

HYWIND SCOTLAND PILOT WIND FARM OFF THE BUCHAN DEEPS

Scoping Opinion

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HYWIND SCOTLAND PILOT WIND FARM OFF THE BUCHAN DEEPS

Introduction

Statoil Wind Limited ('SWL') is seeking an Environmental Impact Assessment (EIA) scoping Opinion for the Hywind Scotland Pilot Park Project from Marine Scotland on behalf of the Scottish Ministers under Section 13 of The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ('the EIA Regulations').

I refer to your letter of 01/10/2013 requesting a scoping opinion under the EIA Regulations. SWL is about to undertake a detailed EIA of the proposal and its potential impacts in accordance with the EIA Regulations. The outcomes of the EIA will result in the preparation of an Environmental Statement (ES) which will accompany a future application for marine licences under Part 4 of the Marine (Scotland) Act 2010 and Part 4 of the Marine and Coastal Access Act 2009.

Please note that the EIA process is vital in generating an understanding of the biological and physical processes that operate in the area and those that may be impacted by the proposed Hywind Scotland Pilot Wind Farm off the Buchan Deeps. We would however state that references made within the scoping document with regard to the significance of impacts should not prejudice the outcome of the EIA process.

It is important that any devices to exploit renewable energy sources should be accompanied by a robust assessment of its environmental impacts. The assessment should also consider how any negative environmental impacts could be avoided or minimised, through the use of mitigating technologies or regulatory safeguards, so that the quality and diversity of Scotland's wildlife and natural features are maintained or enhanced. Marine Scotland welcomes the commitment given in the report that the EIA process will identify mitigation measures in order to avoid, minimise or reduce any adverse impacts. Marine Scotland Licensing Operations Team (MS-LOT) would suggest that the range of options considered should be informed by the EIA process in order that these objectives can be achieved. Consultation with the relevant nature conservation agencies is essential and it is advised that this is undertaken as appropriate.

1. Aim of this Scoping Opinion

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

The purpose of this document is to provide advice and guidance to developers collated from expert consultees selected by Marine Scotland. It provides clear advice enabling developers to address issues identified with the proposed project. The advice steers the developer as to the content required in the EIA and the ES in accordance with the EIA Regulations.

2. Description of development

The development comprises of up to five wind turbine generators with a maximum individual generating capacity of 6 MW each mounted on a floating spar type structure. The whole structure is then held in place by a mooring system laid on the seabed. The pilot site is located 25 km east of Peterhead in an area known as the Buchan Deeps which offers relatively deep water, for the deployment of the novel floating spar technology.

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.

Other land use planning documents which may be relevant to this proposal include:

- PAN 2/2011: Archaeology–Planning Process and Scheduled Monument Procedures.
- PAN 50: Controlling the Environmental Effects of Surface Mineral Workings
- PAN 51: Planning, Environmental Protection and Regulation
- PAN 1/2011: Planning and Noise
- PAN 60: Planning for Natural Heritage
- PAN 62: Radio Telecommunications
- PAN 68: Design Statements
- PAN 69: Planning and Building Standards Advice on Flooding
- PAN 75: Planning for Transport
- PAN 79: Water and Drainage
- Marine Guidance Note 371 (M)
- The Moray Structure Plan
- Aberdeenshire Local 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. A copy of the SLS and other vital information can be found on the renewable energy section of their website – <http://www.snh.gov.uk/docs/A1070243.pdf>

5. General Issues

Economic Benefit

The concept of economic benefit as a material consideration is explicitly confirmed in the consolidated SPP. This fits with the priority of The Scottish Government to grow the Scottish economy and, more particularly, with our published policy statement “Securing a Renewable Future: Scotland’s Renewable Energy”, all of which highlight the manufacturing potential of the renewables sector. 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.

6. Contents of the Environmental Statement

Guidance can be found in The Marine Works (Environmental Impact Assessment) Regulations 2007, Schedule 3

Format

Developers should be aware that the ES should also be submitted in a user-friendly PDF format which can be placed on The Scottish Government website. A description of the methodology used in assessing all impacts should be included.

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

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. Within an ES it is important that all mitigating measures should be:

- clearly stated;
- fully described with accuracy;
- assessed for their environmental effects;
- assessed for their effectiveness;
- their implementation should be fully described;
- how commitments will be monitored; and
- if necessary, how they relate to any consents or conditions

Given that the layout and design of the project are still developing and evolving, the exact nature of the work that is required to inform the EIA may vary depending on the design choices. The EIA must address this uncertainty so that there is a clear explanation of the potential impact of each of the different scenarios. It should be noted that any changes

produced after the ES is submitted may result in the requirement of further environmental assessment and public consultation if deemed to be appropriate by the licensing authority.

Baseline Assessment and Mitigation

Refer to Annex 1 for consultee comments on specific baseline assessment and mitigation.

8. Archaeology and Cultural Heritage

General Principles

The ES should address the predicted impacts on both the marine historic environment and the potential for the onshore impacts of terrestrial elements of the development. It should also 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.

Codes of practice relating to heritage and seabed development;

- JNAPC Code of Practice for seabed development
http://www.jnipc.org.uk/jnipc_brochure_may_2006.pdf
- COWRIE guidelines for offshore renewables and the historic environment
http://www.offshorewind.co.uk/Assets/archaeo_guidance.pdf
- COWRIE guidelines on cumulative assessment of offshore renewables and the historic environment http://www.offshorewind.co.uk/Assets/cowrie_ciarch%20web.pdf
- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector, January 2011
<http://www.offshorewindfarms.co.uk/Assets/Offshore%20Geotech%20Guidance%20web.pdf>
- Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects
http://www.wessexarch.co.uk/system/files/WSI%20Renewables_low%20res.pdf
- British Marine Aggregates Producers Association protocols for archaeological discoveries <http://www.wessexarch.co.uk/files/projects/BMAPA-Protocol/BMAPA-EH-Guidance-Note-April-2003.pdf>
- Protocol for Archaeological Discoveries: Offshore Renewables Projects
http://www.wessexarch.co.uk/files/The%20Crown%20Estate_Offshore%20Renewables-PAD.pdf

National policy and advice for the historic environment is set out in:

- Scottish Planning Policy (SPP) <http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/newSPP>
- The Scottish Historic Environment Policy (SHEP) <http://www.historic-scotland.gov.uk/shep-dec2011.pdf>
- Planning Advice Note 02/2011 Planning and Archaeology (PAN 02/2011)
<http://www.scotland.gov.uk/Resource/Doc/355385/0120020.pdf>

The Scottish Minister's policies for the historic environment are set out in paragraphs 110 – 124 of SPP. Amongst other things, SPP stresses that scheduled monuments should be preserved in situ and within an appropriate setting and states that developments must be managed carefully to preserve listed buildings and their settings to retain and enhance any special architectural or historic features of interest. Further information on setting can be found in the following document: Managing Change in the Historic Environment

<http://www.historic-scotland.gov.uk/setting-2.pdf>. Impacts on undesignated aspects of the historic environment should also be taken into account as part of any EIA.

Historic Scotland recommend that you engage a suitably qualified archaeological/historic environment consultant 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 www.PASTMAP.org.uk

Data on scheduled monuments, listed buildings, Inventory gardens and designed landscapes, historic battlefields and properties in the care of Scottish Ministers can also be downloaded from Historic Scotland's Data Services website <http://data.historic-scotland.gov.uk/pls/html/db/f?p=2000:10:3234826639166657>.

9. Navigation

The ES should include the following details on the possible impact on navigation for both commercial and recreational craft.

A full navigational risk assessment must be undertaken and the requirements of MGN371 complied with.

- Collision risk
- Navigational safety
- Visual intrusion and noise
- Risk management and emergency response
- Marking and lighting of tidal site and information to mariners
- Effect on small craft navigational and communication equipment
- Weather and risk to recreational craft which lose power and are drifting in adverse conditions
- Evaluation of likely squeeze of small craft into routes of larger commercial vessels.

10. Ecology, Biodiversity and Nature Conservation

Refer to Annex 1 for comments from advisors on ecology, biodiversity and nature conservation.

Species

The ES should show that the applicants have taken account of the relevant wildlife legislation and guidance, namely

- Marine (Scotland) Act 2010
- Marine and Coastal Access Act 2009
- Council Directive 92/43/EEC on The conservation of natural habitats and of wild flora and fauna
- Conservation of Wild Birds (commonly known as the Habitats and Wild Birds Directives)

- Wildlife & Countryside Act 1981
- Nature Conservation (Scotland) Act 2004
- Wildlife and Natural Environment (Scotland) Act 2011
- Conservation of Habitats and Species Regulations 2010
- Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007
- 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 Scottish Government 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 and near the site, and where, before the application is considered for consent. The presence of protected species such as Schedule 1 Birds or European Protected Species 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 European Commission. 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.

11. Water Environment

The Scottish Environment Protection Agency (SEPA) encourages pre-application engagement to help the development process and to minimise risk of modifications later in the application process and avoidable delays or objections.

Information on energy proposals and issues that should be addressed in the ES can be found on the energy section of SEPA's website at www.sepa.org.uk/planning/energy.aspx. The webpage also contains a link to the [marine environment](#) section of SEPA's website which provides more specific guidance.

If the proposal includes both onshore and offshore components the applicant should be aware that the development may be subject to a range of different [consenting regimes](#). SEPA is the regulatory body responsible for the implementation of [The Controlled Activities Regulations \(CAR\)](#). Further information specifically in relation to the water environment and SEPA's water related regulations can be found at;

www.sepa.org.uk/water/water_publications.aspx

and

www.sepa.org.uk/water/water_regulation.aspx.

Developers are strongly advised at an early stage to consult with SEPA to identify 1) if a CAR licence is necessary and 2) clarify the extent of the information required by SEPA to assess fully any licence application.

Construction contractors may be unaware of the potential for impacts such as those listed below however, proper consultation with the local fishery board is encouraged at an early stage, and many of these issues 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.
- sea bed and land contamination

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.

Developers should also be aware of available Construction Industry Research and Information (CIRIA) guidance on the control of water pollution from construction sites and environmental good practice (www.ciria.org). Design guidance is also available on river crossings and migratory fish (The Scottish Executive consultation paper, 2000) at www.scotland.gov.uk/consultations

12. Other Material Issues

Traffic Management

The ES should provide information relating to the preferred route options for delivering equipment etc. via the trunk road network. The EIA 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?

13. General ES Issues

In the application for consent the applicant should confirm whether any proposals made within the ES, e.g. for construction methods, mitigation, or decommissioning, form part of the application for consent.

Consultation

Developers should be aware that the ES should also be submitted in a user-friendly PDF format which can be placed on the Scottish Government website. Developers are asked to issue ES directly to consultees. Consultee address lists can be obtained from Marine Scotland.

Where the developer has provided Scottish Ministers with an ES, the developer must publish their proposals in accordance with The Marine Works (Environmental Impact Assessment) Regulations 2007 as amended The Marine Works (Environmental Impact Assessment)

(Amendment) Regulations 2011. Licensing information and guidance, including the specific details of the public notices to be placed in the press, can be obtained from Marine Scotland.

New requirement for Public Pre-Application Consultation

From 6 April 2014, certain activities will be subject to a public pre-application consultation requirement. Activities affected will be large projects with the potential for significant impacts on the environment, local communities and other legitimate uses of the sea. The new requirement will allow those local communities, environmental groups and other interested parties to comment on a proposed development in its early stages – before an application for a marine licence is submitted. Information on public pre-application consultation can be found at the following: <http://www.scotland.gov.uk/Resource/0043/00439649.pdf>

Gaelic Language

Where applications are located in areas where Gaelic is spoken, developers are encouraged to adopt best practice by publicising the project details in both English and Gaelic.

Ordinance Survey (OS) Mapping Records

Developers are requested at application stage to submit a detailed OS plan showing the site boundary and all turbines, access tracks and onshore supporting infrastructure in a format compatible with The Scottish Governments 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 shape file 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.

Difficulties in Compiling Further Information

Developers are encouraged to outline their experiences or practical difficulties encountered when collating/recording further information supporting the application. An explanation of any necessary information not included in the ES should be provided, complete with an indication of when an addendum will be submitted. It should be noted that submission of an addendum will increase the time taken to determine an application any addendum will be subjected to the same advertising and consultation as the ES.

Application and ES

A developer checklist is enclosed with this opinion to assist developers in consideration and collation of the relevant ES information to support their application. In advance of publicising the application, developers should be aware this checklist will be used by the licensing authority in consideration of formal applications.

Consent Timescale and Application Quality

Developers are advised to consider all aspects of this scoping opinion when preparing a formal application to reduce the need to submit further information in support of your application. The ES, in accordance with 13 (3) of the EIA Regulations, must ensure that the ES contains all of the information specified in the scoping opinion unless otherwise agreed with Marine Scotland. The consultee comments presented in this opinion are designed to offer an opportunity to consider all material issues relating to the development proposals.

Upon receipt the quality and suitability of applications, the licensing authority will use the enclosed checklist and scoping opinion in assessment of the application in the gate check process. Developers are encouraged to seek advice on the contents of ES 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, the licensing authority reserves the right not to accept the application. Developers are advised not to publicise applications in the local or national press, until their application has been accepted by the licensing authority.

Under The Marine Licensing Appeals (Scotland) Regulation 2011 a person who has applied for a marine licence may, by summary application, appeal to the sheriff of any sheriffdom against a decision taken by the licensing authority under section 71(1) of the 2009 Act or section 29 (1) of the 2010 Act.

Signed

David J Bova

17/03/2014

Authorised by the Scottish Ministers to sign in that behalf

Enclosed - Developer Application Checklist

[Link to Scoping Report on Scottish Government web site.](#)

<http://www.scotland.gov.uk/Resource/0043/00435569.pdf>

Annex 1

Consultee Comments Relating to Hywind Scotland Pilot Wind Farm Off The Buchan Deeps

The following organisations provided a scoping opinion in relation to the Hywind Scotland Pilot Wind Farm Off The Buchan Deeps

Marine Scotland

Statutory Consultees

Local Authority Aberdeenshire Council
Scottish Environmental Protection Agency (SEPA)
Scottish Natural Heritage (SNH)
Joint Nature Conservation Committee (JNCC)

[out with 12nm in Scotland]

Non Statutory Consultees

Association of Salmon Fishery Boards (ASFB)
British Telecom (Radio Network Protection Team)
Chamber of Shipping (COS)
Civil Aviation Authority (CAA)
Crown Estate (CE)
Health and Safety Executive (HSE)
Historic Scotland (HS)
Inshore Fisheries Group (IFG)
Marine Safety Forum (MSF)
Marine Scotland Compliance (MSC)
Maritime & Coastguard Agency (MCA)
Ministry of Defence (MOD)
NERL Safeguarding (NATS)
Northern Lighthouse Board (NLB)
Ports and Harbours (PH)
Royal Society for the Protection of Birds (RSPB)
Royal Yachting Association (RYA) Scotland
Scottish Fishermen's Federation (SFF)
Scottish Fishermen's Organisation (SFO)
Scottish Government Planning (SGP)
Transport Scotland (TS)
Whale and Dolphin Conservation Society (WDACS)

Marine Scotland

Marine Scotland – Licensing Operation Team

MS-LOT has reviewed the scoping request document and has the following advice to offer along with comments which Statoil Wind Limited should take note of:-

MS-LOT advises and recommends that Statoil Wind Limited ('SWL') submit a single Environmental Statement ('ES') to cover both the marine and terrestrial aspects of the Hywind Scotland Pilot Park Project. The ES should state all licenses and consents being sought. MS-LOT recommends the ES should contain maps giving detailed information on the site layout, including details of all onshore (including improvements to public road) and offshore components. This will allow consultees and stakeholders to be aware of the full extent of development that is proposed

MS-LOT advises SWL to discuss the document structure and content with Marine Scotland at an early stage. The following are a number of points to aid early consideration of content and it is important they are included for each topic.

- Methodology – some information to be provided on assessment methodologies.
- Baseline – description of baseline environmental position.
- Impacts/effects – assessment of effects at each stage of development.
- Cumulative and in combination impacts/effects – assessment of these effects.
- Mitigation – measures proposed.
- Residual impacts/effects – description of impacts/effects after mitigation.
- Monitoring – an indication of the proposed monitoring.

MS-LOT strongly advises SWL to apply for planning permission through Aberdeenshire Council for all onshore works under the appropriate Town and Country Planning legislation. It will be beneficial to provide in the ES as much detail as possible on the site preparation and construction works, including location and programme of works for the various build out stages. Where possible, a more detailed description of where the wind turbines will be placed is required for the ES.

It is anticipated that a Marine Licence will be required for the Hywind Scotland Pilot Park Project. MS-LOT seeks clarification of the duration of licence being sought and requests that this should be made clear in the ES.

MS-LOT recommends that SWL apply for European Protected Species (EPS) and basking shark licenses in their application. This may be required to allow possible disturbance to marine mammals and basking sharks during construction and operation.

MS-LOT recommends that the potential impacts on marine mammals from noise are carefully assessed in the ES. Mitigation for this impact may well be required and measures to reduce the effects of noise should also be set out in the ES. MS-LOT may require that JNCC accredited Marine Mammal Observers (MMOs) are present during construction activities.

A Seascape, Landscape and Visual Impact Assessment (SLVIA) will be required as part of the EIA and will need to include the cumulative visual impacts of current and proposed developments in the area. Recommendations from SNH must be taken into account and attention paid to their guidelines, suggestions and viewpoints. The visual impact assessment of the proposal must be carried out in close co-operation with MS-LOT, Aberdeenshire Council and SNH in particular when deciding photo-montage viewpoints. A list of viewpoints

agreed with Aberdeenshire Council and SNH should be submitted to MS-LOT when identified. MS-LOT encourages SWL to carry out SLVIA in accordance with the Institute of Environmental Management and Assessment Guidelines for Landscape and Visual Impact Assessment and SNH guidelines state that cumulative SLVIA be taken into account.

MS-LOT, in line with SNH recommendations, advised SWL to carry out at least one year of site characterisation surveys for birds and to submit a report of the survey results after one year.

MS LOT is aware of the comment provided to Xodus by Marine Science Scotland on the Hywind Scotland Pilot Park interim Report on ESAS surveys June to November 2013.

In order for the developer to address the potential significance of the large number of Auk species recorded during the period June to November within the 2013 report. The developer is required to carry out further ESAS survey's in 2014. This further work should make use of data from future ESAS survey's during 2014: one in July, 2 in August and 1 in September. The information from these surveys should help to clarify whether the auks will be potentially displaced during construction and also quantify potential displacement behaviour during operation of the proposed wind farm.

As part of the Habitats Regulations Appraisal (HRA) process an Appropriate Assessment (AA) will be required for this development because of the projects novel technology and it may have the potential to affect site integrity and/or the qualifying features of any surrounding Natura sites and Moray Firth SAC: Moray Firth SAC is designated for bottlenose dolphins. MS-LOT and SNH strongly advise SWL to submit an HRA screening report so further guidance can be provided on this iterative process. MS-LOT advise SWL to take into account RSPB comments below when compiling the HRA screening report. As stated by SNH, more comprehensive information and assessment on Natura sites and their qualifying features is necessary to ensure the complete and appropriate suite of Natura sites/features are considered in the ES and HRA.

It is essential that this proposal is assessed alone and in combination with other plans and projects (renewable developments and other types of industry and activities). This applies not only to marine wildlife and birds but also marine navigation, shipping and location for maintenance and operations. The complete list of sites and developments to be considered cumulatively in the EIA process will be decided upon in conjunction with MS-LOT and SNH. Further discussion on cumulative effects will take place throughout the EIA process. As always cumulative and in combination effects/impacts need careful assessment. The noise, visual impacts and blade tip clearance associated with construction and operation will be important impacts requiring detailed assessment within the ES.

MS-LOT require the developer to be aware of proposed new [Marine Protected Areas](#) (MPAs) located nearby the proposed development area and take account of possible impacts on these within the EIA process and ES itself. SWL should be aware of the nearest search locations.

MS-LOT recognises the use of novel deployment technology with respect to the use of the floating spar design negating the need for piling operation during construction. However this does not diminish from SWL's responsibility to ensure that potential impacts are taken into consideration for the overall project design.

MS-LOT has the following comments on the contents of the Scoping Report.

2.3 Selected Site

MS LOT is aware of the SWL's lease area being in 2 parts, a Northern part and Southern part, separated by the BP Forties asset. MS LOT recommends that SWL engages fully with BP on its asset within the lease area.

MS LOT would appreciate clarification as to which of the 2 areas, will be utilised for deployment of the 5 floating wind turbines.

MS LOT expects any displacement of fishing opportunity be recognised by SWL and for SWL to resolve possible potential impacts in collaboration with fishing industry representatives.

MS LOT recommends early engagement with CAA, NATS, and MOD to resolve potential operational problems with radar detection of aircraft traffic, otherwise the time line for processing Marine Licence will be at risk.

2.8 Construction Phase

2.8.1 Project Locations

Detail is lacking on the proposed 'WTG Unit assembly site' and 'Floating storage site'. MS LOT would like to see further detail on where SWL plans to locate these areas in order to provide an opinion. Both these sites may require further licencing approval. Detail is also lacking on the location of the onshore facility.

WTG Unit assembly site

MS LOT would like to see the details of the assembly site with respect to number and location of moorings for construction and support vessels. Is the WTG assembly site within the Area of the lease agreement? If yes then the temporary site may well be included in the Marine Licence. If the answer is no to the WTG assembly site being in the Area of the lease agreement then contact The Crown Estate as to how this will be dealt with from TCE and MS LOT's perspective.

MS LOT notes that there is no decision with respect to the mooring design and also lack of detail with regards to the foot print of the chosen mooring design.

6 Ornithology

6.5 Identification of potential impacts MS LOT agrees with the overall list of potential impacts in table 6-3.

MS LOT Advice to Statoil on Saballeria report

MS LOT referred the Environmental Survey Report (ST 13828) to Marine Science Scotland JNCC and SNH for consultation and advise their respective responses are provided in Annex 4 of this document.

Marine Scotland Science Advice

Marine Scotland Science has reviewed the submitted scoping report and has provided the following comments.

Marine Scotland Science comments on ornithology

The MS commissioned project on the strategic collision risk of migratory birds to offshore wind farms in Scotland is due to be published in November 2013 and may be of relevance.

Comparison of flight height distributions with those estimated by Johnston et al 2013 should be undertaken and details of how flight heights were estimated and quality assured should be provided in the ES.

Advice on use of standard or extended Band collision risk model and appropriate avoidance rates should be sought prior to the models being run.

Marine Scotland science ornithology comment on the document “Hywind Scotland pilot park interim report on ESAS surveys June to November 2013”

A number of species are highlighted as potential concern due to collision risk. Information on the method of estimating flight heights and what QA of estimates is undertaken needs to be provided in future documents. There is a general concern that flight heights are being systematically underestimated by observers, and that collision risk is therefore being underestimated. Consideration should be given to the periodic use of laser rangefinder binoculars to measure flight heights in order to provide reassurance that flight estimates are robust. This could be undertaken by an additional observer and/or outside of snapshots, allowing sample sizes to be built up rapidly.

Discussion with the SNCBs on whether August should be included within the breeding season for puffin is recommended. Provisioning of chicks is much reduced during this month, and large influxes of prospecting non-breeding birds may inflate the numbers estimated.

Discussion with the SNCBs regarding the regional population of GBBGU (6,470) is appropriate considering the large numbers of birds that are understood to move into the UK from the continent. Documents produced by MORL and BOWL for the Moray Firth wind farms may be of relevance.

The Centre for Ecology and Hydrology Population Viability Analysis project as commissioned by Marine Scotland for the Forth and Tay included guillemot, razorbill and kittiwake at Buchan Ness and Fowlsheugh and these will be of direct relevance in any assessment of impact due to their relevance in determining acceptable levels of change.

The large numbers of auks post-breeding are noted. It would be of interest to discuss how any effects on these birds would be apportioned to relevant populations e.g. SPAs.

From Figure 4 it is unclear why the “At-sea region” does not extend further N or NW to include e.g. Troup Head.

Marine Science Scotland Advice with respect to future ESAS surveys in 2014

Based on the extremely large number of auks present during post breeding/ moulting. MSS would advise that additional ESAS surveys are carried out during in 2014.

The timing and frequency of these surveys should be 1 survey in July, 2 surveys in August and 1 survey in September, these further surveys will provide addition baseline information on post – breeding auks.

