or other apparatus, water mains. There should be no interference with the free discharge of scours from water mains.

Prior to any activities commencing on site, please notify Scottish Water and upon completion. In the event of an emergency, please contact Scottish Water on 0845 600 8855.

I trust that the above is acceptable however, if you have any questions relating to the above do not hesitate to contact me at the above address.

18. Visit Scotland

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
Specific Concerns There are specific concerns within the tourism industry about the sheer quantity of renewable sites within the North East of Scotland.

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.

19 Scottish Wildlife Trust

Upon review of the scoping report for the proposed windfarm extension, The Scottish Wildlife Trust would like to draw attention to the following concerns which should be addressed in the EIA:

The proposed extension runs further along the eastern border of a section of the Caithness and Sutherland Peatlands Special Protected Area (SPA) / Special Area of Conservation (SAC) / Ramsar protected site and the Coir an Eoin Site of Special Scientific Interest, putting it directly between the site and Moray firth SAC.

The Caithness and Sutherland Peatlands is listed for red and black-throated divers, greyleg goose and dunlin, as well as a diverse range of breeding waterfowl species.

The Caithness and Sutherland Peatlands is also listed for golden eagle, hen harrier, short-eared owl, golden plover and wood sandpiper. As *the Habitat Management Plan for the exiting windfarm includes* mitigation for negative effects of the wind farm on golden eagle, merlin and golden plover, the Trust would be concerned that the extension may exacerbate these impacts and would expect the cumulative impact of the existing windfarm and the extension to be addressed in detail in the EIA.

Due to its proximity to the Caithness and Sutherland Peatlands site which is known for its high quality blanket bog, avoidance of deep peat and blanket bog should be considered in the design of the extension.

The Scottish Wildlife Trust would like to be kept informed of the progress of this application.

20 Highland and Islands Airports Limited

With reference to the above, our calculations show that, at the given position and height, this development would not infringe the safeguarding surfaces for either Inverness or Wick John O'Groats Airports**.**

However, due to its height and position, a red obstacle light may be required to be fitted at the hub height of some of the turbines.

Provided that this condition is met Highlands and Islands Airports Limited would not object to this proposal.

As a minimum the Civil Aviation Authority (CAA) recommend that all proposed developments over 90m in height should be notified to the CAA through:

Off Route Airspace 5
Directorate of Airspace Policy
Civil Aviation Authority
CAA House
45-59 Kingsway
London WC2B 6TE
Email marks.smailes@caa.co.uk

21 John Muir Trust

The John Muir Trust wishes to comment on the Scoping Report by SSE Generation Ltd for an extension to the operational Gordonbush Wind Farm, located near Brora in Sutherland to construct and operate approximately 20 more turbines on this wind farm.

The John Muir Trust is the leading wild land conservation charity in the United Kingdom. Working with people and communities to conserve, campaign and

inspire, the Trust is a membership organisation that seeks to ensure that wild land is protected and enhanced and that wild places are valued by and for everyone.

Scotland's wild land is an asset of national and international significance but it is a finite resource. Wild land plays a vital role for carbon storage in trees and peatland, gives us clean air, water and food and is home to valuable wildlife. Wild land also plays a vital role in supporting tourism and a wide range of other economic and leisure activities. The Scottish Government has said that wild land is a resource of national importance and indicated that it wishes to adopt Scottish Natural Heritage's proposed core wild land areas map (April 2013), as part of proper consideration and protection of wild land in planning policy.

The Trust is committed to policy principles that support the current targets of the UK Government and devolved governments for greenhouse gas emissions reduction, as these are the primary public policy tools directed at climate change mitigation. However, the Trust does not support the construction of industrial-scale wind energy developments on wild land or developments that would impact adversely on wild land.

The Trust has considered the Gordonbush Extension Scoping Report against its policies. The foot print given in the applicants information shows that the extension will almost double the size of the existing industrial scale wind farm development. The extension would contribute to a cumulative impact which would be severely detrimental beyond the impact of the current development and, as such, will have a significant negative impact on the wild land of the area.

The proposed development is within a Search Area for Wild Land (SAWL) as identified by SNH and must be evaluated against the SNH Policy on Assessing Impacts on Wild Land 2007.

We would point out that the Government's consultation on the NPF3 Main Issues Report and draft SPP closed on 23rd July 2013. Until the results of the consultation have been considered and the finalised NPF3 published the Government has confirmed that the established set of Search Areas of Wild Land would continue to apply. As such the proposers comment that the extension is not within the Draft CAWL which is currently out for consultation should be given no weight (see Scoping Report, Wild Land 4.2.9)

24 <u>Brora Community Council</u>

The Planning Policy is referring to an outdated Sutherland Local Plan 2010.

Any extension to the current Gordonbush Wind Farm should require an official assessment to prove that the existing wind farm is performing efficiently and thus meeting the original targets forecast.

It is known that the current inadequate Grid cannot cope with all the energy currently being produced and turbines are regularly switched off.

From the perspective of householders in close proximity, the noise factor from any cumulative wind farm development would be intolerable.

Our current environment is what attracts visitors to this beautiful but financially fragile part of the world. We look at other areas where permission for numbers of these developments has spiralled out of control to the detriment of scenic value and the environment.

Indiscriminate developments will drive our tourists away from what would become an industrialised East to the unspoilt West coast.

The question is asked why other countries, are abandoning on shore Wind farms as proving inefficient and costly to the tax payer.

The impact of having three wind farms in such close proximity will undoubtedly have an impact on the environment from wild life, visibility & noise factors ; this extension is widely considered a step too far.