Marine Scotland Science comments on socio economics

We would expect to see presentation of net effects, especially with regards to GVA and employment.

The above will require clear consideration and use of the concepts of additionally, displacement and leakage. Ditto regarding economic multipliers. The Scottish Enterprise 'Additionally & Economic Impact Assessment Guidance Note' should be helpful for this GVA and employment effects should be presented as direct, indirect and induced.

<http://www.scottish-enterprise.com/~media/SE/Resources/Documents/ABC/additionality-and-economic-impact-assessment-guidance.pdf>

To assist with employment calculations, it would be helpful to see a clear definition of the labour market catchment area.

To assist with tourism calculations, it would be helpful to see a clear definition of the tourism study area.

Background info on the industry structure and employment structure would be useful

Social impacts assessed might include population and age structure, as well as skills and training.

Other benefits might theoretically include: possible carbon savings; benefits to other marine users and interests; increased knowledge; clustering benefits; and energy security.

Marine Scotland Science comments on fish and shellfish ecology

The developer has identified the key issues relating to the project and we agree with the decisions the developer has taken for which impacts to scope in.

We would also agree that due to the design of this project further investigation is warranted to look at entanglement issues relating to cabling and anchoring chains in the water column (Re: basking sharks) and EMF effects from the mid water cabling especially. What sort of shrouding/sheathing will be used to dampen the EMF/e fields that the cable produces?

Marine Scotland Science comments on commercial fisheries

Alongside the information sources the developer has identified we would also recommend the use of Marine Scotland Science's (MSS) VMS based fisheries maps. These highlight areas of key commercial fishery usage by fishery type (Figure 1 in appendix A). We are currently working on a revision of this data set and we can also provide more refined maps

of the site with further consultation. The examples provided have some port artefacts around Fraserburgh and Peterhead which can be seen in the plots for herring, nephrops and demersal. This will be removed in the latest version.

These VMS plots show the vessels activity for over 15m fishing vessels. These plots indicate the main fisheries that would be affected by the development would be herring, scallop and demersal fish.

MSS also have scotmap outputs (fishing activity for under 15m vessels) available for the area and these should be used in conjunction with the VMS plots to fully describe the commercial fisheries in the area. Examples of these are provided in Figure 2 in Appendix A. These indicate that the cable route will have the greatest impact on the small under 15m fleet, primarily on the fisheries targeting squid, mackerel and creel activity for crab and lobster.

The 2 main impacts to commercial fisheries will be from the cable route and landfall on the small vessel fleet and exclusion from the offshore wind area on scallop demersal fishing due to the presence of cables and anchor chains.

There may be additional disruption to fishermen in the inshore area from vessel traffic associated with the construction of the site and cable route. This could be mitigated against through the agreement of a transit corridor for construction and maintenance vessels.

Other than continued consultation with Marine Scotland Science we would also highlight Marine Scotland Interactive as a source of additional information - <http://www.scotland.gov.uk/Topics/marine/science/MSInteractive>

Marine Scotland science comments on benthic ecology

Table 7.2, Sources of baseline data – have the authors looked at any of the BGS maps for the development area?

Page 48, Para 5 – Phoronis is not a polychaete (see MarLIN and WoRMS websites)

Page 49, Section 7.3, Para 2 – more information on the intertidal surveys would be useful. What was actually done?

Page 49, Baseline Environment – were sediment particle size data generated from the grab samples along with the chemistry analyses?

Page 50, Table 7.3 – alteration of the local species diversity brought about by the introduction of hard substrates and associated fauna into an area of soft sediment communities should not really be regarded as a positive effect. It is a change which may have negative effects; introduction of a new suite of predators not normally found in the SS.SMU.CSa.Mu habitat for example.

Page 51, Table 7.4 – the list of “relevant guidance” documents seems rather short. It may be worth considering more general benthic guides such as the published ICES sampling guides and Eleftheriou and McIntyre 2005 as well?

Have the developers considered the effects of EMF and heat generated by active power cables on benthic invertebrates? There are suggestions that there is an impact with some species being attracted to the cables sites.

Page 127, Table 22.1 – again, should the effects of EMF and heating from cables be considered?

Page 142, Table B.1 – should Marine Scotland Science also be included in this list?

Marine Scotland Science comments on diadromous fish

Marine Scotland Science has identified the main issues.

8.2.2 - Eels do not migrate up rivers in order to breed. The term diadromous also includes fish which move out to sea to spawn.

Table 8.3 - The remark about there being a potential for noise generated during cable installation to affect salmon associated with the River Ugie implies that these will be the main salmon present. With the River Ugie being a small river and long range movements of salmon smolts leaving other rivers and adult salmon returning to other rivers, there will be uncertainty as to whether this will be the case.

Chapter 13 Commercial Fisheries

13.1 and 13.2 it is good that Salmon Fishery Boards and Fisheries Trusts are to be consulted.

13.2 It looks as if some sort of compilation of salmon and sea trout catch statistics is planned for the ES. We have no problem with this but it does not need to be too detailed. Time would be better spent developing robust risk assessments, and any mitigation and monitoring plans required.

Chapter 21. HRA strategy

This correctly mentions the need to consider SACs designated for diadromous fish. .

Chapter 23. References

Good to see “Malcolm” (should be Malcolm) et al (2010) and Gill and Bartlett (2010) included

Marine Scotland Science comments on marine mammals

Marine Scotland Science (MSS) agree with the approach taken to the assessment.

The main species of concern are bottlenose dolphin, harbour porpoise, minke whale, harbour seal and grey seal. The desk based review should take account of all recent population estimates and trends, as well as the management units for each species. For bottlenose dolphins, the relevant management unit is Coastal East Scotland. For minke whales it is European waters. For harbour porpoise it is the North Sea. For harbour and grey seals, the East Coast management unit should be used.

The main impacts to consider will be installation of the turbines and cable, due to increased vessel movements.

The potential for collisions with marine mammals (in particular seals and porpoises – so called, corkscrew injuries) should be fully considered, particularly for the vessel movements related to cable laying.

The potential for entanglement of large whales in the moorings should be fully explored.

MSS have recently published a report on operational noise from wind turbines that the developer may find useful (<http://www.scotland.gov.uk/Resource/0043/00433960.pdf>).

Points for clarification

The scoping report contains some errors relating to SAC designations. For clarity, the Moray Firth SAC is designated for bottlenose dolphins, not harbour porpoise, harbour seal, or grey seal. The Dornoch Firth and Morrich More SAC is designated for harbour seals only.

Marine Scotland Science comments on aquaculture

There are no aquaculture sites situated directly in the vicinity of the proposed project. The closest aquaculture sites are located approximately 100 km to the North West and to the south of the proposed development area.

Marine Scotland Science comments on physical environment

Marine Scotland Science has reviewed the physical processes and sediment sections of the scoping report. These sections are of a high quality and cover all the potential issues well. So we have no further recommendations.

Local Authority: Aberdeenshire Council

The Planning Authority welcomes the approach adopted by the developers to provide a single environmental statement (ES) covering both onshore and offshore effects. This approach provides an assessment of the potential effects of the project as a whole rather than component parts. For the purposes of consistency and clarity the comments contained within this response cover both offshore and onshore works. A separate letter containing these same comments will also be sent to the developer.

General comment

Overall, it is considered that the scoping report is comprehensive in nature, identifying the potential effects, their significance, and the impacts to be scoped in/out of the ES. The Planning Authority are generally content with the approach and methodology identified. In terms of terrestrial planning policy (section 3.4) it is recommended that the developers refer to NPF3, either as a draft NPF3 if not adopted at the time of the submission also of the ES or as the most up to date NPF, if adopted. Given current timescales for NPF3, it is likely that this will be in force and will be the latest statement of national policy. Peterhead and energy projects figure prominently in this document. Likewise the new SPP is due to be issued early next year and will form national policy.

In terms of regional policy it should be noted that the 'North East Scotland together, Aberdeen and Aberdeenshire Structure Plan 2001 – 2016' has been superseded by the 'Aberdeen City and Shire Structure Plan 2009'. This latter document forms part of the development plan for the purposes of decision making. The 2009 Plan is to be replaced by the 'Aberdeen City and Shire Strategic Development Plan 2013, which is currently with Scottish Ministers for approval in 2014.

As a matter of good practice the ES should be accompanied by a 'Schedule of mitigation' either as a chapter within the ES or as a separate document.

Offshore works

The scoping report identifies the main effects and the matters to be scoped in/out of the ES. Areas of interest to the Planning Authority will be the potential impacts on commercial fisheries given the importance of, and dependency on, fishing in the local area and the role that Peterhead port plays in the fishing sector. These are the potential effects in terms of direct impacts on offshore fisheries and inshore fisheries (River Ugie) in terms of a reduction in fishing opportunities and on any possible downstream elements of the fisheries supply chain, which Peterhead has an important role to play. It is noted that discussions have been undertaken with SFF, PPA, BIFA and local fishermen. This is welcomed.

Other offshore impacts of interest that are to be scoped into the ES, relate to shipping and navigation, aviation (helicopter air traffic) and radar. Regarding the latter, the developers are encouraged to speak to NATS and NERL at an early stage to discuss the proposals.

Onshore works

Due to the relatively minor nature of the onshore works (in comparison to the offshore works) the effects on the environment are considered less significant. The main effects relate to the impacts associated with the landfall, switchgear yard, onshore cable route and substation works. As a general point, it is noted that the site for the switchgear yard, covering a site area of 1 ha maximum is yet to be determined and thereby the full effects are not identified. The locational aspects of this part of the development requires to be confirmed and the full impacts assessed. The provision of a 1 ha site within the study area is not obvious and may have implications for recreational/reserved land in the Local Development Plan. Brownfield and existing sites are preferred with greenfield/recreational land/reserved land avoided. Other potential constraints such as contaminated land and flood risk areas are other factors to be considered when choosing the site. It is therefore important that details of the location, nature and size of the switchgear yard and substation are clarified as early as possible allowing the full effects to be assessed in the ES.

Depending on the nature of the works proposed at both the switchgear yard and substation, the main potential effects are likely to relate to visual and noise impacts. Other effects, not mentioned in the scoping report, may potentially relate to Electro Magnetic Fields (EMF's) and interference on television and radio signals due to new wiring, equipment, cabling or conductors to electric power systems (potential sources of EMF's). Also whether the works required at the substation, which are yet to be clarified, would affect the field strength around

the perimeter of the Grange substation, and have any offsite effects. These are issues to be considered and assessed further to establish if there are likely to be any significant effects.

Regarding noise impacts, the developer is advised to contact the Council's Environmental Health Service (Peterhead office) to discuss noise impacts and monitoring methodology prior to the monitoring commencing.

Regarding cumulative impacts (section 20) the eastern HVDC link should be included in the assessment. The onshore works have been the subject of a proposal of application notice to the Planning Authority. Fig 20.1 should reflect the HVDC project alongside the other projects.

The Planning Authority, as part of the scoping exercise (and at pre-scoping stage) undertook consultation with a number of consultees, both internal and external. These are attached as an appendix to this response rather than providing a summary of the issues raised. There are no fundamental points of concern raised rather useful comments that the developer will find helpful and informative on a number of subject areas.

An annex containing Aberdeenshire Councils consultee responses: are located in Annex 5

Scottish Environmental Protection Agency

The following key issues should be addressed in the EIA process:

- Pollution Prevention and Environmental Management

Please note that all the issues below should be addressed in the Environmental Statement (ES) or planning submission, but there may be opportunities for several of these to be scoped out of detailed consideration. The justification for this approach in relation to specific issues should be set out within the ES. We would welcome the opportunity to comment on the draft ES. Please note that we can process files only of a maximum size of 25MB and therefore, when the ES is submitted electronically, it should be divided into appropriately sized and named sections.

1. Scope of the ES for marine developments

- 1.1 From the information submitted we understand the development will include both onshore and offshore components. As such, the development will be subject to a range of different consenting regimes. We note it is intended that both the onshore and offshore components of the Project are considered in the EIA and written up in the Environmental Statement (ES). We would encourage this approach as this will enable a full assessment of the potential effects of the development as a whole, rather than assessing certain details of the development individually.
- 1.2 For your information we have already provided scoping advice to Aberdeenshire Council and Xodus on the onshore aspects of the proposal in our correspondence of 22 July 2013 (our reference PCS/127748).

2. Water Framework Directive and River Basin Management Planning

- 2.1 The Water Framework Directive (2000/60/EC) was implemented in Scotland through the Water Environment and Water Services (Scotland) Act 2003 (WEWS). This legislation requires SEPA to lead and co-ordinate

(www.sepa.org.uk/water/river_basin_planning.aspx) in the Scotland and Solway Tweed river basin districts to protect and improve Scotland's water environment (www.sepa.org.uk/water/monitoring_and_classification/classification.aspx). The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR) provide controls over activities affecting the water environment (www.sepa.org.uk/water/water_regulation.aspx).

- 2.2 Engineering works in transitional (estuaries) and coastal waters are not regulated by SEPA under CAR. Such works below the Mean High Water Springs mark or in any tidal river up to the tidal influence will require a marine licence from Marine Scotland Licensing Operations Team, designated a Responsible Authority under The Water Environment (Relevant Enactments and Designation of Responsible Authorities and Functions) (Scotland) Order 2011 made under Section 2(8) of WEWS. By this designation Marine Scotland is required to ensure that marine licensing assists in the delivery of River Basin Management Planning objectives. Similarly, planning authorities are designated Responsible Authorities by the Water Environment and Water Services (Designation of Responsible Authorities and Functions) Order 2006. In order to meet the requirements of the [Water Framework Directive](#) Responsible Authorities must carry out their statutory functions in a manner that secures compliance with the objectives of the Water Framework Directive (i) preventing deterioration and (ii) promoting improvements in the water environment in order that all water bodies achieve "good" ecological status by 2015.
- 2.3 River basins comprise all surface waters, including transitional (estuaries) and coastal waters extending to 3 nautical miles seaward from the territorial baseline. Within the River Basin Management context, the ES should identify if the impacts of the proposal are likely to lead to deterioration of the marine environment or present opportunities for improving the marine environment. Marine Scotland and, where applicable, the planning authority, must take this into account in considering the application due to their designation as Responsible Authorities.
- 2.4 The Water Framework Directive requires water bodies to be considered in terms of their chemical, ecological and hydromorphological status. It should be recognised that the overall classification of ecological status is made up of several different tiers of classification and includes the consideration of chemical, biological and hydromorphological parameters (e.g. structure and integrity of intertidal and subtidal zones), not just water quality.
- 2.5 The GIS interactive map (<http://gis.sepa.org.uk/rbmp/>) (complete with user guide) or the River Basin Management Plan data download function; both available on our website (www.sepa.org.uk/water/river_basin_planning.aspx) should be used in assessing any development proposal. The map enables a search for individual water bodies by grid reference, place name or postcode. The data download tool allows water body information to be filtered by planning authority. Both the map and data download tool hold data sheets relating to each individual water body. The water body data sheets set out the water body's ecological status, any pressures upon it, measures set up to resolve any issues and targets for any improvement needed. These datasheets should form part of the baseline characterisation in the ES. The River Basin Management Plans have been prepared to support the successful implementation of the Water Framework Directive and include measures set against individual water bodies which require to be implemented if "good ecological status" is to be achieved.

- 2.6 In order to meet the objectives of the Water Framework Directive, coastal development should be designed wherever possible to avoid engineering activities in the marine environment.
- 2.7 We recommend that it be demonstrated in the ES that every effort has been made to leave the marine environment in its natural state. There is a need to protect the remaining areas of intertidal zone along some stretches of the developed coastline as these areas have become fragmented and degraded by the coalescence of development in the past.
- 2.8 As responsible authorities, planning authorities should promote measures already agreed in respect of relevant water bodies as well as considering other enhancement opportunities to contribute to River Basin Management Plan, Nature Conservation (Scotland) Act 2004 and sustainability development objectives. Examples may include restoration, coastal realignment, soft engineering or the incorporation of naturalistic features in the design of shoreline works, or planting with salt tolerant species. These could be used as examples of best practice and demonstration sites under SEPA's Habitat Enhancement Initiative. Guidance that may be drawn upon includes:
- SEPA's Habitat Enhancement Initiative (www.sepa.org.uk/water/water_regulation/regimes/engineering/habitat_enhancement.aspx).
 - Water Framework Directive Mitigation Measures Manual (www.evidence.environment-agency.gov.uk/FCERM/en/SC060065.aspx).
 - Estuary Edges: Ecological Design Guidance (www.environment-agency.gov.uk/cy/busnes/sectorau/100745.aspx).

3. Site layout and nature of construction for marine developments

- 3.1 For the overall proposal the ES should contain site plans and cross sections showing the location, footprint, type and design of all the engineering structures, including temporary works, in the marine environment. Information for onshore elements such as access tracks, buildings, temporary works etc. should also be included. Access routes and working compounds for vehicles should be specified during construction. This information will allow us to screen the proposals and determine whether they are likely to present a risk to ecological status.
- 3.2 For marine renewables the ES should include plans showing the array of the devices, inter-array cabling, subsea cabling routes and landfall, and any associated off/onshore infrastructure within 3 nm of the shoreline. The ES should describe device and cable installation methods and should discuss the likelihood of any significant impacts during construction, operation and decommissioning. The significance of any potential impacts to the coastal zone e.g. sand dune and saltmarsh habitats should be assessed with mitigation measures applied where appropriate.
- 3.3 Background information to help inform the ES process is available from Marine Scotland (www.scotland.gov.uk/Topics/marine/Licensing/marine/LicensingManual) and the European Marine Energy Centre (EMEC) (www.emec.org.uk/about-us/media-centre/downloads/). The EMEC guidance is designed to assist developers in considering the range and scale of impacts that may result from the testing of devices. Generally, if this standard industry guidance is followed for scoping, preparing and undertaking EIA for marine renewables, then SEPA is likely to be satisfied with the standard of assessment.

4. Marine ecological interests

- 4.1 Advice on designated sites and European Protected Species should be sought from Scottish Natural Heritage. Marine and transitional Special Areas of Conservation (SAC) and Special Protected Areas (SPA) and Marine Protected Areas (MPA) are also Water Framework Directive Protected Areas. Therefore, their objectives are also River Basin Management Plan objectives which should be taken into account when developing the ES. In such situations, Scottish Natural Heritage may contact SEPA for input on the consultation.
- 4.2 The Nature Conservation (Scotland) Act 2004 gives all public bodies, including SEPA and planning authorities, a duty to further the conservation of biodiversity. The developer is recommended to consult both the UK Biodiversity Action Plan and Local Biodiversity Action Plan lists for marine and coastal features found within the proposed areas of development, and consider mitigation measures, as appropriate. During the construction, operation and maintenance phases, it is important that good working practice is adopted and that wider habitat damage is mitigated against or kept to a minimum within defined acceptable limits. These should be controlled through a Construction Environmental Management Plan (see section 6 below).
- 4.3 Given that the accidental introduction of Marine Non-Native Species (MNNS) has been highlighted as a risk for water body degradation, we recommend that controls should be included in development planning and marine licensing for MNNS in line with Water Framework Directive and Marine Strategy Framework Directive objectives, and [EU Biodiversity Strategy](#) targets. Under the Water Framework Directive the presence of MNNS within a water body can constitute a significant pressure on the biological elements. Good status is usually the maximum a water body can achieve if MNNS are detected and this can fall to moderate status if MNNS are present above certain thresholds. Once well established, efforts to eliminate MNNS species have proven to be extremely expensive and so far, no non-native species have been successfully eradicated from the marine environment. Therefore, in view of these difficulties, we support the [GB Non-Native Species Secretariat \(https://secure.fera.defra.gov.uk/nonnativespecies/home/index.cfm\)](#) recommendation to put into place effective biosecurity measures to prevent introduction and to stop their spread.
- 4.4 Accidental introduction of MNNS can also occur via attachment to construction plant, specialised equipment and moorings as these are moved from one area to another. Please detail the measures to minimise the risks of introducing of MNNS into the adjacent water bodies within the ES and draft Construction Environmental Management Plan. Guidance that may be drawn upon includes:
- The alien invasive species and the oil and gas industry guidance produced by the Oil and Gas industry (www.ogp.org.uk/pubs/436.pdf);
 - SNH web-based advice on Marine non-native species (www.snh.gov.uk/land-and-sea/managing-coasts-and-sea/marine-nonnatives/);
 - Marine non-native guidance from the GreenBlue (recreation advice) (www.thegreenblue.org.uk/clubs_and_training_centres/antifoul_and_invasive_species/best_practice_invasive_species.aspx).
- 4.5 We note section 7 of the report states that ecological surveys are being carried out to inform the EIA. However Table 22-1 (on pg. 127) indicates that MNNS are scoped out of the EIA. As detailed above we recommend that this be scoped in and measures be put in place during cable installation to minimise risks of introducing

MNNS into the Ugie Estuary to Buchan Ness Water Body via attachment to construction plant.

- 4.6 For operations that require coastal water abstractions particular emphasis should be paid to assessing the impacts of fish (all mobile species) entrainment and how this will be mitigated. The assessment should also consider the potential impact of the proposed cooling water abstraction and discharge infrastructure in combination with those already existing in the vicinity. Studies show that the greatest rate of impingement is at low water, as fish are more concentrated than at high water – this effect can be increased where estuaries narrow. The ES should include drawings showing the design of any water intakes and discharge infrastructure. Guidance that may be drawn upon includes British Energy Estuarine and Marine Studies, Scientific Advisory Report Series 2010 No 005 Ed2 - Methodology for the measurement of Entrainment Edition 2 (www.cefas.defra.gov.uk/publications/scientific-series/environment-reports.aspx).

5. Coastal processes

- 5.1 Depending upon the nature, scale and location of the proposed development the potential exists for there to be changes to coastal and sediment transport processes in the adjacent water body on completion of the development. The ES should assess the significance of such alterations and discuss the implications of these with respect to shoreline and seabed morphology, and wider ecosystem health in line with RBMP objectives. Marine Scotland is the responsible authority for licensing coastal development under the Marine Scotland Act 2010, and therefore we recommend that they be consulted with respect to the scope of any assessments.

6. Pollution prevention and environmental management

- 6.1 One of SEPA's key interests in relation to major developments is pollution prevention measures during the periods of construction, operation, maintenance, demolition and restoration.
- 6.2 We advise that the applicant should, through the EIA process, systematically identify all aspects of site work that might impact upon the environment, potential pollution risks associated with the proposals and identify the principles of preventative measures and mitigation. This will establish a robust environmental management process for the development. A draft Schedule of Mitigation should be produced as part of this process. This should cover all the environmental sensitivities, pollution prevention and mitigation measures identified to avoid or minimise environmental effects. Details of the specific issues that we expect to be addressed are available on the Pollution Prevention and Environmental Management section of SEPA's [website](http://www.sepa.org.uk). Other pollution prevention and environmental best practice guidance that may be drawn upon includes that produced by CIRIA (www.ciria.org).
- 6.3 Any application involving large scale beach replenishment and/or dredging works should be cross checked as to whether the proposals lie within or close to a designated bathing water or shellfish growing water. Ideally all physical works should be done out with the Bathing Water Season (1 June to 15 September) and spatfall periods. Further guidance on the Bathing Waters Directive (2006/7/EC) can be obtained from www.sepa.org.uk/data/bathingwaters.
- 6.4 A Construction Environmental Management Plan is a key management tool to implement the Schedule of Mitigation. We recommend that the principles of this document are set out in the ES outlining how the draft Schedule of Mitigation will be

implemented. This document should form the basis of more detailed site specific Construction Environmental Management Plans which, along with detailed method statements, may be required by planning condition or, in certain cases, through environmental regulation. Best practice advice developed by The Highland Council (in conjunction with industry and other key agencies) on the Construction Environmental Management Process is available in the guidance note [Construction Environmental Management Process for Large Scale Projects](#).

7. Engineering activities in the water environment at landfall

7.1 Section 2.7.1 of the scoping report states the exact location of the landfall is still to be identified. The preferred method for bringing the cable ashore will be horizontal directional drilling (HDD) from an area behind the existing seawall. However, open trenching could be an option dependent upon the physical and environmental characteristics of the selected landfall location. Authorisation under the Controlled Activity Regulations (CAR) may apply at the inshore assembly site so we would expect information on what activities and how they will minimise the risk of pollution, e.g. during fluid filling operations, to be submitted within the ES or as part of any planning application.

8. Regulatory and other advice for the applicant

8.1 We would highlight that the Coastal description at the bottom of page 69 does not agree with the description of the landfall area indicated in Figure 1.2 as sand dunes are not present along this stretch of coast due to shoreline modification in the past.

8.2 As a minor point we highlight that while SEPA is listed in Appendix B SEPA is not included in the acronyms listed on page 139.

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

JNCC/Scottish Natural Heritage

In this response we present combined scoping advice from the Joint Nature Conservation Committee (JNCC) and Scottish Natural Heritage (SNH). Following the format used for the other East Coast offshore wind developments, our detailed advice is provided in the annexes to this letter, as follows:

Annex A: Advice on the Development in General
Annex B: Receptor-Specific Advice on EIA
Annex C: Legislation: European Protected Species and Habitats Regulations Appraisal
Annex D: Hywind Demonstrator: Habitats Regulation Appraisal for Special Protection Areas
Annex E: Hywind Demonstrator: Habitats Regulation Appraisal for Special Areas of Conservation

We note that this proposal is a demonstrator project and as such our advice reflects the scale and potential impacts of this proposal.

Background information

The Hywind demonstration project consists of five offshore floating turbines installed in offshore waters, beyond 12 nm, which will generate a maximum of 30 MW, and will be

connected ashore by an export cable (AC) to Peterhead. The scoping report indicates that the turbines will not need piling operations, due to their floating nature and there will not be an offshore power station (OPS).

As part of this scoping process, it is noted that there are still some uncertainties regarding some of the technical details that could have potential environmental impacts. Our advice reflects therefore both generic advice to deal with those aspects of uncertainty, as well as specific advice where detail allows. It also takes account of advice previously provided as part of the pre scoping discussions.

General Approach to EIA

EIA is a statutory process which should highlight the potential positive and negative impacts of a project, proposing mitigation measures and assessing potential scenarios, enabling the regulator to make a decision on whether to give consent.

The scoping report identifies the main potential interactions with the environment. As discussed and agreed in pre scoping dialogue, due to the size and characteristics of the project, we have provided advice on ornithological site characterisation survey (including marine mammal sightings) to help inform the impact assessment.

Habitats Regulations Appraisal (HRA)

As part of our scoping advice we include the range of interests and potential impacts that may need to be considered in relation to The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (applying to the offshore zone beyond 12 nautical miles) and to the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (applying to Scottish territorial waters). These regulations protect Natura (European) sites – a network of designated sites across Europe which are internationally important for threatened habitats and species – encompassing Special Protection Areas (SPAs) designated for a range of important bird species, and Special Areas of Conservation (SACs) which include a variety of sensitive or rare marine habitats.

Under the above regulations, Habitats Regulations Appraisal (HRA) is the process whereby potential impacts to Natura sites – SPAs and SACs – are considered. We provide more detail on the process of HRA in Annex E. We provide our advice on HRA tailored to the potential impacts of the proposal in Annex C for SPAs and Annex D for SACs.

Further Liaison and Advice

This demonstration project provides an opportunity to learn and to understand the potential impacts of this technology on the marine environment

We encourage Marine Scotland and the developer to approach JNCC and SNH to discuss any issues within this response.

ANNEX A – ADVICE RELATING TO THE DEVELOPMENT IN GENERAL

Approach to EIA

Assessment of alternatives

JNCC and SNH are content with the information included in the scoping report, but we encourage further development of some of the sections. We are satisfied with the inclusion of the “Rochdale Envelope” principle and the worst case scenario approach; however, we believe that the technical uncertainty surrounding different areas of the project (e.g. the mooring system) will necessitate a more detailed description of the potential scenarios and the consequent impacts, including a worst case and most likely scenario

Assessing the preparation of the scoping report

The report follows the structure below, which covers the necessary information, we advise some further aspects which will require further consideration.

Assessment strategy. We encourage the inclusion within the ES of a section detailing proposed mitigation measures for this development.

Baseline environment – desk based study. JNCC and SNH are content with the references that appear in the document, as a general approach.

Baseline environment – proposed surveys and data analysis. We note that the surveys proposed are focused on ornithology, benthic and geomorphology. We have already provided advice on these survey methods and we consider the data collection proposed proportionate, according to the project characteristics.

Data and information gaps. The information available from the Buchan zone covers the wider area, but there is less data at the site specific scale. It is proposed to undertake several surveys which will complete the gaps in some fields; however, after the desk-based study and survey, there will still be some uncertainty regarding the presence of mobile and migratory species, and we believe that this should be noted in the ES. Nevertheless, we expect that the information available after the desk studies and surveys will be sufficient to assess the impacts from the project.

Identification of potential impacts and Approach to the assessment of impacts. There is a lack of previous experience regarding impacts from similar projects to Hywind. Further definition of technical project details and site specific survey information will help provide a clearer definition of the potential impacts and their significance.

We consider that the potential impacts’ tables must be tentative and open to future analysis and data collection. Following our review of those tables, we would not agree with some of the approaches undertaken and we would include some other impacts in this early phase of the assessment. These are detailed further below.

We also recommend that within the ES, there is inclusion of an indicative construction programme which assesses the impact temporally as well as spatially to take account of impacts relating to the biological life cycle stages of species.

Phases of development

Construction phase

JNCC and SNH request further details on the assembly, storage and transport of the structures prior to their installation. We would also ask that identification of potential locations as to where this may occur is also considered as part of the EIA. This consideration of the assembly operations should in particular provide details on:

- Any requirement for anchoring operations
- Location of upending the turbines and consideration of introduction of marine invasive non-native species within the sea water ballast

We also request further details on each of the options for the WTG mooring system; to include footprint of each option, differing installation requirements etc.

Operational phase

The scoping document explains the standard operational and maintenance activities for an operating wind farm, including an increase of marine traffic and potential failure systems. However, we recommend consideration as to whether or not there may need to be additional operational and maintenance activities required due to this being a demonstration project.

Decommissioning phase

The information in the scoping report indicates that the buried cable would be the only infrastructure abandoned in place after decommissioning operations. We recommend that an evaluation of the impact occurring at decommissioning, including the timescale, is included within the ES. **Cumulative and in-combination effects**

Our advice with regard to cumulative and in-combination assessment is that other projects and plans which require to be assessed are agreed in consultation with the Regulators (Marine Scotland and the Local Planning Authority – Aberdeenshire Council). At this stage, we would advise that the following projects may require further consideration:

- European Offshore Wind Deployment centre
- Moray Firth Offshore Wind farm applications
- Forth and Tay Offshore Wind farm applications
- NRIP (harbour and port applications)
- Cable works in the vicinity of Peterhead, including the proposed HVDC cable to NE England

Monitoring

We found it helpful to see the Marine Noise Desk Study based on measurements taken from the Hywind Demo project in Norway. This information from the Norwegian demo will help to inform the assessment of potential disturbance of marine mammals from operational noise. It will be useful to include in the ES detailed results from any other monitoring studies from the Norwegian demo, as well as any proposed monitoring programme for this site.

ANNEX B – RECEPTOR SPECIFIC ADVICE FOR EIA

This Appendix provides our advice on the environmental interests which need to be considered. This will cover the topics below, with reference to the scoping report:

1. **Ornithology**
2. **Marine Protected Areas (MPAs)**
3. **Marine Mammals**
4. **Hydrodynamics and Coastal Geomorphology**
5. **Benthic and intertidal interests**
6. **Fish**
7. **Landfall and Onshore Elements**
8. **Seascape, Landscape and Visual Impact Assessment**

1. Ornithology

JNCC and SNH are content with the general information included in the ornithology scoping section; we note that the section has partially addressed the recommendations within our previous advice, which was submitted on 2nd September 2013. However, we expected greater detail on a potential long list of SPA bird features and their foraging ranges for consideration as part of the initial stages of both Habitats Regulations Appraisal (HRA) and EIA.

Furthermore, we advise that once the first survey report is submitted this will then allow a further update to the list of species and sites (SPAs) for which further consideration under HRA may be required.

Moreover, we suggest considering the relevance of gannet at Troup, Pennan and Lion's Heads SPA and puffin at Fowlsheugh because they have become key species in the area, despite the fact that they are not qualifier features in that areas. Therefore, we support their full consideration in the assessment.

We advise that consideration of collision risk, displacement and barrier effects are required and as such we would also advise that indirect effects are also considered such as impacts to prey species etc.

We query the usability of the SPA map included, as there are no further comments on the interaction between the SPA and the project or a description of the species potentially affected by the operations.

2. Scottish Marine Protected Areas (MPA) network

We welcome the fact that there is reference to the Southern Trench MPA search location within the scoping report. The proposed cable route passes through the southern part of the Southern Trench MPA search location, identified for minke whales, white-beaked dolphins, fronts, shelf deeps, burrowed mud, as well as geodiversity features.

The Marine Scotland Act and the Marine and Coastal Access Act, including respective provisions in relation to MPAs, are briefly referenced within Chapter 3. The project is not within any MPA, but it might also be useful for the applicant to reference the requirements for MPAs in relation to EIA, e.g. 'Marine Scotland policy is that possible MPAs (those currently under consultation) should be treated as if they were fully designated, until a decision on designation has been reached, while MPA search locations and MPA proposals should also be taken into account within EIA, as outlined within Marine Scotland's 'draft MPA management handbook'.

In terms of the known distribution of identified biodiversity features, the burrowed mud is in the northern part of the search location, related to the location of the Southern Trench shelf deep feature. Minke whales and white-beaked dolphins may be present throughout the search location, with the east Aberdeenshire coast section likely to be of particular importance for the latter. Fronts are also present throughout the search location. The draft data confidence assessment for the Southern Trench MPA search location may be a useful reference, although it should be noted that the document will be updated to reflect the latest evidence at the point when we provide advice to Scottish Government on whether the site should be proposed as an MPA. Within the EIA, consideration should be given to potential impacts of the proposal on identified features of the Southern Trench MPA search location. The MPA process is likely to be running on a parallel timescale to the applicant's project development and application. We advise that we will seek to keep the developer updated on the progress of MPAs and SNCB input, where relevant, and we also welcome their intention to engage in this process.

3. Marine mammals

Full consideration of potential impacts to marine mammals should be included within the ES, in terms of both Habitats Directive and European Protected Species legislative requirements, for the marine mammal species found most commonly in the area. Although this development will not involve pile driven foundations, other potential impacts could arise from this development both individually and cumulatively. As such, all potential impacts require detailed consideration within the ES assessment and further information is provided on marine mammals in Annex C and E.

We also noted a few errors in this chapter which are outlined below:

- The qualifying interest considerations (pg. 60) incorrectly states that the Moray Firth SAC is designated for harbour porpoises – this should be bottlenose dolphins. It also states “the Moray Firth has also been identified as a SAC for grey and harbour seals” – neither of these are designated interests of the Moray Firth SAC. Harbour seals are a qualifying interest of the Dornoch Firth and Morrich More SAC, which lies within the Moray Firth area.
 - o Moray Firth SAC: bottlenose dolphin
 - o Dornoch Firth and Morrich More SAC: harbour seal

- The Southern Trench search location used in this map does not seem to be the most recent one. The latest proposed boundaries of the search locations can be downloaded from

the Marine Scotland website. (Figure 9.2.)

Furthermore, we also noted impacts discussed in the benthic and marine mammal sections that were contradictory. For example, in the benthic section the introduction of new substrata and the potential for fish aggregations is considered positive, whereas in the marine mammal section it is considered that there may be a loss of prey availability due to the habitat change from the introduction of materials. Such impacts should be considered across the full range of receptors in order to provide a balanced assessment within the ES.

Entanglement of protected mobile species

Currently, SNH have commissioned research work on marine mammals and entanglement. This project is due to report in February 2014. This should provide useful information on the risk of entanglement from cables, chains and ropes. This report should be published in time to be incorporated into the EIA, if submission of the latter is expected to be in late 2014.

Prior to the publication of the entanglement report, we are unable to give detailed advice about the level of risk posed by entanglement, other than to say that there is a possibility that entanglement could occur, especially involving large baleen whales. The risk will be exacerbated by loose cabling or rope, so the maintenance of taut cables/ropes at all times would be deemed best practice. It may be possible to recommend other mitigation measures once the findings of the entanglement study are known.

4. Hydrodynamic process and coastal geomorphology

We agree with the conclusions on the effects on geomorphology and hydrodynamic processes, because this is likely to be a development with a small effective footprint at sea. We welcome the planned investigation of the impact of the land-end of the cable. This makes landfall on an undesignated rocky headland without strong sedimentary currents, and is therefore unlikely to have knock-on effects.

As mentioned above under MPAs, the only outstanding concern we have is regarding the cable route (depending on its exact location) and the Southern Trench search area. This will need to be considered and effective mitigation proposed if significant impacts are anticipated.

5. Benthic and intertidal ecology

The scoping report outlines that the benthic survey has been undertaken within the lease area, exclusivity area and cable route corridor, including acoustic, video, photo and grab sampling methods. Such detailed site specific survey information, including photographs etc, should be presented in the ES to help map the broad-scale distribution of seabed substrates and/or biotopes within the predicted area of benthic impact, which can then be used to inform the assessment.

In general, we agree with the benthic impacts identified within the scoping report. However, relatively little information has been provided to justify scoping out the potential for introduction of non-native species and spills in chapter 7. They are deemed of low impact due to *appropriate measures and procedures will be followed*, but we are not aware that this has been agreed at earlier meetings. Consequently, if the risk is low, the applicant should present this in their ES to demonstrate that they have considered the issue of species being transferred between sites within Scotland and indeed abroad. It would also be useful to have more information presented regarding ballasting procedures.

According to the information available, there are potentially sensitive habitats along the cable

route. Site specific survey results should be detailed within the ES to confirm the habitat types within the development area and consider potential benthic impacts upon them.

We note that there is no mention of Priority Marine Features (PMFs) in the scoping report as reference has been made to the *Environmental Survey Scope* (A100142-S00). However, if any PMFs are identified through site specific benthic surveys, then they should be fully assessed within the ES, accounting for their presence, extent and quality (e.g. abundance, patchiness, density, % live/dead, and species richness). The assessment of potential impacts and any consideration of mitigation options should also give particular consideration to PMFs. Regarding the *Colonisation of infrastructure in the water column and on the seabed*, we do not necessarily consider the introduction of new material into the marine environment a positive impact; as such new substrates could allow colonisation in the area by species not usually represented in that area for example. Further consideration of this issue should be included within the ES, alongside impacts from the introduction of stabilisation materials, the interaction of mooring chains on the seabed and smothering impacts etc.

6. Fish

We note that Marine Scotland Science are the primary source for information on commercial fish and shellfish in Scottish waters, and the applicant should contact them directly for information on all aspects associated with commercial fisheries.

We do not consider that the proposals will have an impact on migratory fish species which are a qualifying interest of freshwater Special Areas of Conservation (SACs) – Atlantic salmon, sea lamprey and river lamprey.

We note that elasmobranchs may need consideration including those listed by OSPAR and under the Wildlife & Countryside Act. We recommend that impact assessment for elasmobranchs includes consideration of the impacts of electro-magnetic fields (EMF). The potential for some fish species, to be affected by EMFs emitted by subsea cables should be considered and mitigation suggested with regard to the export cable and landfall.

7. Landfall and onshore elements

The onshore works comprise a cable landfall from which the cable would lead to Peterhead Grange substation to connect to the grid. The cable route would be up to 3m long and probably be installed within the existing road network. A separate onshore switchgear yard will be located along the cable route. The exact location of the landfall, cable route and switchgear yard have not yet been identified. Aberdeenshire Council has determined that the onshore components themselves do not require an EIA under the TCP (EIA) Regs (scoping report section 1.5 para. 3), and therefore there is no statutory requirement for SNH to be consulted. We welcome, however, the proposal for the EIA for the offshore components of the project to include consideration of the onshore works.

Protected sites and species

We consider that the proposal is unlikely to have a significant effect on the qualifying interests/features of any of the designated sites in the vicinity, due to their distance and the type of works proposed.

The scoping report identifies the potential for impacts to habitats and protected species along the onshore cable route and at the onshore switching yard. There should also be consideration of impacts to these at the landfall site and how to mitigate any impacts. UK and LBAP habitats and species should be assessed according to advice from the Local Authority.

We agree that the ecological value is likely to be low due to the built-up and urban character of the area, and support a walkover survey to validate this. More detailed survey may then be required. These surveys should follow a suitable method and survey a sufficient buffer around the construction footprint.

The ES should provide details of appropriate mitigation and state whether or not licences are likely to be required. Our website provides information on the legislation applying to protected mammals and licensing for activities which could affect them
<http://www.snh.gov.uk/protecting-scotlands-nature/protected-species/>
<http://www.snh.gov.uk/protecting-scotlands-nature/species-licensing/mammal-licensing/>.

8. Seascape, landscape and Visual Impact Assessment (SLVIA)

As Aberdeenshire Council has determined that the onshore components do not require an EIA, scoping advice is limited to the offshore components of the development. However, there should be some commonality of approach between the Seascape, Landscape and Visual Impact Assessment (SLVIA) required for the offshore components, and any Landscape and Visual Impact Assessment (LVIA) required as part of the voluntary ES to be submitted to Aberdeenshire Council. For example, there should be joint consultation with SNH and Aberdeenshire Council on aspects such as ZTV modelling, viewpoints and visualisations required for assessing offshore and onshore components, which may influence the approach to assessment of the onshore components (and vice-versa).

In terms of the offshore components, it appears there are several unknowns about the location and scale of temporary supportive development required to assemble and deliver turbines for installation in the Pilot Park. We advise that this should be scoped into the EIA, contrary to the assessment in the scoping report. Our detailed advice on the landscape and visual impacts of the offshore components is attached as an appendix.

Public space and amenity

We note that impacts on public space and amenity have been scoped out of the EIA. The report states at 2.7.4 that the onshore switchgear yard will not exceed 1ha. If there is a chance that the switchgear yard will be located within an area of open space, the impacts of this and how to mitigate them should be considered within the voluntary ES submitted to Aberdeen Council.

We agree with the Relevant Guidance documents included within the Scoping Report (Table 9-12), in particular the SNH *Guidance on assessing the impact on coastal landscape and seascape* (2010). The LI and IEMA *Guidelines for Landscape and Visual Impact Assessment* have been revised in a 3rd Edition (published 2013), superseding the 2002 edition. The SNH *Visual Representation of Windfarms: Good Practice Guidance* (2007) is currently in the final stages of revision, and is due for publication late autumn 2013 (to be announced on our website). Once a more detailed assessment methodology (SLVIA and CLVIA) has been developed by the landscape consultants we would welcome further consultation.

Choice of viewpoints to assess both the construction and operational effects should consider a range of static and sequential viewpoints, including coastal and inland locations (where views to the offshore components are predicted), coastal routes/recreation, marine recreation and ferry routes. Night time construction and operational impacts should also be considered, in particular any requirements for temporary and permanent navigational lighting.

From the limited construction information provided in the Scoping Report, it seems there are several unknowns in terms of the location and scale of temporary supportive development required to assemble and deliver turbines for installation in the Pilot Park. In particular, the WTG Unit assembly site and the Floating storage site (Scoping Report para. 2.8.1), located inshore, in greater proximity to landscape and visual receptors, may impose a greater magnitude of change and significance of effect, and should be scoped into the EIA, contrary to the assessment in Scoping Report Table 19-2. By their very nature, construction impacts are temporary, however that should not preclude an adequate level of information to assess their impact, especially in the unique context of this development, which is likely to generate and attract a lot of public interest (in accordance with GLVIA para. 4.16).

Whilst it is not necessary to have separate visualisations and photomontages to assess these construction impacts, certain approaches may be considered – including, but not limited to:

- Detailed project descriptions of any inshore floating storage and assembly site and onshore staging sites that are well illustrated, using various means, including diagrams and photographs;
- ZTV modelling of any significant structures – which will inform the impact assessment and choice of viewpoint locations to assess both construction and operational impacts;
- Indication of location of any inshore floating sites and structures on wirelines and/or photomontages used to assess the offshore turbines.

We are strongly supportive of the proposed approach to public consultation and engagement, which is considering alternative forms of engagement, including the use of on-site display boards. In the unique context of this development, we consider this type of public engagement appropriate for both construction and operational phases (which could draw on the suggested illustrative information above).

ANNEX C – LEGISLATION: EUROPEAN PROTECTED SPECIES AND HABITATS REGULATION APPRAISAL

EUROPEAN PROTECTED SPECIES

Certain species are listed on Annex IV of the Habitats Directive as species of European Community interest and in need of strict protection. The protective measures required are outlined in Articles 12 to 16 of the Directive. The species listed on Annex IV whose natural range includes any area in the UK are called 'European protected species'.

JNCC is the statutory nature conservation body who provides advice on EPS in respect of the Habitats Regulations for UK waters, outside of 12nm (territorial waters). A summary of the legal requirements for EPS (also found here ¹) is as follows:

In England, Wales and UK offshore waters (outside 12nm), Regulations 41(1) and 39(1) of the Habitats Regulations and the Offshore Marine Regulations, respectively, provide that a person is guilty of an offence (and would therefore need to be considered for licence) if he:

- (a) deliberately captures, injures, or kills any wild animal of a European protected species;
- (b) deliberately disturbs wild animals of any such species

For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely—

(a) to impair their ability—

- (i) to survive, to breed or reproduce, or to rear or nurture their young; or
- (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) to affect significantly the local distribution or abundance of the species to which they belong.

JNCC (with Countryside Council for Wales and Natural England) have produced guidance (The protection of marine European Protected Species from injury and disturbance: Guidance for the marine area in England and Wales and the UK offshore marine area, JNCC, CCW and Natural England, 2010) which is currently in draft form awaiting approval, and outlines how developers, regulators and courts assess: a) the likelihood of an offence being committed; b) how this can be avoided; and c) if it can't be avoided, the conditions under which the activity could go ahead under licence.

SNH is the statutory nature conservation body who provides advice on EPS in respect of the Habitats Regulations in Scotland, including Scottish Territorial Waters. Please see their website ² for further advice on the legal provisions which apply under these Regulations.

EPS Licences

If there is a risk of injury or disturbance of EPS that cannot be removed or sufficiently reduced by using alternatives and/or mitigation measures, then the activity may still be able to go ahead under licence, but this should be a last resort. A licence should only be granted if the activity fits certain purposes, if there is no satisfactory alternative and where the activity will not be detrimental to the maintenance of the populations of the species concerned at a FCS in their natural range.

The likelihood of an activity resulting in injury or disturbance offence to a marine EPS will very much depend on the characteristics of the activity, of the environment and the species concerned, hence the need for a case-by-case approach when assessing the risk of it occurring. Pursuing mitigation measures, alternative methods, locations and/or times for carrying out proposed activities might in some cases be sufficient to reduce the risk of causing offence to negligible levels. This would then negate the requirement for a licence.

It is expected that many activities at sea will not require a licence to exempt them from regulations 41(1)(a) and (b) and 39(1)(a) and (b) of the HR and OMR, respectively, since their potential for injury and/or disturbance can be effectively mitigated or because the characteristics of the disturbance will fall below the threshold of an offence.

Any licence application (under regulation 53(1) of the HR and 49(6) of the OMR) will necessitate a detailed assessment of whether the licence should be granted. The licence assessment will be comprised of three tests to ascertain:

1) whether the activity fits one of the purposes specified in the Regulations; 2) whether there are no satisfactory alternatives to the activity proposed (that would not incur the risk of offence); and 3) that the licensing of the activity will not result in a negative impact on the

species/population's Favourable Conservation Status. The licence assessment will be

carried out by the appropriate authority with the information provided by the developer and advice from nature conservation agencies.

A flowchart is included below describing this process: Consideration of European Protected Species should be included as part of the application process, not as an issue to be dealt with at a later stage. Any consent given without due consideration to these species is likely to breach European Directives with the possibility of consequential delays or the project being halted by the EC.

1

JNCC advice on EPS under the Offshore Marine Regulations 2007 (as amended) at: <http://www.jncc.gov.uk/page-4550> and <http://jncc.defra.gov.uk/default.aspx?page=5473>

2

SG Interim EPS Guidance available from: <http://www.scotland.gov.uk/library3/environment/epsg.pdf>

HABITATS & BIRDS DIRECTIVES, & HABITATS REGULATIONS

The two most influential pieces of European legislation relating to nature conservation are the Habitats and Birds Directives. The 'Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora' was adopted in 1992 and is commonly known as the Habitats Directive. It complements and amends Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (this is the codified version of Directive 79/409/EEC as amended), commonly known as the Birds Directive.

The Birds Directive protects all wild birds, their nests, eggs and habitats within the European Community. It gives EU member states the power and responsibility to classify Special Protection Areas (SPAs) to protect birds which are rare or vulnerable in Europe as well as all migratory birds which are regular visitors.

The Habitats Directive builds on the Birds Directive by protecting natural habitats and other species of wild plants and animals. Together with the Birds Directive, it underpins a European network of protected areas known as Natura 2000 comprising SPAs classified under the Birds Directive and Special Areas of Conservation (SACs) designated under the Habitats Directive.

The Habitats Directive has been transposed into the law of England, Wales and Scotland by the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) usually called simply the Habitats Regulations). Several amendments have been made to the Habitats Regulations since they came into force.

For areas within UK jurisdiction other than Scottish territorial waters, the Habitats Directive has been transposed into UK law by the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended in 2009 and 2010) (the Offshore Marine Regulations).

Habitats Regulations Appraisal

Where a plan or project could affect a Natura site, the Habitats Regulations require the competent authority – the authority with the power to undertake or grant consent, permission or other authorisation for the plan or project in question – to consider the provisions of regulation 48. This means that the competent authority has a duty to:

- determine whether the proposal is directly connected with or necessary to site management for conservation; and, if not
- determine whether the proposal is likely to have a significant effect on the site either individually or in combination with other plans or projects; and, if so, then
- make an appropriate assessment of the implications (of the proposal) for the site in view of that site's conservation objectives

This process is now commonly referred to as Habitats Regulations Appraisal (HRA). HRA applies to any plan or project which has the potential to affect the qualifying interests of a Natura site, even when those interests may be at some distance from that site.

The competent authority, with advice from nature conservation agencies, decides whether an appropriate assessment is necessary and carries it out if so. Appropriate assessment focuses exclusively on the qualifying interests of the Natura site affected and must consider any impacts on the conservation objectives of the site. The applicant is usually required to provide the information to inform the assessment. A plan or project can only be consented if it can be ascertained that it will not adversely affect the integrity of a Natura site (subject to regulation 49 considerations).

Further Information and Advice on HRA

In this scoping response we provide tailored advice for HRA in respect of birds that are qualifying interests of SPAs, and marine mammals, habitats and fish that are qualifying interests of SACs:

- Annex D – JNCC and SNH Advice on Habitats Regulations Appraisal for SPAs
- Annex E – JNCC and SNH Advice on Habitats Regulations Appraisal for SACs

In respect of this, further information on the qualifying interests and the conservation objectives for each relevant Natura site are available from SNH's Sitelink database and can be discussed with JNCC and SNH directly.

APPENDIX D – HYWIND DEMONSTRATION PROJECT: HABITATS REGULATIONS APPRAISAL

SPECIAL PROTECTION AREAS

Introduction

In the following advice for HRA we set out the three steps that need to be considered in order to determine whether or not the proposed demonstration wind farm development is likely to have a significant effect on the qualifying interests of SPAs, and any possible adverse impact on site integrity. It is the competent authority (Marine Scotland) who will carry out the HRA, based on advice from ourselves (JNCC and SNH) and using information and data collated by the developer. We note that the HRA should become more focused over time through an iterative process, as information arises which justifies that the risk to certain features is at an acceptable level.

Under HRA, the potential impacts of this proposal will need to be considered alone and in combination with other plans and projects. It needs to be considered in combination with the other East coast wind farm applications (MORL / BOWL, Inch Cape, Seagreen Phase 1 and Neart na Goaithe), developments (European Offshore wind Deployment centre) and other activities that may be relevant.

We also note that HRA should address all elements of the windfarm proposal – onshore works as well as offshore elements.

Special Protection Areas for inclusion in HRA

We recommend that the following initial lists of SPA sites and features are considered:

Troup, Pennan and Lion's Heads SPA – fulmar, kittiwake, herring gull and guillemot
Buchan Ness to Collieston SPA – European shag, fulmar, kittiwake, herring gull, razorbill and guillemot
Fowlsheugh SPA – fulmar, kittiwake, herring gull and guillemot
Forth Islands SPA – fulmar and gannet
East Caithness Cliffs SPA – fulmar, great black-backed gull; herring gull, guillemot and puffin
Loch of Strathbeg SPA – Sandwich tern
Ythan Estuary, Sands of Forvie and Meikle Loch SPA – sandwich tern, common tern

We note that the scope of HRA should be based on a consideration of the range of bird species that may be affected, their ecology and the types of impacts which may affect them. We would also welcome further discussion on this initial list, upon receipt of the first year survey report.

Further information on SPAs, is available from <http://www.jncc.gov.uk/default.aspx?page=162> and <http://www.snh.org.uk/snhi/>.

Advice for HRA in respect of SPA qualifying interests

We provide advice on the legislative requirement for HRA in Annex C. The steps of the process are as follows.

Step 1: Is the proposal directly connected with or necessary for the conservation management of the SPAs?

The proposal is not directly connected with or necessary for the conservation management of any of the SPAs listed above.

Step 2: Is the proposal likely to have a significant effect on the qualifying interests of the SPAs either alone or in combination with other plans or projects?

This step acts as a screening stage: it removes from the HRA those proposals (plans or projects) which clearly have no connectivity to SPA qualifying interests or where it is very obvious that the proposal will not undermine the conservation objectives for these interests, despite a connection.

Screening begins early in the development process (at scoping), at which point we advise that the scope of the HRA is kept broad so that potentially significant impacts are not missed out. The HRA will then be refined over time as further information arises, from the developer and experience elsewhere. The SPA interests listed here may therefore change as the HRA process progresses.

SPA bird interests being considered in respect of offshore windfarms are wide-ranging, considering foraging ranges. This presents challenges in determining from which SPA species on the site have arisen.

Expert agreement over species sensitivity should help to identify those SPA qualifying interests for which the conservation objectives are unlikely to be undermined by offshore windfarm development, despite any possible connection (e.g. SPA qualifiers which are recorded within a proposed windfarm site but where their flight behaviour and / or foraging ecology means that the windfarm will not have a likely significant effect).

Determination of 'likely significant effect' is not just a record of presence or absence of bird species at an offshore wind farm site, but also involves a judgement as to whether any of the SPA conservation objectives might be undermined. Such judgement is based on a simple consideration of the importance of the area in question for the relevant species. Understanding the behavioural ecology of the species, and the characteristics and context of the proposed wind farm site, will help in determining whether there are likely significant effects.

There are three possible conclusions for this step of HRA:

- a) The likely impacts are such that there is clear potential for the conservation objectives to be undermined – conclude likely significant effect.
- b) The likely impacts are so minimal (either because the affected area is not of sufficient value for the birds concerned or because the risk to them is so small) that the conservation objectives will not be undermined – conclude no likely significant effect.
- c) There is doubt about the scale of the likely impacts in terms of the conservation objectives – conclude likely significant effect.

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SPA, either alone or in combination with other plans or projects?

This stage of HRA is termed **appropriate assessment**, and it is undertaken by the competent authority based on information supplied by the developer, and with advice provided by ourselves (JNCC and SNH).

Appropriate assessment considers the implications of the proposed development for the conservation objectives of the qualifying interests for which a likely significant effect has been determined. These conservation objectives follow a standard format requiring protection of the qualifying bird interests and protection of the habitat in the SPA which supports them.

Conservation objectives for SPA bird species

To ensure that site integrity is maintained by:

- (i)** Avoiding deterioration of the habitats of the qualifying species.
- (ii)** Avoiding significant disturbance to the qualifying species.

To ensure for the qualifying species that the following are maintained in the long term:

- (iii)** Population of the bird species as a viable component of the SPA.
- (iv)** Distribution of the bird species within the SPA.
- (v)** Distribution and extent of habitats supporting the species.
- (vi)** Structure, function and supporting processes of habitats supporting the species.

repeat of (ii) No significant disturbance of the species.

It is important to recognise that the conservation objectives primarily offer site-based protection and that some of them will not directly apply to species when they are outwith the boundaries of the SPA. This is particularly true of objectives **(i)**, **(v)** and **(vi)** which relate to the supporting habitats within the SPA.

Objective **(iii)** however – maintenance of the population of the bird species as a viable component of the SPA – will be relevant in most cases because:

It encompasses direct impacts to the species, such as significant disturbance to qualifying bird interests when they're out with the SPA.

It addresses indirect impacts such as the degradation or loss of supporting habitats which are outwith the SPA but which help to maintain the population of the bird species of the SPA in the long-term.

Finally, in rare circumstances, it is possible that factors outside site boundaries may have the capacity to affect the long term distribution of bird species within the SPA – see objective **(iv)**.

Issues to consider under appropriate assessment

The key question in any appropriate assessment for Hywind of development is whether it can be ascertained that this proposal, alone or in combination, will not adversely affect the population of any qualifying bird species as a viable component of the SPAs under consideration.

In considering this matter, there may be further issues to consider if the proposal is likely to affect the conservation objectives that relate to bird species while they are in an SPA or to the habitats in the SPA that support them.

- Will the offshore wind proposal(s) cause a deterioration in the habitats of any of the SPAs?
- Will the offshore wind proposal(s) cause any significant disturbance to bird interests while they are in any of the SPAs?
- Will the offshore wind proposal(s) alter the distribution of the birds within any of the SPAs?
- Will the offshore wind proposal(s) affect the distribution and extent of the habitats (that support the bird species) in any of the SPAs?
- Will the offshore wind proposal(s) in any way affect the structure, function and supporting processes of habitats in any of the SPAs?

APPENDIX E – HYWIND DEMONSTRATION PROJECT: HABITATS REGULATIONS APPRAISAL

SPECIAL AREAS OF CONSERVATION

Introduction

In the following advice for HRA we set out the three steps that need to be considered in order to determine whether or not the proposed demonstration windfarm is likely to have a significant effect on the qualifying interests of SACs, and any possible adverse impact on site integrity. The competent authority (Marine Scotland) will carry out the HRA, based on advice from ourselves (JNCC and SNH), using information and data collated by the developer.

Under HRA, the potential impacts of this proposal will need to be considered alone and in combination with other plans and projects, including other windfarms and different activities. We recognise that the HRA is set wide initially, but will become more focused as information is collected and we will continue to review our advice as the windfarm development progresses.

Special Areas of Conservation for Inclusion in HRA

We advise that the applicant will need to consider the following SACs, initially, due to potential connectivity between the development and the site. Further information, including their conservation objectives, is available from <http://www.snh.org.uk/snhi/>.

SACs designated for marine mammals:

- Moray Firth SAC -designated for bottlenose dolphin (*Tursiops truncatus*)

Advice for HRA in respect of Special Areas of Conservation

We provide advice on the legislative requirement for HRA in Annex E. The steps of the process are as follows, independently of the characteristics or size of the project.

Step 1: Is the proposal directly connected with or necessary for the conservation management of the SACs?

The proposal is not directly connected with or necessary for the conservation management of any of the SACs listed above.

Step 2: Is the proposal likely to have a significant effect on the qualifying interests of the SACs either alone or in combination with other plans or projects?

This step acts as a screening stage: it removes from the HRA those proposals which clearly have no connectivity to SAC qualifying interests or where it is very obvious that the proposal will not undermine the conservation objectives for these interests, despite a connection. When this screening step is undertaken at an early stage in the development process, it usually means that it takes the form of a desk-based appraisal.

Screening begins early in the development process (at scoping), at which point we advise that the scope of the HRA is kept broad so that potentially significant impacts are not missed out. The HRA will then be refined over time as further information arises, from the developer and experience elsewhere. The SAC interests listed here may therefore change as the HRA process progresses, and JNCC and SNH recommend early discussion, to agree which qualifying interests can be scoped out of the HRA and at what stage.

There are three possible conclusions to this step of HRA:

- a) The likely impacts are such that there is clear potential for the conservation objectives to be undermined – conclude likely significant effect. b) The likely impacts are so minimal that the conservation objectives will not be undermined – conclude no likely significant effect. c) There is doubt about the scale of the likely impacts in terms of the conservation objectives – conclude likely significant effect.

Until the proposal has been further progressed and more details are available, we will not be in a position to present definite conclusions for this step. Instead, we therefore provide a summary of our current advice for each qualifying interest.

□ **Bottlenose dolphin** of the Moray Firth SAC.

The dolphins are not confined to this SAC and will range more widely within the Firth and along the East coast of Scotland. It is unclear whether noise from construction (and other) is likely to extend beyond the windfarm footprint and therefore overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or due to noise. We therefore advise that there is potential for the proposal to have likely significant effects on bottlenose dolphins and discuss below (under step 3) the issues that we think need to be considered.

Summary of our current advice: potential likely significant effect, so impacts (including cumulative) will need to be considered in appropriate assessment (see step 3).

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SAC, either alone or in combination with other plans or projects?

This stage of HRA is termed **appropriate assessment**, and it is undertaken by the competent authority based on information supplied by the developer, and with advice provided by the relevant nature conservation organisation.

Appropriate assessment considers the implications of the proposed development for the **conservation objectives** of the qualifying interests for which a likely significant effect has been determined. SNH's website provides details on the conservation objectives for each SAC. Based on these objectives, we discuss key questions relevant to each interest, to determine overall whether it can be ascertained that the proposal will not adversely affect the integrity of any of these SACs.

Our advice on appropriate assessment, and how many of these questions may need to be answered, will become clearer when the development process is further advanced, when baseline data has been collected, and when construction methods, location of infrastructure, choice of port, and other aspects of the proposal have been finalised.

Moray Firth SAC: advice on bottlenose dolphins

Advice for further consideration of the requirement for appropriate assessment in respect of bottlenose dolphin of the Moray Firth SAC.

The conservation objectives for bottlenose dolphin are:

- (i) to avoid deterioration of the habitats of bottlenose dolphin or
- (ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features.

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

- (iii) Population of bottlenose dolphin as a viable component of the site.
 - (iv) Distribution of bottlenose dolphin within site.
 - (v) Distribution and extent of habitats supporting bottlenose dolphin.
 - (vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.
- repeat of (ii) No significant disturbance of bottlenose dolphin.

Based on these conservation objectives the following questions may need to be addressed:

- Will the proposal cause any deterioration to habitats within the Moray Firth SAC which support bottlenose dolphin?
- Will it affect the extent or distribution of any of these habitats in the SAC?
- Will it affect the structure and function of these habitats or of any of their supporting processes?
- Will the proposal cause significant disturbance to bottlenose dolphin while they are in the SAC, and will it cause any change to their distribution within the site?
- Will the proposal cause significant disturbance to bottlenose dolphin while they are outwith the SAC such that the viability of this SAC population is affected?
- Will the proposal in any way affect the population viability of the bottlenose dolphins of the Moray Firth SAC?

The last question encompasses the indirect impacts that a windfarm development could have – such as the degradation or loss of supporting habitats or feeding grounds which are outwith the SAC but which help to maintain the population of bottlenose dolphin in the SAC in the long-term. The risk of impacts, and how many of these questions may need answered, will become clearer when the development process is further advanced and construction methods, location of cable routes, choice of port, and other aspects are finalised.

We advise that noise impact assessment from vessels, anchoring and other operations is likely to be an important part of assessing any direct disturbance to bottlenose dolphin, including their potential displacement from feeding grounds and other supporting habitats. While we consider that the construction phase may give rise greatest risk of disturbance, we do highlight that impacts during the operational phase also need to be considered, as well as any repowering and decommissioning work. It will also be important for the applicant to consider impacts on prey species.

We highlight that cumulative impacts are a key concern and should be addressed.

On-going Liaison

As noted above, we will continue to liaise with the developers and Marine Scotland in respect of this HRA process. Agreeing the scope of, and information required for, HRA will be an iterative process.

Association of Salmon Fishery Boards

Nil return.

British Telecom (Radio Network Protection Team)

No comments

Chamber of Shipping

Nil return.

Civil Aviation Authority

The Civil Aviation Authority (CAA): Having reviewed the Scoping Report in respect of the proposed Hywind Scotland Pilot Park Project, have the following comments

Aviation Consultees

Section 16 of the Scoping Report confirms appropriate aviation consultees have been identified. To clarify, both NATS (which provides En Route Air Traffic Control) and the Ministry of Defence (MoD) should be consulted. The impact on their infrastructure should be assessed within the Environmental Impact Assessment.

There are a number of officially safeguarded aerodromes which are defined in government circulars. These may offer pre-planning services for which there may be a charge. Such aerodromes should have lodged safeguarding maps with local planning authorities (LPAs) identifying the areas in which they need to be consulted. Due to the nature of their operations these areas may be in excess of 50km from the aerodrome.

In addition to officially safeguarded Aerodromes there are several hundred other aerodromes in the United Kingdom. These may be Licensed or Unlicensed by the CAA. Associated Aerodrome Licence Holders or operators may have registered safeguarding maps with their LPAs. To verify the presence of aerodromes known to the CAA in any particular area, it is recommended that an aeronautical chart is purchased and the site of the turbine checked to see if it falls within the range of an aerodrome using the distances recommended in CAP 764. It is also recommended that helicopter operators and Emergency Service Helicopter Support Units are consulted as they may operate in the area of concern and be affected by the introduction of tall obstacles.

Marking and Lighting

As per Article 220 of the Air Navigation Order (2009) all turbines with a height of 60 meters or more above the level of the sea at the highest astronomical tide will be subject to specific lighting and marking requirements.

Other Considerations

The Scoping Report states:

'The WTG Unit is fitted with a dynamic pitch regulation system to reduce the motion of the WTG Unit (Figure 2-3). The WTG Unit, including nacelle and rotors, was assembled at a sheltered site in inshore waters and towed upright to the deployment location.'

Lighting

As per Article 220 of the Air Navigation Order (2009) all turbines with a height of 60 meters or more above the level of the sea at the highest astronomical tide will be subject to specific lighting and marking requirements.

Towing

The towing of tall obstacles in UK territorial water will inevitably have an impact on aviation. The CAA are in the process of producing official policy on this activity and would offer the following guidance in the interim:

1. The CAA would request that the lighting be operational during the tow.
2. The CAA would request that the towing activity is subject to a NOTAM.
3. The CAA would request that aviation stakeholders that are likely to operate in the vicinity of the turbine tow be individually consulted prior to the towing operation being conducted. This is likely to include; MOD, NATS and aerodromes in the vicinity (regardless of status).

Note. In this case, the movement of a single turbine, the issues and related aviation concerns are relatively easy to mitigate. Conversely, the advent of a routine flow of turbines being transported from a construction site to one or more offshore destination would necessitate the development of a more strategic mitigation of the associated risks to aviation; i.e. something more than a NOTAM and tactical liaison with local aviation stakeholders.

Floating

The fact that the wind turbine will be on a 'floating' platform is unprecedented. Such that the aviation warning lighting is likely to be more of an issue for the maritime sector due to the 'sway' of the turbine. Again consultation will be required to assess the full impact and produce the required guidelines for this.

In conclusion, the nature of this project has the potential to have a significant effect on the aviation environment.

Crown Estate

No comment.

Health and Safety Executive

HSE is the national independent watchdog for work-related health, safety and illness. They have a dedicated team that regulates occupational health and safety standards for the offshore renewable energies industry. You are advised to contact this team to discuss how you will manage health and safety during the planning, construction and operation of your offshore renewable project.

Historic Scotland

Based on the information to date, we do not consider that either the offshore or the onshore elements of the proposal are likely to have a significant adverse impact on heritage assets within our remit. I can also confirm that we are content with the proposed approach and method for carrying out the marine archaeological and cultural heritage assessment, set out in chapter 15 (page 87) of the submitted SWL Scoping Report.

BP

BP owns and operates two pipelines and a fibre optic cable (together the “BP Assets”) in the vicinity of the proposed Hywind Scotland Park Project. These are:

- The 36” Forties to Cruden Bay pipeline that transports c. 500,000bbl/day live crude (which represents about 40% of UK produced oil).
- The 32” disused Forties to Cruden Bay pipeline.
- The Central North Sea fibre optic cable that provides communications to a number of offshore production platforms.

Loss of, or damage to, the 36” pipeline would be of national economic significance, and breach of that pipeline would represent a major pollution incident. Loss of, or damage to, the fibre optic cable would disrupt communications, and may result in a reduction in offshore production.

In relation to the BP Assets, BP has the following comments to the EIA scoping report. We have prepared these comments within a relatively short time of receiving the report. They are thus neither exhaustive comments nor fully developed, but we are happy to provide more detail as required in due course.

1. Given the proximity of the Hywind Scotland Park Project to the BP Assets (and likely crossings by electric cables etc) we would expect to be fully consulted during the conceptual and detailed design phases to eliminate risks to the BP Assets where possible, and mitigate other risks to an acceptable level before the development received approval. The economic importance of the 36” pipeline in particular is illustrated by the fact that at current levels of throughput of around 500mbd, loss of a day of operation costs the UK economy \$50million/day at \$100/bbl, of which \$30million/day is lost government revenue assuming upstream corporation tax at 62%.
2. Paragraph 1.4 and 2.6.2. The area of the development will require the crossing of the BP Assets by inter-array cables. There is potential for damage to the BP Assets during the laying of any cables that cross, and also during ongoing operation if the cables are insufficiently separated from the BP Assets. Design of any crossing will require provisions to ensure protection of the BP Assets during both construction and operation, and minimising the numbers of crossings and length of interaction (preferably crossing at 90 degrees). BP would expect any proximate/ crossing work to take place governed by a standard UKCS crossing/proximity agreements between BP and the developer, under which:
 - a. BP has the right to approve the design of any crossing/ proximate work

- i. For construction risk
 - ii. For operational risks, such as interference with the pipeline cathodic protection systems. In these cases detailed assessments and demonstration trials by the developer are likely to be required before finalisation of design.
 - b. The developer indemnifies BP against; (i) damage to the BP Assets or third party property; (ii) injury to third party personnel; and (iii) consequential loss, arising from the construction and maintenance of the Hywind Scotland Park Project.
3. Paragraph 2.2 states that the Buchan Deep has been selected compared with the Minch off Stornoway. The report does not state whether economic impact has been taken account in this selection, and we consider that the risks to a strategic pipeline such as the 36" Forties to Cruden Bay are such that economic factors should be included in the decision criteria.
 4. Paragraph 2.3. BP would expect that all elements of the development, including location of anchor points lie more than 500m from the BP Assets in order to mitigate construction risk.
 5. Paragraph 2.6.1 states that anchoring is yet to be decided. We note that the turbines have a displacement of 12500m³, so presumably a weight of 12000 to 13000 tonnes. The event of a turbine dragging its moorings over the BP Assets would have potential for significant damage resulting potentially in loss of pipeline containment and/or shutdown for repair. BP would expect to be consulted in the design of the moorings, and directionally will strongly prefer permanent moorings that by design cannot be dragged across the seabed.
 6. Paragraph 2.8.6 and 2.8.7 discuss the on-site installation process. BP will want to understand the potential failure cases and mitigations for this operation. For example, can it fail in a way that the WTG unit can drift and contact the seabed, representing a direct risk of catastrophic damage to the BP Assets? Similar issues apply to any maintenance activities which involve disconnection and towing of a WTG Unit as described in paragraph 2.9.2
 7. Paragraph 2.9.2. BP will need assurance that our own maintenance and inspection activities for the BP Assets are not hindered or restricted in any way that could increase risks to operation or integrity (or indeed significant cost). Similarly we will require assurance that the Hywind maintenance activities do not create new risks to the BP Assets. A Pipeline Proximity/Crossing Agreement may be appropriate to cover activity and indemnity issues.
 8. Paragraph 2.10. Similar issues as described above for construction phase apply.
 9. We are concerned to understand whether subsea noise from the turbines can interfere with pipeline operations such as tracking of pigs/ plugs that are routinely used for operations.
 10. Detailed survey of the BP Assets in the area of any crossing would be required to establish spans, scouring, exposure or external damage prior to decision about location and detail design of any crossings.

Inshore Fisheries Group

Nil return

Marine Safety Forum

Nil return

Marine Scotland Compliance

Nil return

Maritime Coastguard Agency

MCA have reviewed the scoping report provided by Exodus for the Hywind Scotland Pilot Park project, in principle we are content with the scope and content of the report, with the developer accurately identifying the key requirements of the NRA.

Points of note that will need to be reviewed in detail within their NRA:

- The provision of numerous mooring cables, and floating and unburied inter array cables, will provide significant challenges in managing the area within the array, the developers intent appears to be to create a 'zone of exclusivity', how vessel activity may or may not be managed or controlled in the area, will need some detailed discussion ahead of submission, this is a significant challenge which will need some detailed work before the project can be considered in application.
- The towing of the WTG structures is of concern, issues which may not have been considered such as aviation marking will need to be addressed, a section within the NRA on towage planning should be included.
- The detailed requirements for the NRA traffic survey are still to be agreed, this should be addressed at the earliest opportunity to ensure any required survey demands can be met within the project time scales.
- The mooring systems are required to be subject of a third party verification.
- The AFL is split in two by the Forties pipeline, the final array development should be established as a single block.

Ministry of Defence

MOD has concerns regarding the proposal. Our assessment has been carried out on the basis that there will be 5 turbines, 178 metres in height from sea level to blade tip and located within one of two sites defined by the grid reference below.

Turbine	100 km square letter	Easting	Northing
1	NK	36034	44364
2	NK	37720	46001
3	NK	40008	43644
4	NK	38323	42007
5	NK	39287	38953
6	NK	41467	41069
7	NK	44941	37491
8	NK	42761	35375

Air Defence (AD) radar

The centre point of the turbine array will be 20.3 km from, detectable by, and will cause unacceptable interference to the AD radar at Buchan.

Trials carried out in 2005 concluded that wind turbines can have detrimental effects on the operation of radar which include the desensitisation of radar in the vicinity of the turbines, and the creation of "false" aircraft returns. The probability of the radar detecting aircraft flying over or in the vicinity of the turbines would be reduced, and the RAF would be unable to provide a full air surveillance service in the area of the proposed wind farm.

If the developer is able to overcome the issues stated above, the MOD will request that all turbines be fitted with 200 candela omni-directional red lighting at the highest practicable point.

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

NERL Safeguarding (NATS)

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

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

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

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

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

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

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

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

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

Instructions for the use of NATS self-assessment maps.

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

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

For example, if you have a 60m turbine, ideally the radar will not cover that area at 60m. i.e. although there may be cover over that position at 100m and 80m, when selecting the 60m map, the cover is reduced leaving the turbine outside radar cover. Conversely if you have a 100m turbine, and the radar can see down to 100m over the turbine location, that turbine is visible to radar.

- By using the different maps, you should then be able to look at radar cover in different areas at different heights. This can be a useful tool for assessing a specific area and in some cases can be used to determine which positions are more likely to be an issue than others. It can also be used to determine a maximum acceptable turbine height.

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

Once you've assessed your turbine location against primary radar cover, the same must be done for secondary radar (SSR), navigation aids and radio stations by downloading and adding the SSR, AGA and NAV maps. These have 15km/15nm circles representing

safeguarded areas for these assets. When you have carried out your self-assessment, you will have determined whether your proposed turbine(s) falls in an SSR/NAV/AGA safeguarded or radar cover area:

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

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

More generic information can be found on our [website](#) together with the details of our pre-planning assessment

Northern Lighthouse Board

We are content with the findings within the Environmental Impact Assessment Scoping Report received from Xodus Group on 01 October 2013 and note the information contained within the Shipping and Navigation Preliminary Hazard Analysis submitted along with the EIA report.

The NLB has no significant concerns regarding the proposed development but will require a full Navigational Risk Assessment to be provided prior to making any formal marking and lighting recommendations for the site. We acknowledge that the NRA will be based on a Preliminary Hazard Analysis and responses to the Scoping report and will be collated to support the application for consent and licensing for this project.

There has been no specific mention of a Meteorological Mast being deployed within the site, and it is understood that the export cables will run directly to shore before being connected to the grid therefore no offshore sub-station has been considered in this response. However, should either of the two structures be required, lighting and marking will be required on these structures and will be recommended by the Northern Lighthouse Board.

We also note that once the turbine locations have been decided, the masts will be towed out and connected to the pre-installed moorings and cables. It may therefore be necessary to appropriately mark and light the site, moorings and chains or any riser or pick-up lines and cable connectors deployed prior to the turbine masts arriving on site.

Marking and lighting of each site north and south of the pipeline (possibly individually initially, and then as a whole) will be required for each of the three phases of the wind park life, namely the construction, operational and de-commissioning phases, to give the best possible indication to the mariner of the nature of the works being carried out. We would require that Notice(s) to Mariners, Radio Navigation Warning and publication in appropriate bulletins be issued stating the nature and timescale of any works carried out in the marine environment relating to this project.

NLB have assured Xodus Group that we would accept any invitation to a meeting to discuss the project and better understand the proposed site, installation, timescale and any procedures that will promote the safety of the Mariner.

All navigational marking and lighting required for the site or its associated marine infrastructure will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment.

Scottish Government / Transport Scotland Ports and Harbours

Nil Return

Royal Society for the Protection of Birds

We acknowledge many of the issues we raised in our previous letter have been addressed in the scoping report, however we wish to bring to attention the following points that can contribute to the preparation of the environmental assessment. Marine Scotland has commissioned the following research projects that are soon to be finalised/ published and we would recommend reference and consideration of their findings in the environmental assessment:

- Strategic assessment of collision risk of offshore wind farms to migrating birds (CR/2012/04 - WWT).
- Population consequences of displacement from proposed offshore wind energy developments for seabirds breeding at Scottish SPAs (CEH - (CR/2012/03)). A preliminary proof of concept report downloadable from <http://www.scotland.gov.uk/Publications/2012/10/2388>, McDonald *et al.* 2012.
- For Collision Risk Modelling (CRM), in addition to the SNH guidance referred to in the scoping report, the following references should be used:
 - Band, W. (2012) Using a Collision Risk Model to assess bird collision risks for offshore wind farms. Final report, March 2012
 - Cook, A.S.C.P., Wright, L.J. and Burton, N.H.K (2012). A review of flight heights and avoidance rates of birds in relation to offshore wind farms. Project SOSS-02. BTO report on behaviour the Crown Estate.

A range of avoidance rates should be presented alongside a discussion of any current evidence of avoidance behaviour of each species in order to justify the preferred rate, if that differs from guidance.

If the extended models are used, then there should first be an assessment of whether the generic flight height data will be more precise than site-based data, and whether the data sets are compatible. Collision risk should be presented for all three or four options, with justification or discussion provided as to which of the options is most likely to characterise the collision risks at the site. An attempt should also be made to convey the uncertainty in the estimate, aiming to express this at around 95%.

Royal Yachting Association

RYA have little to add to the pre-scoping response sent to Xodus. In addition to reading the documentation I have discussed this scheme with the developer and have not identified any hazards beyond the routine ones of a recreational vessel encountering another vessel or installation. Although the UK Atlas of Recreational Boating, the second edition of which was compiled and published by the RYA in 2008, takes no account of more recent marina developments in the north-east of Scotland, the area proposed is one of the few places around the Scottish coast that is hardly frequented by recreational vessels. Although AIS signals are only transmitted by a minority of recreational vessels, we think that the area will be crossed occasionally by some vessels on passage between Scotland and Norway and others crossing the North Sea forced to alter course due to adverse weather. The RYA has recently published a revised edition of its Position Paper on Wind Offshore Renewable Energy Installations to which reference should be made, e.g. in relation to marking and lighting.

As this scheme is the first floating wind farm around the coast of Scotland the RYA

will be following its progress so that we can develop experience that can be applied to similar schemes elsewhere.

Scottish Canoe Association

Nil return

Scottish Fisherman's Federation

Nil return within the time period of the consultation, however SFF have provided comment at pre-scoping to Statoil. Feedback provided by the SFF in relation to the development has been included within 3.3.1 of the Scoping Report.

It is noted by MS LOT that there continues to be positive and open dialogue between SFF and Statoil in relation to the potential impacts on commercial fishing activities within the Buchan Deep and to identify possible mitigation measures as part of the Project.

Scottish Fisherman's Organisation

Nil return

Scottish Government Planning

No comment

Transport Scotland

Nil return

Whale and Dolphin Conservation Society

WDC comments on this Hywind Scotland Pilot Park Project Environmental Impact Assessment (EIA) Scoping Report. Given our area of interest, we have only focused on the marine mammal sections.

- WDC are endeavouring to assist with the environmentally sustainable development of marine renewable energy in Scotland. Whilst welcoming the Scottish Governments' commitment to renewable energy generation, particularly noting the potential consequences of climate change for cetaceans, we have serious concerns about current levels of uncertainty and the possible negative impacts these developments, both individually and cumulatively, may have on cetaceans (whales, dolphins and porpoises) and seals in Scottish waters.
- We understand that the project will deploy five floating Wind Turbine Generators (WTG) in the Buchan Deeps, 25 km off the coast of Peterhead, NE Scotland. The development will have a maximum capacity of up to 30MW. The WTGs will be fixed to the seabed using anchors and no pile driving will be required.

Specific comments

- We understand the baseline data sources in Table 9.2 are examples, and would welcome the addition of primary literature e.g. peer-reviewed journal articles.

- Page 60: '*The Moray Firth SAC is designated for harbour porpoises*'. This statement is incorrect. The Moray Firth SAC is designated for bottlenose dolphins. At present there are no harbour porpoise SACs in the UK, however, the JNCC has a contract out to identify porpoise SACs in the future.
- We agree with the potential impacts to be 'scoped in' to the EIA in Table 9.4 - Data and information gaps.
- WDC has serious concerns about the use of ducted propellers due to the widely acknowledged impacts on seals. Ducted propellers should not be permitted unless they are guarded or potential impacts can be effectively mitigated in some other way, especially for harbour seals.

If ducted propellers are to be used, a proposed Seal Corkscrew Injury Monitoring Scheme (SCIMS) should be developed and should include informing ship crew about the possibility of interactions and a requirement to minimise use, as well as coastal Marine Mammal Observer searches for seal carcasses

to determine if injuries to seals are occurring and bodies are washing ashore. Beach searches should be conducted regularly enough to allow the carcasses to be 'fresh' enough for a cause of death, where possible, to be determined. There is growing evidence to suggest that harbour porpoises also suffer from 'corkscrew injuries' (Deaville et al., 2013), therefore within the SCIMS any stranded marine mammals should be reported to the Scottish Marine Animal Stranding Scheme (SMASS).

We agree with how the developers will obtain information and account for other developments in the cumulative impacts. The harbour developments of Invergordon, Ardersier, Nigg and Aberdeen should be included in the Cumulative Impact Assessment because they are also within the range (and management unit) for the SAC bottlenose dolphin population.

Habitats Regulations Appraisal (HRA) Screening

Page 60: '*The export cable corridor passes through the southernmost parts of the Southern Trench MPA search location identified for minke whale and white-beaked dolphin*'. WDC feels that whilst not a requirement for the HRA, the potential impact on other cetacean species e.g. minke whale, harbour porpoise and white-beaked dolphin, which are listed as Priority Marine Features and minke whale and white-beaked dolphin are drivers in the Scottish Marine Protected Areas project, should also be given adequate consideration.

Annex 2 – RYA Position Statement



THE RYA'S POSITION ON OFFSHORE ENERGY DEVELOPMENTS

DECEMBER 2009

The RYA has taken an active role in policy making that affects boat users and has been the voice of recreational boating for over a century. We represent our 100, 000 personal members and over 1500 affiliated clubs representing approximately 400, 000 boating enthusiasts and administer training standards at over 2000 recognised teaching establishments. Research conducted by the RYA, BMF, MCA, RNLI and Sunsail in 2006 showed there were approximately 3.5 million participants in boating-related watersports in the UK. The BMF estimates the total turnover of the UK leisure and small commercial marine industry in 2005/6 was £2.8 billion. Of this, the 'value added contribution' which is the principal measure of national economic benefit was £1.04 billion (37.6% turnover). The industry employs 35,000 people across 4300 different businesses.

RYA represents users of inland and coastal:

- Cruising and racing sailing and motor boats
- Sailing dinghies and day boats
- Windsurfers
- Personal watercraft

The RYA supports the UK Government's and evolved administrations' efforts to promote renewable energy¹. We note that it is Government policy that wind farms should not be consented where they would pose unacceptable risks to navigational safety after mitigation measures have been adopted². Our primary purpose in engaging in the consultation regarding the development of offshore energy developments is to secure navigational safety and to ensure that recreational boating interests are not adversely affected. The RYA has made objections to some of the proposed developments on grounds explained in this document. As more issues have come to light, we have reviewed our position on offshore energy development. We recognise that some marine renewable schemes may provide opportunities to benefit recreational sailors, e.g. active breakwater types of power generation can provide areas of sheltered water.

This position paper sets out our concerns from a general perspective and should enable developers to more accurately take account of recreational boating concerns in their environmental impact assessments.

¹ The UK Renewable Energy Strategy 2009. HM Government

² Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) DECC. November 2009. Note that this NPS will be a relevant planning consideration even though marine planning is a devolved issue in Scotland and Northern Ireland and in some cases Wales.

In summary the concerns of recreational boating and offshore energy developments relate to:

1. Navigational safety
 - a. Collision risk
 - b. Risk management and emergency response
 - c. Marking and lighting
 - d. Effect on small craft navigational and communication equipment
 - e. Weather
2. Location
 - a. Loss of cruising routes
 - b. Squeeze into commercial routes
 - c. Effect on sailing and racing areas
 - d. Cumulative effects
 - e. Visual intrusion and noise
3. End of life
 - a. Dereliction
 - b. Decommissioning
4. Consultation

The MCA has developed guidance for assessing the navigational impact of offshore renewable energy installations, this should be utilised in addition to the information contained here³.

1. Navigational Safety

Prior to leaving the shore, mariners make a passage plan and make assessments based on weather, tides and the environmental conditions. Offshore developments become an additional navigational hazard to the mariner. However, if sited sensitively, well designed and managed effectively these developments can satisfy the safety issues of concern to recreational boating.

Construction of the first offshore wind farm, North Hoyle, was completed in 2004. Since that time, Scroby Sands was completed in 2004, Kentish Flats in 2005, Barrow in 2006, Burbo Bank in 2007, Lynn in 2008 and Inner Dowsing in 2008. A further seven are currently under construction and seven more are consented and awaiting a start date. There have been no reported incidents involving recreational craft and offshore wind farms in these five years of operation around the UK coast.

Collision risk

The RYA believes that poorly designed wind farm developments could pose a risk of rotor blade collision with recreational craft. Wave and tidal developments and the sub-surface structures and scour protection associated with wind turbines could similarly pose a threat of underwater collision. The danger that moving rotor blades or other parts of the mechanisms pose is the reason for concern. Navigating around static hazards is part of sailing and only in rare situations, such as in narrow channels with strong tidal flows, do static installations pose a threat.

The RYA believes that the threat to recreational yachts can be minimised by specifying

- 1. a minimum rotor height clearance above mean high water springs of 22 metres**
- 2. a minimum underwater clearance of 3.5 m below mean low water springs**

Practical, Safety and Emergency Response Issues for Offshore Renewable Energy Installations (OREIs): Guidance to Mariners Operating in the Vicinity of UK OREIs".

The RYA has developed its position on clearance height and depth on the available data. Firstly an estimation of the air draught of the national fleet of yachts around the UK was established in the knowledge that these types of yachts may be found in all UK waters, these data are taken from the Royal Ocean Racing Club (RORC) Rating Office's database. For more detail see the final section on *Developing RYA policy on minimum clearance height and depth*.

Risk management and emergency response

Risk management provisions should be formulated from the results of a site specific risk assessment that accounts for recreational craft. Recreational craft can be generalised as 'small craft' which are defined by the MCA as those craft under 24m in length. This distinction is important when it comes to equipment and other requirements for small and large craft. Guidance was developed in 2005 to outline the requirements for assessing the navigation impacts of offshore wind farms⁴.

For recreational craft, such an assessment should take into account the following parameters:

- The number, size and type of local vessels
- The number, size and type of national vessels
- Annual events that are not covered in a short term monitoring
- Wave height and sea state conditions
- Monitoring should be carried out during the high season
- A range of possible incidences

Any risk assessment should recognise that it is a theoretical process and that utilising historical data on the number of incidents reported to HM Coastguard from the area with no hazards in place may not adequately represent the situation with 30-300 installations in situ. It should also be recognised that not all incidents are reported to the Coastguard; generally only those that represent life threatening situations are reported. However, since commercial offshore wind farms have now been deployed in UK waters for five years, this experience should be fed into any risk assessment to provide an accurate and realistic predicted level of risk and enable a proportionate and practical set of measures to be put in place to address any unacceptable risk.

In order to effectively manage the risk of a vessel in distress drifting towards an installation, there needs to be an effective *Emergency Response System* in place. This will require the ability to shut down the moving parts, such as the turbines, when an emergency call is reported. In some cases, where traffic is high, a stand-by safety vessel may be required.

Safety Zones

The RYA's opinion remains that the creation of safety zones around wind turbines or other installations that exclude small craft on a wholesale basis are likely to be unnecessary, impracticable and disproportionate. In our view, such a restriction on the small craft's right of navigation is not justifiable in terms of safety and there is little possibility of enforcing such zones. In some locations, it may actually increase risk of collision as small craft may be pushed into the lanes of larger vessels or may have to make extended voyages.

European standards are now being established where small craft, under 24m, are exempt from any operational safety zones. The German Government was the first to recognise the negative implications of imposing safety zones on small craft and has exempted small craft from such zones. In principle the RYA has no objection to the creation of *advisory or precautionary zones* but such zones must be designed and implemented on a case-by-case basis and with due respect to the right of navigation. The RYA believes that the purpose of

⁴ Guidance on the Assessment of the Impact of Offshore Wind Farms: Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind Farms. 2005. DTI.

any *advisory or precautionary zones* should be to warn vessels to navigate with particular caution but they should not permanently restrict navigation or exclude recreational vessels. Wave and tidal technology is varied and is now the unknown factor when considering navigational safety impact. Nevertheless when these do not have moving parts within keel depth, their status as a hazard is in principle no different from that of a reef or other natural obstruction.

The RYA does, however, foresee occasions when it may be prudent to impose short-term temporary restrictions, for example during engineering, maintenance or construction works. Such temporary restrictions should be promulgated through Notices to Mariners. Many vessels visit the UK from continental Europe and this should be taken account of in any communication.

Cables and anchoring

A further issue relating to risk management is that of cables and anchoring. In most cases, small craft will not anchor within an offshore energy 'farm'. However, in emergency situations this may be the only way of securing a drifting vessel to ensure no damage is done. To secure the safety of navigation, cables should be buried to a sufficient depth to avoid being uncovered. This should take into account shifting sediments on the seabed.

Marking and lighting

As offshore renewable energy installations become more common in UK waters, the requirements for marking and lighting the sites should be consistent. This has been achieved for offshore wind and should be replicated for wave and tidal devices. Much work has been done in this field and guidance supported by RYA is available from Trinity House or the Northern Lighthouse Board as appropriate. For wind farms, as a minimum each turbine should be clearly marked in high visibility yellow paint to a height of 12 m, low level lighting should allow the turbine number to be read from a 'safe' distance, corners of the wind farms should be marked and any other points or routes through the wind farm marked accordingly. Wave and tidal developments vary dramatically in their design and the marking and lighting of these installations will need to be developed carefully. Wave power units that lie low in the water and that may move within an area of water, such as Pelamis, will be particularly hazardous to small boats and effective marking and lighting will be essential.

The RYA supports the guidance issued by the relevant light house boards on these issues and works with them to identify site specific issues that may occur.

Effect on small craft navigational and communication equipment

All craft larger than a dinghy will have some form of navigational equipment on board. The most common will be a magnetic compass. Large quantities of steel, cabling and the transmission of electrical power may produce interference with the magnetic compass. Studies have shown that the effect on systems such as GPS, VHF and mobile phones from wind farms is negligible. However, there is a demonstrated effect on radar systems which reduces the visibility of small craft to search and rescue vessels as well as to each other and larger commercial vessels. This causes concern when large wind farm developments are sited close to commercial shipping lanes and obstruct small craft routes avoiding these commercial routes or at the confluence of routes.

Problems may be found with small craft navigational equipment, which is not as powerful as commercial varieties, when we start consider installations further offshore. Antennae are likely to be lower and less powerful than many larger commercial vessels.

Any proposed development should account for the effect on small craft navigation and communication equipment in detail

Weather

Local weather conditions should also be examined in the risk assessment and measures taken to reduce the effects of poor weather conditions, low visibility and fog should be included in the risk management plan. Installations may need to have fog horns attached for low visibility conditions.

2. Location

The location of offshore energy installations is going to be crucial to navigational safety as well as potential loss of amenity for recreational craft. It should also be noted that commercial routes and shipping lanes do not represent those routes taken by small recreational craft. Whilst these routes will vary, the RYA, has collated these routes into the *UK Coastal Atlas of Recreational Boating* which is available from the RYA and which details cruising routes, sailing areas and racing areas as well as the location of marinas, RYA affiliated clubs and recognised training centres. This document should be consulted when considering the location of offshore energy developments and when writing an environmental statement.

Recreational routes, general sailing and racing areas must be accounted for when examining the impacts of wind farm developments.

Loss of cruising routes

When examining the routes and location of turbines it is important to recognise that sailing boats behave differently to power driven craft in that their actual line of travel may zigzag across the ultimate direction of travel as they are dependent on the wind direction. The coastal atlas should be consulted as well as any other available information to inform the siting of the developments and individual installations and the potential provision of navigation routes through the larger sites.

Along many stretches of coast, recreational craft may need to seek shelter in poor weather. Sheltered harbours and anchorages and routes to these harbours of refuge should be protected. These are identified as essential routes in the Coastal Atlas.

The loss of routes will also lead to an increased distance of travel. This has environmental implications for powered craft and safety implications for all craft. Some routes, typically narrow channels or strong tidal flows, may already be hazardous at times to navigate through and adding hazards in these areas may seriously compromise navigational safety. There are also safety issues with the creation of turbulence and wind shadowing in confined areas where craft may be moving slowly and gusty turbulent conditions may create problems.

Squeeze into commercial routes

Recreational routes differ from commercial routes as recreational craft essentially aim to keep out of the major commercial navigation routes by travelling in the shallower adjacent waters or taking other routes entirely. As a result, examining commercial routes alone will not enable the safe positioning of OREIs, recreational boating must also be accounted for. This may require routes through large developments to be identified or inshore routes for smaller craft to be safeguarded. The cumulative impact of all marine developments is becoming increasingly important when assessing these issues of squeeze.

Effect on sailing and racing areas

Most of the general day sailing and racing areas are close to the shore and in the more sheltered waters. The Strategic Environmental Assessment for Round 3 offshore wind development⁵ recognises the busy inshore areas and states that the majority of offshore wind development should be beyond 12nm. European standards are again being set by Netherlands and Germany who have excluded any development within 12nm from the shore in order to retain 'open space' for its amenity and recreational value. Recreational activity is

⁵ Offshore Energy Strategic Environmental Assessment: Post consultation report. June 2009. DECC.

important to the health and wellbeing of the community as well as economic support for the local coastal economies. Retaining the undisturbed remoteness of some waters will be important in terms of its wilderness and amenity value.

In certain confined areas and areas heavily used for sail racing, the effects of wind turbines in terms of turbulence and shadowing on craft should be taken into account.

Any interference in wind speed and/ or turbulence created by a wind farm in a racing area would create a significant negative impact on the event site and diminish its value.

Cumulative effects

Of increasing concern with the planned number of developments is the need to assess each development in its wider surroundings. The *cumulative effects* of offshore energy installations on navigation routes will be increasingly significant. Existing navigation routes affected by other proposed development sites will need to be accounted for, rather than only current routes.

3. End of Life

Dereliction

Whilst we would hope that these installations remain economically viable for the lifetime of the structures, the RYA would support measures taken by Government to secure the financial implications of removing the structures, prior to consents been given. This will ensure that after the installation ceases electricity production for whatever reason, derelict structures that are not marked or lit and remain a hazard to navigation and anchoring are not found in UK waters.

Decommissioning

Equally, any decommissioning plan needs to ensure that the structures are completely removed. Any parts of the structure remaining after the commercial operation of the installation may pose a hazard to navigation and should be avoided. However, we recognise that secondary uses may be identified for these structures once energy generation ceases. If structures are to remain in the water, navigational safety must be taken into account and structures should be appropriately marked and lit.

4. Consultation

Consultation with the RYA should be through the Headquarters in Hamble and the Scottish, Welsh and Northern Irish offices who can coordinate wider consultation with their regional environmental coordinators, the clubs and individual membership and if needed, help to coordinate stakeholder meetings.

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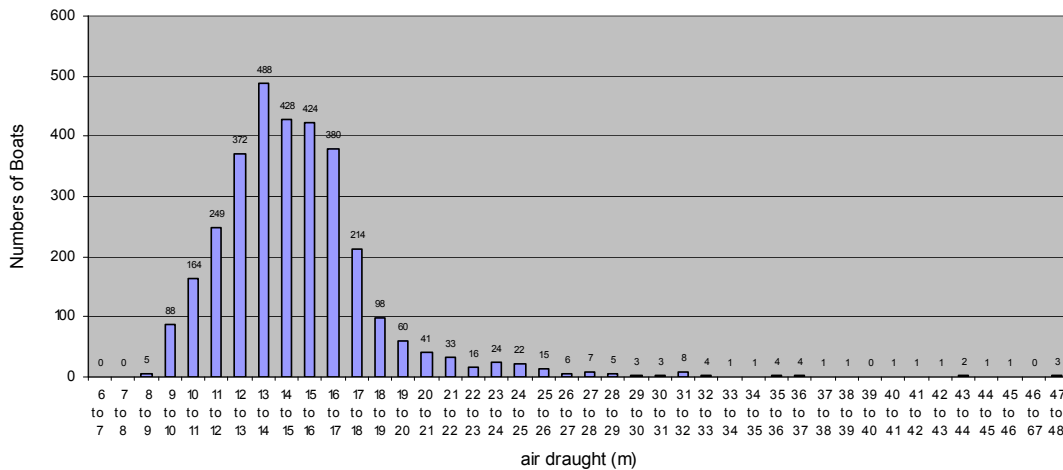
Original document December 2005, revised December 2009

Development of the RYA policy on minimum clearance height and depth

The RYA has developed its position on clearance height and depth on the available data. Firstly an estimation of the air draught of the national fleet of yachts around the UK was established with the knowledge that these types of yachts may be found in all UK waters, this data is taken from the Royal Ocean Racing Club (RORC) Rating Office’s database. Although there are other rating systems in use, the RORC system is widely accepted and applied worldwide. Rating is a technical handicapping process that enables adjustments to be made to yacht racing results so as to allow a wide range of different boats to be raced on equal terms. The boats contained in the database are mainly cruisers and yachts. Many yachts taking place in club races are registered with the RORC Rating Office. The RYA believes this data, containing 3179 records, is a good representation of the type of yacht to be found sailing around the shores of the UK. Although the total number of yachts around the UK has not been quantified, this database represents 6% of the total number of boats owned in the UK, estimated at 564,000 (BMF, 2003).

‘Air draught’ as presented here is the distance from the waterline to the top of the mast structure. This is based on the ‘p’ measurement, boom to top of mast, in the rating system (RORC, 2003). Two metres have been added for the distance from the boom to the water surface, which is a conservative estimate for the larger vessels. It should be noted that masthead equipment and instrumentation has not been included in the calculation of air draught, although it will also add a further half to one metre to the air draught of a yacht. Loss of this equipment may produce failure in communication from the yacht although not structural failure to the yacht.

Figure 1: Graph showing the air draught in metres of the boats within the IRC fleet (sample size=3179)



Looking at the above data in the form of percentage of the UK boating fleet, we can see the percentage of recreational yachts at risk from different rotor clearance heights. Figure 2, shows that a clearance height of 14 metres above sea level will put 57% of the national fleet at risk from rotor height collision. Reducing this to 18 metres above sea level, substantially reduces this percentage, however it still leaves 12% of the national fleet at risk from rotor height collision. This is still an unacceptable level of risk to the yachts found in UK waters. A clearance of 22 metres has been shown to be possible in engineering terms, which would put 4 % of the national fleet at risk, a more acceptable level of risk in the view of the RYA. As a matter of common observation, larger yachts over 18 metres in length (see Figure 3), representative of this 4% group are more likely to be run by highly experienced crews and

skippers. The datum of mean high water springs (MHWS) is taken as the clearance datum rather than mean sea level and then factoring in a site specific wave height parameter. However, wave height should be examined in the risk assessment at each site. It should be noted that 22 m above MHWS has already been specified as a minimum clearance height in several of the wind farms consented in the first round of consents and is therefore a feasible, cost-effective option for developers.

It should also be noted that while this is currently an acceptable level of clearance, yachts are increasing in size and future developments may require a greater clearance height.

Figure 2: Graph showing the percentage of boats in the IRC fleet with different air draught shown in metres (sample size = 3179)

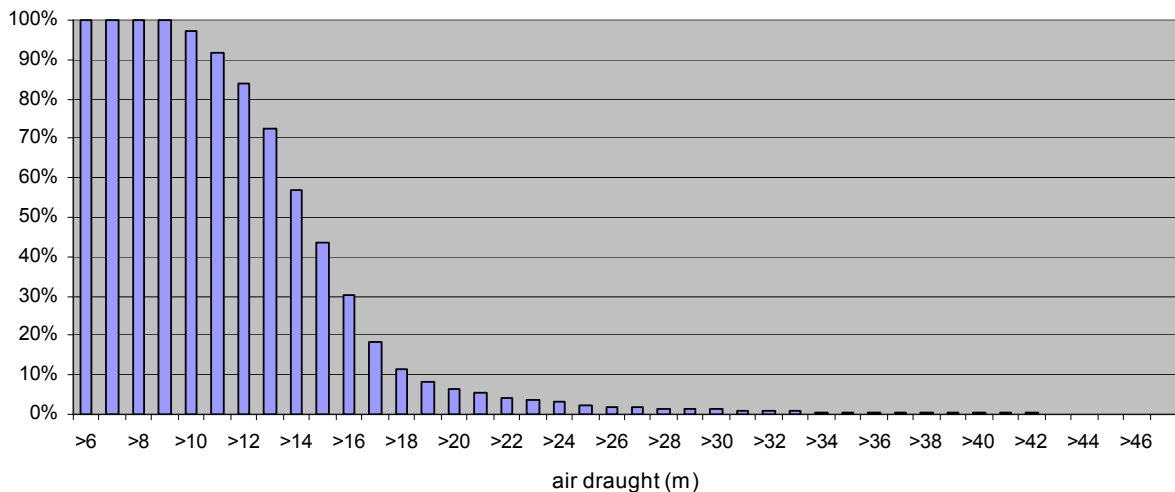
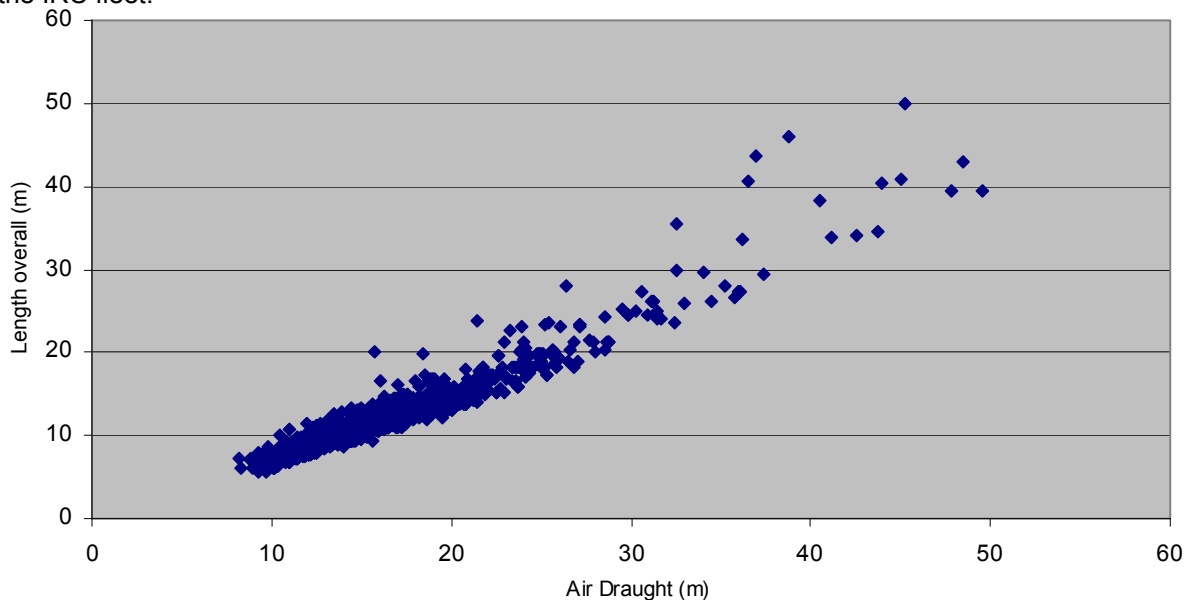
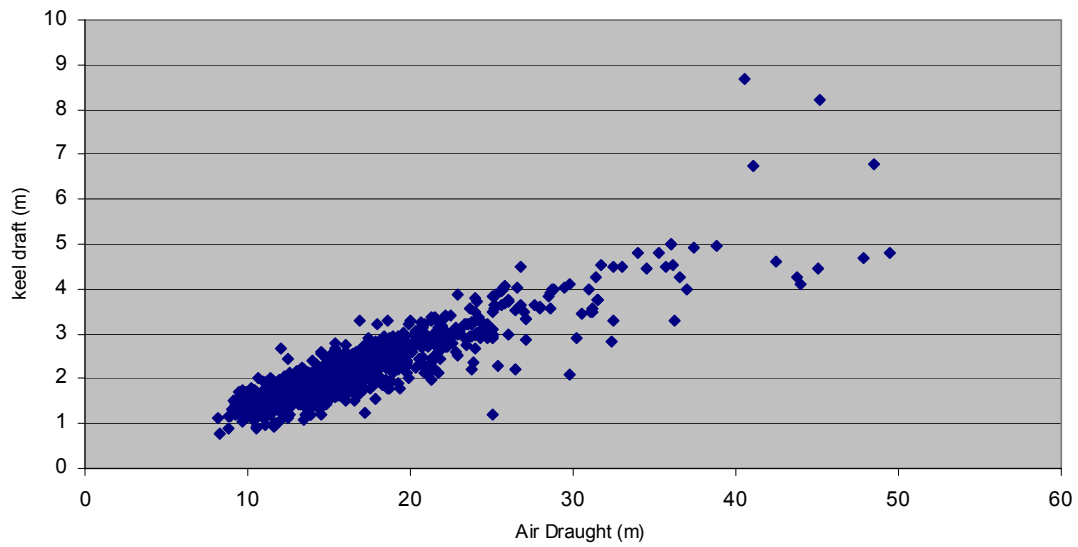


Figure 3: Graph showing the relationship of Length Over All (LOA) in metres and air draught in metres of the IRC fleet.



Additional data is provided showing the relationship between air draught and the depth of water required for clearance below the vessel's keel (Figure 4). Figure 4 shows that a depth of 3.5 metres corresponds to an air clearance of 22m above MHWS which is relevant for subsurface wave and tidal developments.

Figure 4: Graph showing the relationship of water draft in metres and air draught in metres of the IRC fleet.



References

RORC (Royal Ocean Racing Club). 2003. IRC/IRM Yearbook. London
BMF (British Marine Federation). 2003. *Marine Leisure Industry European Overview*. Egham, Surrey.

Annex 3 – SCA Renewable Energy Policy

Introduction

In passing the Land Reform (Scotland) Act 2003 the Scottish Parliament has provided a statutory right of access to inland water and confirmed the customary freedoms of access that paddlers have always enjoyed in Scotland.

However, the quality of the resource that we take access to, Scotland's rivers, lochs and coastal areas, is coming under increasing threat from various types of development, most notably at the current time from renewable energy proposals. Whilst the Scottish Canoe Association (SCA) welcomes the passing of a statutory right of access, we are concerned that the canoeing resource in Scotland does not suffer from damage by inconsiderate or poorly planned renewable energy schemes.

With this in mind the SCA has developed a Renewable Energy Policy in order to express our concerns about the value of the places where canoeing takes place and to explain to developers, planners, government agencies, councillors and politicians the views that the SCA holds and the kind of sites that we would wish to see protected from development.

Throughout this document we will use the generic term canoeing to refer to the use of both canoes and kayaks.

Policy Context

The SCA believes that government should make the promotion of energy efficiency a much higher priority. There is a fundamental issue with causing damage to our natural heritage in order to generate energy that is then wasted on inefficient appliances, under insulated buildings and overly relaxed public attitudes to use of energy.

The SCA recognises the global problems associated with carbon emissions and climate change, and accepts there is a need to alter our sources of energy and societal attitudes towards use of energy.

The appendices to this policy statement describe the historical context to the SCA's involvement in the energy debate as well as the current relevance of national energy policy. The appendices then go on to review the trends in hydro and marine energy development.

The SCA's policy for dealing with Renewable Energy issues is set out below.

SCA Policy

1. The SCA wishes to be involved in the debate on the future of the nation's energy policy in order to play a proactive role in determining the impact on water that canoeists make recreational use of.
2. The SCA seeks to work with developers, agencies, consultants and planning authorities to help identify potential conflicts between canoeing and proposed renewable energy projects. The SCA believes that early consultation should lead to the avoidance of damaging conflicts between recreational interests and energy companies.
3. The SCA will form a view on each new renewable energy proposal taking into account a number of factors. These include: the likely impact on paddling interests; the importance of the water body involved in paddling terms; the protection of scenery and a judgment on any cumulative effect of a range of different renewable projects.
4. We are concerned that good rivers are being threatened for a very small power output in return. Therefore, in assessing any proposed energy scheme the SCA will perform a

power output to canoeing interest comparison. We believe this will enable us to consider and compare two important factors: what is being lost and what is being gained.

5. Where the canoeing value of a river is not so great that we would wish to see the proposed development stopped we will work with the developer to comment on the safety aspects of the inlet and outlet features, negotiate shut down days for the river to be paddled and in most cases request an online river level gauge.
6. The SCA will oppose renewable energy proposals when we consider the watercourse or coastal area that is under threat to be of national or international value to our sport.
7. The SCA is concerned that building barrages in estuaries could hinder navigation and introduce safety issues for paddlers. Any barrage should have continuously navigable channels near the coast to ensure safe passage for canoes, kayaks and other small craft. The possible ecological and silting problems caused by tidal barrages are also of concern.
8. The SCA seeks to protect our finest coastal scenery. Scotland's coastline is the most scenically attractive in Europe and should be offered special protection to recognise this. Major developments on our remoter and most scenically attractive stretches of coastline should be resisted and will be opposed by the SCA. The SCA would prefer to see offshore wind turbines located well out to sea; and tidal and wave power stations either out to sea or located entirely below the surface of the water.
9. The SCA is concerned about the safety implications of certain marine renewables and the consequences for sea navigation. For this reason we are opposed to developments on stretches of coast that would require small craft to go further out to sea to navigate around or stop paddlers from landing on the coast in an emergency.
10. The SCA is concerned about the access implications of marine renewables on the water close to the coast and in the coastal zone. We are opposed to developments on the sea and coastline that limit where small craft can navigate. Where it is necessary to have renewable energy installations or their shore facilities near the coast, existing launch sites should be preserved. Where it is necessary to use part of the coast for the installation, provision of car parking and access to the water for recreational users should be maintained or improved as part of the installation. The principle of multiple uses for coastal sites should apply.
11. Tidal energy represents the only form of renewable energy that could produce large amounts of new base load energy. For that reason we believe it is inevitable that tidal energy will eventually become widely utilised and will contribute to our nation's security of supply. We would like to see a locational strategy drawn up well in advance of Scotland's tidal energy being harnessed.
12. The SCA is concerned that starting up and shutting down turbines can cause rapid and artificial fluctuations in river levels. This could cause problems for canoeists, as well as anglers and other recreational visitors, especially in gorge sections of white water rivers. The artificial altering of water levels by hydro schemes switching on and off could lead to accidents or contribute to existing incidents turning into accidents. The SCA will assess the safety implications of any proposed scheme on paddlers. This will require information on the anticipated normal running regime for the turbine and the implications of an emergency shutdown. The anticipated number of controlled start ups and shut downs on a daily basis and the speed at which the water levels change will be required to carry out this assessment.

13. The SCA believes that water release information from existing hydro power stations should be more freely available to canoeists so that more recreational use can be made of the water.
14. The SCA seeks to work with developers and energy companies to secure good quality access facilities that will assist canoeing, such as passes navigable by canoe and footpaths round new obstructions on the river as well as car parks close to the access and egress points on controlled rivers.
15. The SCA believes the practice of cutting the capacity of existing hydro schemes in order to qualify for subsidies is indefensible and should be stopped.
16. The SCA believes in the principle of early consultation being used to identify problems with proposed plans at an early stage and as a way of avoiding protracted conflicts between developers and opponents of a proposed scheme as well as generally improving the public perception of renewable energy.
17. The SCA believes that government should provide a lead by developing a locational strategy for all forms of renewable energy.
18. The SCA would like to see renewable energy developed in such ways that the need for unsightly transmission systems is reduced and any environmental impact is minimised. As renewable energy projects eventually move offshore we would like to see more use of sub-sea cabling, albeit with due care taken to consider the natural heritage value of our underwater ecosystems.

Appendix A

Historical Context

A great deal of hydro development took place in the Scottish glens in the post-war years. These schemes had a major impact on our upland landscapes, but they did provide energy to remote parts of Scotland for the first time. These schemes are still operational and providing electricity to the national grid some 50 years after they were built. The dammed storage schemes that were built in those days still provide electricity as well as predictable water for canoeing via releases in the form of freshets, which are primarily aimed at helping fisheries management but are sometimes specifically for canoeing events.

With the exception of the massive Glendoe hydro scheme, the modern day renewable energy industry appears not to be looking to build anymore dammed storage schemes. Whilst storage schemes do provide opportunities for good canoeable water during releases, the landscape impacts caused by their highly visible draw-down scars can be significant, and are considered unacceptable to a wide range of recreationalists, and this is one reason why they are not currently being seen as a viable proposition in Scotland.

The building of nuclear power stations in Scotland during the 1950s and 1960s led to the need for pump storage hydro schemes and the Cruachan and Foyers power stations were constructed for this purpose. Should government commit to replacing our ageing nuclear power stations there could be a renewed interest in pump storage. Should this happen there could be implications for high mountain lochs and the burns and rivers that drain them. The decision about our future commitment to nuclear power will be based on the political direction Scotland chooses to follow, but it could also depend on future developments in the international quest for power from waste free nuclear fusion as opposed to nuclear fission with its associated problem of how to dispose of the waste nuclear material. A return to nuclear power in combination with pump storage hydro would be likely to impact on a small number of mountain burns and the main concern to canoeing would be whether these were canoeable.

Appendix B

National Energy Policy

The UK and Scotland are undergoing a change in energy policy, partly brought about by ageing power stations and partly because of our Kyoto and other commitments to reducing carbon emissions. As well as reviewing our energy mix in terms of power sources, we also have to review our network for electricity transmission. The Beaulieu to Denny powerline upgrade proposals are highlighting the problems of landscape impact, health concerns and effect on property prices associated with overland pylons. With renewable energy production set to move increasingly offshore the arguments for sub-sea transmission lines becomes a more viable option. Also, the greater the amount of power produced the more economically viable the higher investment in sub-sea cabling becomes. Onshore transmission lines have a scenic impact for a number of recreational activities, including canoe touring on open water, especially lochs. Sub-sea cabling, on the other hand, would usually be buried well out to sea and should not have any impact on kayakers who generally keep close in to shore. We would have concerns that the places where cabling leaves the land or comes back onto land should be well protected, but the high voltages concerned would require that in any case. Our other concern in this area is that access to the foreshore is not affected by the building of shore based structures for new developments.

The comment is often made that if energy efficiency were taken more seriously we would not have to destroy valuable parts of our countryside in order to power inefficient electrical appliances and allow householders to leave their appliances on standby overnight or workplaces their lights and computers on overnight. The threat to our countryside in general, and canoeing resource in particular, would be lowered if more effort were put into the promotion of energy efficiency.

We believe the public perception of renewable energy is being harmed by contentious planning applications that create critical opposition. Anti wind farm campaigns, protests against the proposed Beaulieu to Denny powerline and objections to hydro proposals are all on the increase and the combined effect is of a growing opposition to renewable energy. This may also be having a related impact of increasing support for nuclear power. Public opposition to renewable energy proposals may eventually influence government policy, and developers may begin to take this opposition more seriously. A way in which developers can react positively is to seek early consultation with interested communities and to work to avoid key recreational and landscape sites with the intention of trying to achieve greater public support for renewable energy.

The SCA is concerned that the drive to increase the proportion of our energy derived from renewable sources is leading to a loss of support for renewable energy. Much of this opposition to renewable energy is coming from previous supporters of such energy. The terms renewable energy and environment-friendly have become inter-changeable, but in many cases renewable energy proposals carry a massive cost to the environment and this leads to the levels of opposition that such proposals are encountering. We believe the quality of our environment and quality of our recreational enjoyment of our environment should be given higher priority.

The economic value of tourism, and of segments of tourism such as adventure sports tourism, should be given greater recognition for the revenue it creates for the national economy. The scenic quality of the countryside is the foundation for the majority of that tourism spending.

Appendix C

Hydro Power

The current trend in hydro development is for run-of-river schemes. With no facility for storing water, only for running the water down a pipe parallel to the river, a run-of-river scheme means that the water in the river is either at its natural level if the hydro is not operating, or at a lower than natural level if the hydro is operating. In this respect a run-of-river scheme can only be to the detriment of canoeing. Furthermore, run-of-river schemes can create dangers, especially on constricted gorge sections of rivers, when the hydro system is being switched on or off and the water level is being artificially altered. Recent trends in hydro power generation and canoe design have led to power companies and canoeists being interested in the same types of rivers.

Run-of-river hydro developers are looking for relatively small rivers with a steep gradient, usually with a waterfall to increase the overall gradient. The development of shorter playboats, made possible by the advances in roto-moulded plastic construction over the past 20 years, has opened up for canoeing the narrower and steeper creek-type rivers with steep drops. This interest in the same type of river by the two different groups is causing a significant problem, and with the lack of storage facility in a run-of-river scheme there is little space for compromise. Where the potential impact is too great we would wish to see the proposed scheme being dropped, but where the value of the river to canoeing is not that great we would wish to comment on the safety aspects of the intake and outlet features, as well as agreeing some kind of system of shut down days when the river can be paddled and requesting that an online river level gauge be made available.

The changing trends within canoeing, mainly brought about by the radical transformation in the size, strength and manoeuvrability of white water canoes, means that rivers that were considered impossible then are now increasing in popularity. This trend towards paddling narrow creek style rivers is certain to continue into the future and is likely to increase the potential for energy production and canoeing to come into conflict.

Canoeing guidebooks cannot keep up with this trend towards exploring steep narrow rivers, so energy companies referring to such guidebooks is not going to be sufficient to gather an accurate assessment of a river's interest for canoeing. Furthermore, whilst some rivers are going to be paddled by a few but never become popular, others are going to become increasingly popular and are likely to be amongst Scotland's most paddled rivers in a few years time. The SCA is going to be far more concerned about protecting the latter category of rivers than the former.

With the increase in leisure time and disposable income in modern society, canoeing has become increasingly popular and as some enthusiasts have moved on to creek rivers so the availability of conventional kayaks, sit-on-tops and open boats has also led to increased paddling on the less extreme rivers, some of which may be of interest to hydro developers.

The avoidance of conflict between canoeing and energy companies can be avoided through the use of early consultation. The SCA responds to a number of scoping study requests for initial reaction to hydro proposals on behalf of various developers. This provides the opportunity to flag up at a very early stage the SCA's interest in a particular river.

The SCA is willing to work with the Scottish Environment Protection Agency, Scottish Natural Heritage and hydro developers in order to devise ways of avoiding conflicts of interest on strategically important Scottish rivers. We would hope that this willingness to work proactively and discuss ways of helping the industry identify key paddling rivers would be recognised and respected by all the relevant companies in the hydro power sector and that we can find ways to achieve protection for our finest rivers and burns so that they can be kept in their current state. We would enter into any discussions on the basis that the SCA retains the right to oppose proposals on any river or burn, and that we would still have the right to take part in any consultation exercise.

The SCA would like to see more commitment to micro renewable energy schemes. Micro scale hydro power has the potential to harness power from burns that are too small for canoeing, but which could produce power for single houses or small communities without causing damage to scenically attractive and recreationally important watercourses.

Appendix D

Marine Energy

The greatest source of renewable energy is undoubtedly from the marine environment. The potential for harnessing power from sources such as tides, waves and wind at sea are enormous and we believe the power generating industry will eventually make much greater use of these marine based energy sources. One of the huge advantages of harnessing tidal energy is that it is entirely predictable and when several geographically spread stations are used in combination it is capable of generating large amounts of base load power. This element of predictability gives tidal power an advantage over all other forms of renewable energy.

As marine renewable energy schemes become more commercially viable and the civil engineering capability develops further, it is likely the government subsidy system will adapt to encourage a wider range of technologies. As this happens it is inevitable that developers' interests will turn increasingly to our estuaries, coastlines and the open sea.

The greatest resource enjoyed by sea kayakers in Scotland is our stunning coastal scenery. Our concern with marine renewables is therefore the impact on the scenery, especially close to the coastline. Manmade developments close to shore also represent a significant safety concern as they can force small craft such as kayaks and dinghies to go out to sea in order to travel around them, which in times of bad weather or poor visibility can make them serious hazards to navigation. For these reasons it is preferable from a kayaking point of view if marine energy developments are located further out to sea or contained below the surface of the water.

The potential amount of renewable energy available in our estuaries is massive. However, renewable energy in estuaries can be harnessed with or without the need for tidal barrages. Barrages mean that greater amounts of energy can be produced, but experience from overseas suggests that they lead to enormous ecological problems with the silting up of the estuary and a gradual reduction in the amount of power produced. We believe the tidal flow can be harnessed in estuaries without the need for barrages, and with a predictable flow of water we see this as a form of renewable energy worth harnessing as long as it is developed with recreation and nature conservation firmly in mind. Scotland's estuaries are valuable areas for recreation and canoeists make great use of these vast expanses of water. Whereas a barrage would affect the ecological balance of an entire estuary, a non-barrage power plant would have a more localised ecological impact and could be designed so that it would not have a significant impact on recreational water craft.

There are certain locations around the Scottish coast that hold the potential for truly massive amounts of tidal power to be generated. The Pentland Firth is perhaps the most obvious example of a natural power source that could one-day produce sufficient power to replace a major fossil fuel power station, but there are several other locations around the Scottish coast that could be of interest to energy companies searching for tidal energy projects. The civil engineering capability entailed in such a proposal could be a significant hurdle to such schemes, but as that barrier is overcome we are likely to see a move towards more tidal power generation facilities being proposed. From a kayaking point of view the massive tidal races around Scotland are all of great interest to our activity and we would have concerns with any plans to develop within them any structures that would break the surface of the water. We are particularly concerned in this respect for the protection of Corryvreckan, which is one of a handful of tidal whirlpools in the world. Due to our concerns regarding safety and seascape already discussed in this policy document the SCA would wish to be consulted on any such planning proposals.

Structures on the surface of the water such as the Polaris wave machine and structures that break the surface of the water such as turbines mounted on vertical posts could present small boat users such as kayakers with serious safety issues. The risk of collision combined

with the navigational challenge of going around such structures could be quite significant, so we would always welcome the opportunity to comment on proposals for such developments.

Our final concern with marine renewable energy projects is the impact of any landfall facilities. Shore based infrastructure such as servicing facilities for sea based plant, wave machines and interface equipment between renewable energy generators and the grid have the potential to impact on the coastal landscape and restrict access to and along the foreshore. From a safety point of view, as well as aesthetic and access, we would wish to be consulted on proposals for such shore based facilities. The SCA's policy is that any shoreside infrastructure associated with renewable developments should be designed to minimise encroachment on the foreshore and that access to the foreshore from the land and water is preserved for kayakers and other recreational users. Any downside caused by the developer's shoreside infrastructure should be balanced by creating better pathways, car parking and access to the foreshore and water for recreational purposes.

17 December 2008

Annex 4. Review of document ST13828, by Marine Scotland Science and JNCC/SNH

Marine Science Scotland

MSS have read through the benthic survey report and are generally satisfied with the outcome (especially if as suggested during the recent meeting with Statoil etc) that the development would take place to the north of the pipeline that crosses the site. MSS one criticism, is that in our opinion the survey should have had more replicates per site (Page 11, 1.3 – Scope of Environmental Survey) as 2 only somewhat compromises the power of the subsequent statistical analyses.

JNCC/SNH

General comments

JNCC and SNH welcome the comprehensive survey methodology and benthic report submitted by Statoil. We consider the description of the habitats in the turbine area and along the cable route to be sufficient to estimate the potential impacts from the Hywind windfarm development.

We support the use of the Marine Habitat Classification for Britain & Ireland and the inclusion in the report of imagery and data collected during the survey. The combination of geophysical survey with 34 benthic sampling sites and 6 video transects confirms the presence of *Sabellaria spinulosa* reef in the proposed turbine footprint area, and *Sabellaria* and stony reef along the cable route. However, the quality of these habitats fluctuates in the different areas; and also not all the areas with reef will be affected by the development. We note that the report makes reference (pg.35) to the *MMT Doc. No. 101462-STO-MMTSUR-REP-ST13828*, which is not amongst the documents sent for us to review. Therefore, it would be helpful if this report could be submitted for consideration at the next consultation stage.

Despite the amount of data and analysis presented in the report, we still have some queries and request some clarification regarding the presence of *Sabellaria*. Also we have some recommendations for the environmental impact assessment process and mitigation measures to reduce the potential impacts on the most sensitive habitats.

Methodology analysis

We note that the developer has followed the SNCB recommendations during the survey and data collection, and therefore we are content with the data presented in the report. However, we would like some aspects of the data analysis to be clarified.

Following our review of the report, we believe that the reference areas for the reefiness assessment are not clear. The estimation of the habitat extent according to the MBES and SSS data and the ground truthing video and sample stations seems to follow adequate methodology; however, it is not clear how patchiness and coverage for the *Sabellaria* have been estimated. We would welcome further description on this aspect.

The Annex I habitat areas and the habitat classification are defined on the map, but there are no quantitative references for the extension of these areas. It is not clear whether or not the *Sabellaria spinulosa* coverage estimated in tables 15 and 16 has been undertaken according to a pre-defined patchiness area, whether it has been done using the SS.SMx.oMx and SS.SBR.PoR.SspiMx reference areas or whether it has used an individual sample area for reference. We request clarification is provided on how the areas were defined according to the criteria below:

- Area of extent of the habitats defined and the percentage of coverage according to the development area (turbine and cable route).
- Reference areas to estimate the patchiness, according to the reefiness assessment criteria.
- Grid references for the areas with *Sabellaria* and stony reef, including the results of the reefiness assessment (low, medium or high extension).

According to the information within the report, most of the reef identified matches two of the three criteria to be considered as a reef (height and extent), and therefore we would request some more information on the criteria selected to estimate the extent of the reef and the reference areas, in order to properly categorise the reef quality.

During the environmental impact assessment, we would recommend using a worst case scenario approach regarding the reef presence and quality in the area i.e. reef is present and is in good quality.

Sensitive habitat and species

Following the information presented in the report, the *Sabellaria* and stony reef have been identified as the most sensitive habitats in the area. They are included under the Habitats Directive Annex 1 habitats as 'reef', and are recognised by OSPAR as 'threatened and/or declining' in Region II (Greater North Sea).

The reefiness assessment categorises most of the reef found in the development area as "low" (however the developer should note the queries outlined above on the methodology section). The areas are mainly located in the central and southern development areas, and hence there are potential mitigation measures that could be undertaken.

Regarding sensitive species, we note that *Arctica islandica* was found in one sample station in the turbine area, and *Ammodytes* sp. were located in three cable route samples. Despite the low number of encounters in the area, we would recommend considering them in the impact assessment process because of their inclusion in the OSPAR, BAP and PMF lists and their potential local significance.

Project uncertainties and mitigation proposals

The early stage of the Hywind project means there is some uncertainty regarding the final layout of the windfarm. The presence of the reefs within the site and cable route means that we would recommend that the location of these habitats should be taken into account when designing the layout and choosing construction methods.

We would recommend that the windfarm is not located in the *Sabellaria* and stony reef areas with the highest reefiness assessment. The technical aspects of the development outlined below also need to be confirmed and we encourage the developer to identify low environmental impact options that fulfil their technical requirements. The *Sabellaria* reef is patchy within both the turbine site area and the export cable route; therefore it should be possible, through micro-siting, to avoid damage to these reefs during construction and operation of the proposed wind farm. A mitigation plan, including an outline of a micro-siting protocol, could be developed to demonstrate how damage could be avoided.

Site selection. We note that the windfarm will be built in one of the two areas (northern or southern), and although we are not aware of the criteria to be used to make that decision, we would strongly recommend including environmental parameters. We expect to see further detail within the environmental impact assessment of the reef extent potentially affected for the different layout options.

Cable route. We note from *Figure 1* that the "alternative route" for the cable has not been surveyed. We query if the cable route has already been decided and whether a survey of that area will be undertaken later. We would expect clarifications of the decision criteria for the final cable route and inter-array cables layout selection.

Anchoring system. The final decision on the type of anchoring will change the significance and surface area of the potential impacts on benthic habitats. The main benthic impacts will come potentially from the anchors and we expect further details on final number, location and impacts in order to provide comprehensive advice.

Marine Scotland science review of SNCB's comment.

Both SNCB's have valid points to make and the authors could address them fairly easily. During the recent Statoil/Xodus meeting where both the developer and the consultant indicated that any work would take place to the north of the pipeline which bisects the development area. If this is the case then most of the *Sabellaria* structures will be avoided. Micro siting of the cable along the export route should avoid the rock reef identified here.

They refer to Document 101462 (Paragraph 3). Is this the preliminary environmental report produced before the latest 101462-STO-MMT-SUR-REP-ENVIRON was published? If so, the preliminary report is extremely brief and need not be considered.

Methodology Analysis, Para.1 the authors describe the multivariate analysis carried out using PRIMER which in itself seems adequate. SNH/JNCC need to clarify exactly what they want to see here. Univariate stats perhaps?

Methodology Analysis Para.2 They have a point regarding how patchiness and coverage has been estimated however the authors do refer to Gubbay 2007. Some more info from authors may help here.

Methodology Analysis Para.3 Again I believe the authors are following Gubbay's approach however some extra text here should clarify.

Methodology Analysis Para. 3 Bullet 3 Grid references are of little use, provision of Lat/Long or UTM positions may help.

Page 2, Paragraph 3 As it has been seen that none of the reef structures in the development area and along the export route are designated as "High" in reefiness nor are reefs widely present the worst case scenario approach may be overly cautious on this occasion.

Sensitive Habitats and Species, Para. 2 Mitigation by avoidance. See first comment above on use of northern section of development site only.

Sensitive Habitats and Species, Para. 3 As *A. islandica* and *Ammodytes* sp are found in such low numbers at so few sites, I'm not convinced that they need to be considered in the impact assessment on this occasion.

Site Selection, page 3 See first comment above on use of northern section of development site only.

Cable Route, page 3 Agreed, however I suspect that the figure shows the preferred cable routes.

Anchoring system, page 3 Agreed, hopefully details will be forthcoming as the project develops.

Annex 5

Aberdeenshire Councils consultee responses

Scottish Natural Heritage Tayside and Grampian Operations Officer

These comments are based on the information on the onshore works in the letter of 28 June, sent by Xodus Group on behalf of Statoil.

Designated sites - there are no sites with a statutory nature conservation designation close to the proposal site or that would be affected by it. Consequently this proposal is unlikely to have a significant effect on sites designated for nature conservation.

Biodiversity - we do not have information on the intertidal habitats and animal communities present in the area. There would need to be an assessment of the impact of the landfall on these.

In addition, it appears that the cable may need to cross the River Ugie, consequently, there should be consideration of how that would be done and associated environmental impacts. Depending on the method that is used, there could be significant environmental effects on habitats or species. In summary, the proposal could have a significant effect on biodiversity.

Landscape - the letter of 28 June from Xodus group explains that the cable would be routed to an existing substation. It is therefore unlikely that the onshore works would be likely to have significant landscape and visual impacts although this will depend on the infrastructure required.

Coastal erosion - there should be consideration of the coastal processes operating in the area and how the landfall would interact with these. Consequently there could be a significant effect on coastal processes.

In addition, there may be protected species (for example freshwater pearl mussels in the River Ugie or seals by the coast) that could be affected by the proposal, depending on the detail of what is planned.

An EIA may not be required separately for the onshore works. We recommend nonetheless that the impacts of the onshore aspect of the proposal are considered within the EIA for the offshore works, so that the development can be considered as a whole.

I understand that the applicant would also welcome comments on general environmental issues as 'pre-scoping'. On a final note, we recommend giving due-consideration to various other cable works planned or proposed in the vicinity of Peterhead, including the HOVC link to Teeside. Furthermore, reference to Peterhead is noted in the National Planning Framework 3 (draft) in terms of coordinated planning of energy infrastructure requirements.

JMP

With reference to your recent correspondence dated 10 July 2013 on the above development, we write in our role 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 been passed a copy of the pre-scoping consultation request for the proposed Hywind Scotland Pilot Park Project. We have reviewed the contents of the information provided and would respond as follows on behalf of Transport Scotland.

Development Proposals

We understand from the information provided by the applicant that the proposed development will involve the development of an offshore wind farm involving the installation of five floating wind turbines with a maximum total capacity of 30MW. We understand that the site for the proposed offshore wind farm is in an area of deep water called the Buchan Deeps which is located approximately 25 km offshore from Peterhead. We note that power generated by the wind farm will be transported to shore via an export cable to a landfall location north of Peterhead. From the landfall, cable will be routed to Peterhead to one of two substations (Peterhead Grange Substation and Peterhead North Street substation) for connection to the National Grid. We note that the exact location of the landfall is still to be determined.

It is understood that this consultation exercise is being undertaken to inform the emerging Environmental Statement (ES) to support the development proposals. We understand that a Marine Licence under the Marine (Scotland) Act 2010 is required for the offshore works while consent under the Town and Country Planning Act 2011 is also required for the onshore components of the development proposal. It should be noted that our comments below relate to the onshore works including the export cables and substations and not the wind farm itself which will be dealt with separately

Given that this is a scoping consultation and given the limited information available at this stage, we have simply set out below what we would expect to see in the ES to support this development. We hope that this provides you with some guidance and potentially allows the applicant to come back and seek to "scope out" some of the identified elements if appropriate.

The closest trunk road to the development area is the A90 which would likely provide strategic access to the site. We note that the origin of construction traffic is yet to be determined; however as a high proportion of construction vehicles are likely to travel to site via the A90(T) trunk road, Transport Scotland will require development traffic and associated impacts on the trunk road to be considered in some detail.

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 this development. In general it is expected that information will be provided on the wider impact of development related traffic together with the requirements for consequent mitigation.

The Environmental Statement should provide information relating to the preferred route options and access arrangements for the movement of any heavy goods vehicles along with an estimate of vehicle trip generation from the site and an indication of distribution I assignment of these trips. JMP would also ask that any cumulative impacts associated with other committed developments are taken on board.

We would generally advise that the assessment of environmental 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 traffic 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

Impacts to sensitive receptors associated with noise and vibration arising from the proposed development during the construction and operational phases should be considered. Operational traffic noise and construction traffic noise should be assessed by considering the increase in traffic flows and following the principles of 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 1 dB(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 1 OdB(A) corresponds roughly to halving or doubling the loudness of a sound.

Therefore, the Environmental Statement should consider potential impacts to identified trunk road receptors, in terms of:

- Predicted noise levels from construction traffic; and
- Any increases to road traffic attributed to the Proposed Development.

Air Quality

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 sensitive receptor adjacent to the trunk road will require further assessment. The criteria considered to identify significant traffic changes with the potential to affect air quality are reproduced below.

The first criteria for identifying roads with a significant traffic change is the defined in the Environmental Protection UK "Development Control: Planning for Air Quality" publication:

A change in annual average 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; or .
- Daily average speed will change by 10 kilometres per hour (km/hr) or more; or
- Peak hour speed will change by 20 km/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. It is not necessary to include all the information gathered during the assessment of these impacts, although this information should be available, if requested. As indicated earlier, it may be possible to scope out some of the above requirements by

presenting more information with regard to the trip generation potential of the development and the anticipated number of vehicle movements on the trunk road network.

Scottish Water

A review of our records indicates that we do not have any water supply catchments in the vicinity. We do have waste water and water assets in the area that may be affected by the proposed development. Please see below advice for the developer, if you could please forward this information to them. As of 1st April 2012, you can order copies of our water or waste water network drawings from the undernoted Asset Plan Providers who have developed internet based, plan collation services which deliver substantial benefits over traditional methods of plan provisioning.

Our Asset Plan Providers have several years' experience supplying asset plans to the utility and developer industries and are ready to take your enquiry. This is distinct from your rights to seek access to and inspect apparatus plans at Scottish Waters area offices, for which no charge is applied. Our Asset Plan Providers have several years' experience supplying asset plans to the utility and developer industries and are ready to take your enquiry. This is distinct from your rights to seek access to and inspect apparatus plans at Scottish Waters area offices, for which no charge is applied.

Site Investigation Services (UK) Ltd.

Tel: 0333 123 1223

Email: sw@sisplan.co.uk

www.sisplan.co.uk

National One-Call

Tel: 0844 800 9957

Email: swplans@national-one-call.co.uk

www.national-one-call.co.uk/swplans

It is essential that these assets are protected from the risk of contamination and damage. 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:

- 1) A detailed method statement and a risk assessment must be submitted to Scottish Water and agreed prior to any operations taking place.
- 2) 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.
- 3) All structures must be a minimum distance of either, 3 metres or depth plus 1 metre, whichever is greater, from the nearest sewer. All structures must be a minimum distance of 10 metres from the nearest water main.
- 4) No stationary plant, equipment, scaffolding, construction or excavated material, etc. should be placed over or close to any Scottish Water assets.
- 5) 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.
- 6) Excavation or pumping should not be carried out in the proximity of a waste water or water system 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.

7) 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.

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

9) 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 waste water pipes to within safe working limits.

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

11) 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 and or waste water pipes. There should be no interference with the free discharge of scours from water mains.

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

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

14) If a connection to the waste water and/or water network is required, you must make a separate application to Scottish Water Customer Connection 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.

SEPA

Advice for the planning authority

1. Scope of the ES for onshore components

1.1 As you will be aware we previously provided scoping advice to Aberdeenshire Council and Xodus on the onshore aspects of the proposal in our correspondence of 22 July 2013 (our reference PCS/127748), your reference ENQ/2013/1329. We would refer you to this advice as it is still applicable, this has been appended below for your information.

1.2 From the information submitted, we understand the application will include both onshore and offshore components. As such, the development will be subject to a range of different consenting regimes. We note it is "intended that both the onshore and offshore components of the Project are considered in the EIA and written up in the Environmental Statement (ES)". We would encourage this approach as this will enable a full assessment of the potential effects of the development as a whole, rather than assessing certain details of the development individually.

1.3 For your information we can confirm that we have also received a scoping opinion request from Marine Scotland for the offshore components and will be responding to this by separate cover (our reference PCS/129297).

2. Flood risk

2.1 We welcome the opportunity to provide flood risk advice at the pre application stage of the proposal and in response to your specific request for our comments on flood risk provide the following advice:

2.2 We understand that Statoil Wind Limited (SWL) have been awarded an Exclusivity Agreement by the Crown Estate for the deployment of floating Wind Turbine Generator

(WTG) units to an area known as the Buchan Deeps approximately 25km off the coast of Peterhead. These WTG will be attached to cables which will transport the electricity, coming ashore at Peterhead and connected to the local distribution network at Peterhead Grange substation.

2.3 It is proposed that the WTG units will be assembled in an inshore area of deep water and then towed into position in the Buchan Deeps.

2.4 In the EIA Scoping Report, A100142-S00, by Statoil Wind Limited there are no specific details given of any construction developments onshore at Peterhead.

2.5 As presented in section 2.7 of the report the exact location where the electricity "export cable" will come ashore is still to be identified. This cable route has not yet been identified but will connect to Peterhead Grange substation. It is specified that additional electrical infrastructure will be necessary in the form of an onshore "switchgear yard" which will include additional buildings. It is proposed to locate this as close as possible to the present Peterhead Grange substation.

2.6 The Peterhead Grange Substation lies out with the Indicative River & Coastal Flood Map (Scotland) and therefore is at low risk of flooding. In addition we hold no information of any historical flooding at or close to this site.

2.7 For information the 1 in 200 year coastal flood level for this area is 2.85m AOD based on extreme still water level calculations using the CFB Method. This does not take into account the potential effects of wave action, funnelling or local bathymetry at this location.

2.8 As there is still uncertainty regarding the development we would like to reiterate the advice given earlier that any proposed development site(s) should be assessed for flood risk from all sources in line with Scottish Planning Policy (Paragraphs 196-211). Our Indicative River & Coastal Flood Map (Scotland) is available to view online and further information and advice can be sought from your local authority technical or engineering services department and from our website.

2.9 If a flood risk is identified then a Flood Risk Assessment should be carried out following the guidance set out in the Annex to the SEPA-Planning Authority flood risk protocol. Our Technical flood risk guidance for stakeholders outlines the information we require to be submitted as part of a Flood Risk Assessment, and methodologies that may be appropriate for hydrological and hydraulic modelling.

2.10 As the project develops we welcome any further future consultation on flood risk.

2.11 Caveats & Additional Information for Applicant

2.12 The Indicative River & Coastal Flood Map (Scotland) has been produced following a consistent, nationally-applied methodology for catchment areas equal to or greater than 3 km² using a Digital Terrain Model (DTM) to define river cross-sections and low-lying coastal land. The outlines do not account for flooding arising from sources such as surface water runoff, surcharged culverts or drainage systems. The methodology was not designed to quantify the impacts of factors such as flood alleviation measures, buildings and transport infrastructure on flood conveyance & storage. The Indicative River & Coastal Flood Map (Scotland) is designed to be used as a national strategic assessment of flood risk to support planning policy in Scotland. For further information please visit www.sepa.org.uk/flooding/flood_extent_maps.aspx.

2.13 We refer the applicant to the document entitled: "Technical Flood Risk Guidance for Stakeholders". This document provides generic requirements for undertaking Flood Risk Assessments and can be downloaded from www.sepa.org.uk/flooding/planning_flooding.aspx.

Please note that this document should

be read in conjunction with Annex B in SEPA Policy 41: "Development at Risk of Flooding, Advice and Consultation - a SEPA Planning Authority Protocol", available from www.sepa.org.uk/planning/flood_risk.aspx.

2.14 Our Flood Risk Assessment checklist should be completed and attached within the front cover of any flood risk assessments issued in support of a development proposal which may be at risk of flooding. The document will take only a few minutes to complete and will

assist our review process. It can be downloaded from [www.sepa.org.uk/flooding/planning/flooding/fra checklist.aspx](http://www.sepa.org.uk/flooding/planning/flooding/fra%20checklist.aspx)

2.15 Please note that we are reliant on the accuracy and completeness of any information supplied by the applicant in undertaking our review, and can take no responsibility for incorrect data or interpretation made by the authors.

2.16 The advice contained in this letter is supplied to you by SEPA in terms of Section 72 (1) of

the Flood Risk Management (Scotland) Act 2009 on the basis of information held by SEPA as at the date hereof. Our briefing note entitled: "Flood Risk Management (Scot/and) Act 2009: Flood risk advice to planning authorities" outlines the transitional changes to the basis of our advice inline with the phases of this legislation and can be downloaded from [www.sepa.org.uk/planning/flood risk.aspx](http://www.sepa.org.uk/planning/flood%20risk.aspx).

Appendix 1: Advice as previously given in correspondence of 22 July 2013 (our reference PCS/127748)

We consider that the following key issues should be addressed in the EIA process:

- Avoiding and minimising impacts on the water environment; and
- Ensuring suitable pollution prevention and environmental management.

Please note that all of the issues below should be addressed in the Environmental Statement (ES), but there may be opportunities for several of these to be scoped out of detailed consideration. The justification for this approach in relation to specific issues should be set out within the ES.

1. Site layout and nature of construction for marine developments

1.1 The ES should contain maps giving detailed information on the site layout, including details of all onshore and offshore components such as access tracks, buildings, cabling, jointing pits (not clear on location from current information), rock dumps or any other shoreline works. These maps should be supported by a statement detailing the development, as well as reasons for the choice of site and design of the development.

2. River Basin Management Planning

2.1 All coastal water out to three nautical miles seaward from the Scottish territorial baseline falls under the Water Framework Directive which requires them to be considered in terms of their chemical, ecological and hydromorphological status.

2.2 The ES should identify if the impacts of the proposal are likely to lead to deterioration in ecological status of any local water bodies. The ES should assess the loss of any seabed habitat within the footprint of the cabling, and magnitude and spatial extent of any modified coastal processes and should put these changes into context by comparing them to the area of the surrounding water body to demonstrate that there will be no deterioration in ecological status.

2.3 In order to assist both applicants and planning authorities we have made information available on our website (www.sepa.org.uk/lwater/riverbasinplanning.aspx). This includes a datasheets or the Ugie Estuary to Buchan Ness (Peterhead) water body (WB ID 200131). This datasheets should form part of the baseline characterisation in the ES.

2.4 The final River Basin Management Plans for the Scotland and the Solway Tweed river basin districts along with supporting Area Management Plans are available on our website. Measures to ensure the successful delivery of these plans have been developed in partnership with the responsible authorities. The GIS interactive map (complete with user guide) available on the River Basin Management Planning section of our website should be used in assessing any development proposal. The map enables a search by individual water bodies and provides water body data sheets www.gis.sepa.org.uk/lrbmp/ setting out each individual water body's current ecological status, any pressures upon it, measures set up to resolve any issues and targets for any improvement needed. In their role as responsible authorities, planning authorities should promote measures already agreed as well as considering how else the proposal in questions might contribute to Directive

objectives. SEPA's planning and river basin planning staff will be happy to discuss any suggestions further.

2.5 In order to meet the objectives of the Water Framework Directive, the on shore components of the development should be designed wherever possible to avoid engineering activities in the water environment. The water environment includes burns, rivers, lochs, wetlands, groundwater and reservoirs. We require it to be demonstrated that every effort has been made to leave the water environment in its natural state. Engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams should be avoided unless there is no practicable alternative.

Paragraph 211 of SPP deters unnecessary culverting. Where a watercourse crossing cannot be avoided, bridging solutions or bottomless or arched culverts which do not affect the bed and banks of the watercourse should be used. Further guidance on the design and implementation of crossings can be found in our Construction of River Crossings Good Practice Guide. Other best practice guidance is also available within the water engineering section of our website.

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

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

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

3. Marine and shore ecology

3.1 An assessment of the existing intertidal and subtidal habitats and species should be included in the ES in the context of the landfall. This should include any UK Biodiversity Action Plan habitats and species (e.g. maerl, horse mussels). Additional information on the UK Biodiversity Action Plan is available at: www.jncc.defra.gov.uk/page-5155. Developers will then be able to ascertain if they are required to supplement or quantify the available data with in-field surveys.

3.2 The extent and significance of any change in wave regime and implications for the marine habitats and species in the nearshore environment from the landfall, should also be assessed in the impact assessment. It should be demonstrated how impacts have been minimised, and in relation to the dune habitat, how potential for erosion post installation will be avoided in the future.

3.3 We also recommend that information be submitted detailing how the development will contribute to sustainable development. Opportunities to enhance marine habitats in line with Water Framework Directive and The Nature Conservation (Scotland) Act 2004 objectives and Scottish Planning Policy guidance should be explored. Examples may include coastal realignment, the incorporation of naturalistic features in the design of shoreline works, control of marine non-native species and planting with salt tolerant species. These could be used as examples of best practice and demonstration sites under SEPA's Habitat Enhancement Initiative (HEI).

4. Groundwater protection

4.1 It is noted that the proposed substation locations are both within the settlement boundary whereby most properties will be connected to the public water supply network. In order to protect groundwater abstractions including private water supplies (PWS) the applicant should provide full details of all PWS within 250 m of foundations and within 100 m of roads, tracks or trenches. Where PWS are identified within these buffer zones a quantitative risk assessment should be carried out demonstrating whether risk to PWS are significant or not in accordance with the Land Use Planning System SEPA Guidance Note 4, (LUPS-GU4) Appendix 2 available from www.sepa.org.uk/planning/idoc.ashx?docid=e2f23e2a-8db8-4c9d-8495-11228b266430&version--1.

4.2 Information on PWS within the area can be obtained by a site walk over in conjunction with information from local authorities. Local authorities may be able to provide a list of registered PWS, although co-ordinates provided from this source are likely to be locating the point of use rather than the point of abstraction.

5. Onshore water abstraction

5.1 Where water abstraction is proposed we request that the ES, or planning submission, details if a public or private source will be used. If a private source is to be used the information below should be included. Whilst we regulate water abstractions under The Water Environment (Controlled Activities) (Scotland) Regulations 2011, 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.

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

6. Pollution prevention and environmental management

6.1 One of our key interests in relation to major developments is pollution prevention measures

during the periods of construction, operation, maintenance, demolition and restoration. The construction phase includes construction of access roads and any other site infrastructure.

6.2 During the construction and operational phase there is the potential for the pollution of estuarine/coastal waters from silt, oil spills and chemicals. Information should be provided in the ES on measures to reduce these risks. We advise that the applicant should, through the EIA process or planning submission, systematically identify all aspects of site work that might impact upon the environment, potential pollution risks associated with the proposals and identify the principles of preventative measures and mitigation. This will establish a robust environmental management process for the development. A draft Schedule of Mitigation should be produced as part of this process. This should cover all the local environmental sensitivities (including for example the nearby EC designated bathing water at Peterhead (Lido)), pollution prevention and mitigation measures identified to avoid or minimise environmental effects. It is important that good working practice is adopted and that habitat damage is kept to a minimum and within defined acceptable parameters.

6.3 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 produce a series of Pollution Prevention Guidelines, several of which maybe utilised in preparation of the ES and development of the proposals

www.sepa.org.uk/about-us/publications/guidance/ppgs.aspx.

Useful guidance can also be found in CIRIA C584 entitled "Coastal and marine environmental site guide".

Reference can be made to the appropriate checklists and good practice advice generally in this document. 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.

6.4 We welcome, as was requested, the confirmation provided that the environmental management plan will include measures that will be adopted to minimise the risks of introducing marine non-native species that are attached to marine plant and specialised equipment transported to the area before the constructional phase of the project begins, and before any maintenance works commence during the operation of the new development. Guidance that may be drawn upon includes:

- Scottish Government Code of Practice on non-natives ([www.scotland.gov.uk/Topics/Environment/Wildlife/Habitats/invasive/Species/legislation/Code of Practice on Non Native Species](http://www.scotland.gov.uk/Topics/Environment/Wildlife/Habitats/invasive/Species/legislation/Code%20of%20Practice%20on%20Non%20Native%20Species))
- The alien invasive species and the oil and gas industry guidance produced by the Oil & Gas industry (www.ogp.org.uk/pubs/436.pdf).
- SNH web-based advice on Marine non-native species (www.snh.gov.uk/land-and-sea/managing-coasts-and-sea/marine-non-natives/)
- Marine Non-Native guidance from the Green Blue (recreation advice) ([www.thegreenblue.org.uk/clubs and training centres/antifoul and invasive species best practice invasive species.aspx](http://www.thegreenblue.org.uk/clubs%20and%20training%20centres/antifoul%20and%20invasive%20species%20best%20practice/invasive%20species.aspx)).

7. Sustainable waste management

7.1 Details of how waste will be minimised at the construction stage should be included in the ES demonstrating that:

- (i) Construction practices minimise the use of raw materials and maximise the use of secondary aggregates and recycled or renewable materials; and that
- (ii) Waste material generated by the proposal is reduced and re-used or recycled where appropriate on site (for example in landscaping not resulting in excessive earth moulding and mounding). There may be opportunities to utilise surplus soils for sustainable purposes elsewhere.

7.2 To do this effectively all waste streams and proposals for their management should be identified, including waste peat and other materials excavated on site and the importation of any waste materials to the site. Accordingly, we recommend that a site specific Site Waste Management Plan is developed to address these points. This is in accordance with the objectives of Scottish Planning Policy and the Zero Waste Plan which aim to minimise waste production and reduce reliance on landfill for environmental and economic reasons.

7.3 Advice on how to prepare a site waste management plan is available on the netregs website and from Envirowise who also provide free advice on resource efficiency. Further advice on the reuse of demolition and excavation materials is available from the Waste and Resources Action Programme. Further guidance and information on waste prevention and waste minimisation can also be found at our website.

8. Surface water drainage

8.1 Information on surface water drainage for the development should be provided.

8.2 It is important to ensure that adequate space to accommodate SUDS is incorporated within the site layout and the opportunity to use SUDS features as wildlife corridors linking green spaces is maximised. The level of surface water treatment required is dependant on the nature of the proposed development (for example residential or non residential), the size of development, and the environmental risk posed by the development. The environmental risk is principally determined by the type of activity being proposed (residential, industrial, etc), the available dilution, and the sensitivity of the receiving water body.

The following levels of treatment represent best practice:

- Industrial developments require three levels of treatment for hard standing areas and two levels of treatment for roads. An exception is run-off from roofs which requires only

one level of treatment. Best practice requires the first level of SUDS treatment to take the form of source control. Two levels of treatment may be provided using permeable paving or under-drained swales provided the requirements above have been met. A second/third level of treatment can be the formation of a basin or pond maximising opportunities for habitat enhancement and designed in accordance with Sewers for Scotland Second Edition. Developer contributions could also be made towards a second/third level taking the form roadside swale, which if appropriately designed can provide a valuable wildlife corridor.

- All roads schemes typically require two levels of treatment, except for residential developments of 50 houses or less and retail/commercial/business parks with car parks of 50 spaces or less. For technical guidance on SUDS techniques and treatment for roads please refer to the SUDS for Roads manual.

- For all developments, run-off from areas subject to particularly high pollution risk (eg yard areas, service bays, fuelling areas, pressure washing areas, oil or chemical storage, handling and delivery areas) should be i) minimised and ii) directed to the foul sewer. Where run-off from high risk areas cannot be directed to the foul sewer we can, on request, provide further site specific advice on what would be the best environmental solution.

9. Flood risk

9.1 The site(s) should be assessed for flood risk from all sources in line with Scottish Planning

Policy (Paragraphs 196-211). Our Indicative River & Coastal Flood Map (Scotland) is available to view online and further information and advice can be sought from your local authority technical or engineering services department and from our website.

9.2 If a flood risk is identified then a Flood Risk Assessment should be carried out following the guidance set out in the Annex to the SEPA-Planning Authority flood risk protocol. Our Technical flood risk guidance for stakeholders outlines the information we require to be submitted as part of a Flood Risk Assessment, and methodologies that may be appropriate for hydrological and hydraulic modelling.

10. Scottish Natural Heritage (SNH) designated areas

10.1 We note that the landfall lies adjacent to the Buchan Ness to Collieston Coast SPA and SAC. Advice on impacts on this designated site (and European protected species) should be sought from SNH who, in line with our agreed procedures, may contact us for advice in relation to our interests.

Historic Scotland

Based on the information to date, we do not consider that the onshore elements of the proposal are likely to have a significant adverse impact on heritage assets within our remit. I can also confirm that we are content with the proposed approach and method for carrying out the marine archaeological and cultural heritage assessment, set out in chapter 15 (page 87) of the submitted SWL Scoping Report.

Environment planner (Landscape)

Proposal: EIA Screening Scoping Opinion for EIA Scoping Opinion for Onshore Elements at Peterhead of Hywind Pilot Park Project for 5No 6Mw (30Mw) Floating Wind Turbines in Buchan Deeps Approximately 25m off Peterhead Coast. Address: Grange Electricity Sub Station, Copland hill Road, Peterhead

Introduction:

The following comments are based on the Hywind Scotland Pilot Park Project, EIA Scoping Report, approved for use 01.10.13, and relate primarily to landscape and visual impact issues.

The section of the above report that covers the onshore components of the project states that; 'Aberdeenshire Council determined that the onshore components of the project are not likely to give rise to any significant effects on the environment and therefore an EIA is not required'.

The report goes on to state that the project only requires minimal small scale onshore infrastructure comprising an underground cable and switchgear yard to be located between the cable landfall and the existing Peterhead SSE substation. The specific location is still being investigated.

Given the still speculative quality of aspects of information in the EIA scoping report for onshore elements of the proposed application, these comments are more general regarding landscape and visual issues, and specific recommendations cannot be made until further details of the proposed onshore development and its precise location are supplied by the applicant.

Background:

The onshore elements of the proposed development are understood to comprise of an export cable shore landfall site, onshore cable to be buried, onshore switchgear yard and an extension to the Peterhead Grange substation.

The information supplied by the applicant also mentions an onshore WTG unit assembly site and temporary onshore compound for storing equipment, finalised locations yet to be confirmed. It is accepted that these elements of the project will be most likely temporary, but they too should be subject to principles of best practice in terms of minimising any adverse effects on the landscape and visual resource that any future development as described would have.

Generally the current onshore development proposal, in terms of the export cable landfall, onshore cable, switchgear yard and extension to the Peterhead Grange substation would affect parts of north Peterhead. In terms of a landscape and visual impact assessment, a settlement and particularly the residential parts of a settlement would be most likely assessed as a sensitive receptor and this assessment will be enforced if any of the town's conservation areas are affected by the development. Peterhead also falls within the boundary for the Energetica initiative. This is a priority industry project for Aberdeenshire. The objective is to create diversity in the region's future economy by creating, over 15 years, a location of excellence for attracting low carbon and renewable research, development and manufacturing enterprises. It is envisioned that a quality environment is an essential aspect of this objective and to this end there is an emphasis on all proposed new development in the Energetica

corridor area now featuring quality environmental and architectural design. As a principle the applicant needs to locate the onshore elements of the development to minimise any adverse effects on the positive character of the town, and for above ground infrastructure all needs to be done to mitigate any adverse effects. Fundamentally this would be done by minimising the size and profile of any over ground development and where such development does occur implement boundary screening to minimise visual effects of the development and assimilate it positively into the character of its surroundings.

Principles of EIA

The EIA process should contribute to the decision making in terms of locating the onshore infrastructure to cause minimum adverse impact on the local environment in terms of the location of the development and also its detail design.

Landscape and visual impact assessment:

In terms of a standard approach to the EIA process, for a full planning application, the applicant needs to carry out a landscape and visual impact assessment which should be produced in accordance with the Guidelines for Landscape and Visual Impact Assessment (third edition).

Sensitive viewpoints or receptors in the area of the development should be assessed include local residences, transportation corridors, settlements, places of tourist, cultural, conservation and heritage interest etc. Principles of identifying sensitive viewpoints or receptors can be gained from the Guidelines previously identified in this memo.

In terms of gaining an understanding of the local landscape character, the SNH Landscape Character Assessment document that covers Banff and Buchan should be consulted and referred to in any baseline studies relating to a LVIA. Generally the coastal area of Aberdeenshire has been regarded as a sensitive landscape type and this needs to be taken into consideration by the applicant also.

In terms of development design best practice the EIA process should obviously contribute to the site development and design process, in terms of identifying site(s) opportunities and constraints and locating and designing the development to have minimal or ideally no adverse effects on valued aspects of the development site its landscape/townscape and setting.

Detailed comments:

In terms of general locational and design principles relating to landscape and visual issues all elements of the proposed development should be designed to have minimal no impact on the landscape/townscape character of the local area.

The initial indications are that the onshore switchgear yard and extension to the Grange substation have potential for visual effect on the surrounding area. Generally these facilities should be designed to have minimal visual affect and long term screening of these facilities will most likely be part of a package of reasonable mitigating measures .

A key mitigating factor for the site's general environment is the possible quality of design of the equipment and infrastructure in the onshore switchgear yard and extension to the Grange substation. Installed infrastructure with an aesthetically pleasing appearance would have a positive impact on the character of the area. It is therefore requested that the applicant consider employing techniques to establish a development with bespoke and positive aesthetics unique to the location.

With regard to the landscape/environmental design aspect of the development, it would be appreciated if the applicant showed some initiative in commissioning a landscape design/design consultant to advise on the appearance of onshore infrastructure and design simple design solutions to make proposed infrastructure appear more aesthetically pleasing and put together a package of mitigating measures, most likely screen planting to minimise any adverse visual affects

predicted through the L VIA process. Given the scale of the proposed onshore development, this aspect of the project would be relatively small and in principle should be a reasonably straight forward process.

Closing comments:

The onshore element of this proposed development is acknowledged to be potentially fairly localised in its potential landscape and visual effects. Further meaningful detailed comment cannot be made until further details are supplied of the location and specifications of onshore infrastructure. A LVIA would be useful in identifying potential visual impacts of the proposed development and in formulating a package of mitigating measures. The LVIA needn't be large scale if potential visual affects are known to be localised. If the applicant employ design consultants to carry out and assess the results of the LVIA process and formulate a package of design proposals to minimise any adverse visual effects caused by the proposed development, in terms of its design and mitigating measures, then this would be a positive approach to establishing such a development in Peterhead/in the Peterhead area. Possible additional mitigating work to the boundary area of the existing Grange substation would also be desirable as part of this application and should also be investigated as part of a future application for the onshore works as described.

Roads and Landscape Services

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011

- EIA Screening/Scoping Opinion for EIA Scoping Opinion As Consultee to Marine Scotland under S.13 of Marine Works (EIA) (Scotland) Regs 2007, as Amended for Offshore Elements of

Hywind Pilot Park Project for 5 No 6mW (30mW) Floating Wind Turbines in Buchan Deeps Approximately 25km off Peterhead Coast

- EIA Screening/Scoping Opinion for EIA Scoping Opinion under S.14 of Town and Country Planning (EIA) (Scotland) Regs 2011 for Onshore Elements at Peterhead of Hywind Pilot Park

Project for 5 No 6mW (30mW) Floating Wind Turbines in Buchan Deeps Approximately 25 km off Peterhead Coast

I have looked through the information submitted with this request for a scoping opinion_ I am satisfied with what is proposed to be scoped in and out of the proposed EIA and with the surveys proposed as part of the EIA process in respect of ecology and ornithology. Although the terrestrial elements will not be subject to a formal EIA I am satisfied with the proposal for walkover surveys to identify the location of, and any potential impacts on, protected species and important habitats.

Roads and Land scape Services

Proposal: EIA Screening/Scoping Opinion for EIA Scoping Opinion under S.14 of Town and Country Planning (EIA) (Scotland) Regs 2011 for Onshore Elements at Peterhead of Hywind Pilot Park Project for 5 No 6mW (30mW) Floating Wind Turbines in Buchan Deeps Approximately 25km off Peterhead Coast

Address: Grange Electricity Sub Station Copland hill Road Peterhead

Grid Reference: 411755.846508.4

I refer to the above and the memorandum dated 18/10/13.

I have had a look through the information supplied by the applicant and my comments refer to section

2.7 Onshore components applicable to the Pilot Park.

2.7.1 Cable landfall location.

The exact location of the landfall is still to be identified and the cable route corridor appears to be out with the Buchanhaven Conservation Area. There is an area of public open space (Gadle Braes)

running for approximately 700+ metres that is within the landfall corridor, this forms part of the coastal strip and footpath and will need to be reinstated on completion of the work assuming it is disrupted by the proposals.

2.7.2 Onshore cable route.

"The preferred method of installation will be to install the cable within the existing road network" This would be" Landscape Services preferred option rather than cross any large areas of open space 1 playing fields such as Barclay Park or Catto Park. It may be an option to utilise the Formartine and Buchan Way as a cable route from York Street to the south of the Peterhead Grange Substation. This option would certainly reduce the disruption to the existing roads network.

2.7.3 Onshore grid connection

The existing substation and Peterhead Grange is immediately adjacent to the Grange Cemetery; Phase 2 which is currently in use and Phase 3 yet to be developed.

2.7.4 Onshore switchgear yard Given the comment made in 2.7.3 above there appears to be little available land immediately adjacent to the Peterhead Grange Substation apart from that ground allocated for Phase 3 of the Grange Cemetery.

Archaeologist Service

Following on from your letter of the 18th October 2013 seeking comments on the above Screening/Scoping Opinion, I can confirm that the approach outlined for the Cultural Heritage aspect of the EIA is acceptable.

SNH

We understand that Aberdeenshire Council has determined that the onshore components themselves do not require an EIA under the TCP (EIA) Regs (scoping report section 1.5 para.

3). We welcome, nonetheless, the proposal for the EIA for the offshore components of the project to include consideration of the onshore works (cf 19.1).

We are providing jointly with the Joint Nature Conservation Committee, advice to Marine Scotland on the EIA scoping for the offshore elements of the proposal. Our advice below relates to the onshore elements.

Summary of onshore works

The onshore works comprise a cable landfall from which the cable would lead to Peterhead Grange substation to connect to the grid. The cable route would be up to 3 km long and probably be installed within the existing road network. A separate onshore switchgear yard will be located along the cable route. The exact location of the landfall, cable route and switchgear yard have not yet been identified.

Seascape and Landscape Visual Impact Assessment

There should be some commonality of approach between the Seascape Landscape and Visual Impact Assessment (SLVIA) required for the offshore components, and any Landscape and Visual Impact Assessment (LVIA) required as part of the ES to be submitted to Aberdeenshire Council. For example, there should be joint consultation with SNH and Aberdeenshire Council on aspects such as ZTV modelling, viewpoints and visualisations required for assessing offshore and onshore components, which may influence the approach to assessment of the onshore components (and vice-versa It appears there are several unknowns about the location and scale of temporary supportive development required to assemble and deliver turbines for installation in the Pilot Park).

We advise that this should be scoped into the EIA, contrary to the assessment in the scoping report.

Protected sites and species

We do not consider that the onshore components are likely to have an adverse impact on any designated sites in the vicinity, due to their distance and the type of works proposed.

The scoping report identifies the potential for impacts to habitats and protected species along the onshore cable route and at the onshore switching yard. There should also be consideration of impacts to these at the landfall site and how to mitigate any impacts.

Consideration should also be given to UK and LBAP habitats and species.

We agree that the ecological value is likely to be low due to the built up and urban character of the area and support a walkover survey to validate this. Further more detailed survey may then be required. These surveys should follow a suitable method and survey a sufficient buffer around the construction footprint.

The Environmental Statement should provide details of appropriate mitigation and state whether or not licences are likely to be required. Our website provides information on the legislation applying to protected mammals and licensing for activities which could affect them.

<http://www.snh.gov.uk/protecting-scotlands-nature/protected-species>

<http://www.snh.gov.uk/protecting-scotlands-nature/species-licensing/mammal-licensing/>

Public Space and Amenity

We note that impacts on public space and amenity have been scoped out of the EIA. The report states at 2.7.4 that the onshore switchgear yard will not exceed 1 ha. If the switchgear yard could be located within an area of open space we advise that the impacts of this and how to mitigate them are considered within the ES.

Cumulative Impacts

We recommend giving due strategic consideration to various other cable works planned or proposed in the vicinity of Peterhead as proposed in chapter 2.28 in the National Planning Framework 3 (draft), including the HDVC link to Teeside.

Annex 6.

DEVELOPER APPLICATION AND ENVIRONMENTAL STATEMENT CHECKLIST

	Enclosed
1. Developer cover letter and fee cheque	<input type="checkbox"/>
2. Copies of ES and associated OS maps	<input type="checkbox"/>
3. Copies of Non-Technical Summary	<input type="checkbox"/>
4. Confidential Bird Annexes	<input type="checkbox"/>
5. Draft Adverts	<input type="checkbox"/>
6. E Data – CDs, PDFs and SHAPE files	<input type="checkbox"/>

Environmental Statement	Enclosed	ES Reference (Section & Page No.)
7. Development Description	<input type="checkbox"/>	
8. Planning Policies, Guidance and Agreements	<input type="checkbox"/>	
9. Economic Benefits	<input type="checkbox"/>	
10. Site Selection and Alternatives	<input type="checkbox"/>	
11. Baseline Assessment data – air emissions	<input type="checkbox"/>	
12. Design, Landscape and Visual Amenity	<input type="checkbox"/>	
13. Construction and Operations (outline methods)	<input type="checkbox"/>	
14. Archaeology	<input type="checkbox"/>	
15. Designated Sites	<input type="checkbox"/>	
16. Habitat Management	<input type="checkbox"/>	
17. Species, Plants and Animals	<input type="checkbox"/>	
18. Water Environment	<input type="checkbox"/>	
19. Sub-tidal benthic ecology	<input type="checkbox"/>	
20. Hydrology	<input type="checkbox"/>	
21. Waste	<input type="checkbox"/>	
22. Noise	<input type="checkbox"/>	
23. Traffic Management	<input type="checkbox"/>	
24. Navigation	<input type="checkbox"/>	
25. Cumulative Impacts	<input type="checkbox"/>	
26. Other Issues	<input type="checkbox"/>	

N.B. Developers are encouraged to use this checklist when progressing towards application stage and formulating their Environmental Statements. The checklist will also be used by officials when considering acceptance of formal applications. Developers should not publicise applications in the local or national press, until their application has been checked and accepted by officials.