From: Joao Queiros
Marine Scotland Licensing Operations Team
Marine Planning and Policy
28th October 2015

Deputy First Minister and Cabinet Secretary for Finance, Constitution and Economy

APPLICATION FOR A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED) TO CONSTRUCT AND OPERATE 5 FLOATING WIND TURBINES IN THE BUCHAN DEEP, APPROXIMATELY 25 KM OFF THE COAST OF PETERHEAD, NORTH EAST SCOTLAND.

Purpose

To seek your determination on the Application submitted by Hywind (Scotland) Limited (Company Number 08709450) ("the Company"), a Company entirely owned by Statoil Wind Limited (Company Number 06824625), for a marine licence under Part 4 of the Marine (Scotland) Act 2010 and under Part 4 of the Marine and Coastal Access Act 2009 (as amended) to construct and operate a pilot park made up of 5 floating wind turbines situated in the North Sea, with a maximum generating capacity of up to 30 megawatts ("MW"), in an area known as the Buchan Deep, approximately 25 km off the coast of Peterhead, North East Scotland, just outside the 12 nautical miles ("nm") territorial water limit.

Priority

Routine.

Background

Scottish Ministers are the licensing authority for most matters in Scottish inshore and offshore waters with Marine Scotland Licensing Operations Team ("MS-LOT") issuing licenses on Scottish Ministers' behalf. Given the scale of this particular development, and its role in the wider renewable industry and the meeting of climate change targets, MS-LOT are making this recommendation for your direct determination.

On 21st April 2015, Marine Scotland Licensing Operations Team ("MS-LOT") accepted an Application to construct and operate the Hywind Scotland Pilot Park, comprising five 6 MW wind turbine generator ("WTG") units and associated moorings and anchoring systems in the North Sea ("the Development") (**ANNEX F - DEVELOPMENT LOCATION**). The Development located as shown in **ANNEX F** shall have a permitted generating capacity not exceeding 30 MW and shall comprise a wind-powered electricity generating station including:

1. not more than five three-bladed horizontal axis wind turbines each with:

    a. a maximum blade tip height of up to 181 metres (above Mean Sea Level ("MSL"));
    b. a minimum blade clearance of 22 metres (MSL to blade tip);

c. a maximum rotor diameter of 154 metres; and
d. minimum spacing of 800 metres. Each WTG always being subject to micro-siting of +/- 50 m;

2. all associated substructures, fixtures, and fittings;

3. for each WTG a transition piece (including access ladders / fences and landing platforms), turbine tower, rotors and nacelle; and

4. inter array cabling to the connection point on the offshore sub-station platform including protections and cable crossings.

In accordance with standard procedure and statutory requirements, this Application has been advertised in line with the legislative requirements and has been subject to wide ranging consultation which afforded interested parties appropriate time to submit representations to the Scottish Ministers. MS-LOT is satisfied that there are no outstanding issues that should prevent consent being granted should you determine that is appropriate.

CONSIDERATION OF THE APPLICATION

MS-LOT is satisfied that whilst the Development would have an impact on the environment, by taking into account the extent to which any environmental effects will be reduced by measures the Company has agreed to take, or will be required to take, under the conditions attached to the marine licence, the environmental issues can be appropriately addressed by way of mitigation and monitoring and that any impacts which remain are outweighed by the benefits the Development will bring.

As well as delivering renewable electricity to the National Grid, this Development will make a significant contribution to the renewables obligation and climate change targets in Scotland. If licensed and consented, the Development, once fully constructed and operational, could provide energy equivalent to the needs of approximately 19,900 homes. The Company estimate that in Scotland the expenditure made by the Development (and Offshore Transmission Works) could generate Gross Value Added ("GVA") of £58 million in the construction phase and £2.5 million per annum in the operation and maintenance ("O&M") phase. Background and consultation information for the Development is set out at **ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS.**

Consultation Summary

During the consultation process, objections were received from the Aberdeen International Airport ("AIA"), BP Exploration Operating Company Limited ("BP"), the Ministry of Defence ("MOD"), National Air Traffic Services (EnRoute) pic ("NERL"), the Royal Society for the Protection of Birds Scotland ("RSPB Scotland") and the Scottish Fishermen's Federation ("SFF"). Further discussion between the Company and AIA, BP, MOD, SFF and NERL resulted in those stakeholders withdrawing their objections subject to conditions and / or agreements being put in place to minimise the impact(s) of the Development.

Objections are being maintained from the RSPB Scotland.

RSPB Scotland recognised the benefits of siting arrays further offshore in deeper waters where there are likely to be fewer ecological sensitivities. However, in spite of RSPB's overarching support for such technologies their view was that the Hywind Application must

be considered in the context of the eight commercial scale offshore wind sites that were granted consent in 2014 in the firths of Moray, Forth and Tay. RSPB Scotland hold major reservations over the environmental assessments supporting these consents and are extremely concerned about the cumulative and in-combination impacts to important and internationally protected seabird populations, specifically on Scotland's east coast. The consents for four of these developments (those in the Forth and Tay region including Inch Cape, Seagreen Alpha and Bravo and Neart na Gaoithe) are currently subject to judicial review. Should these existing consents remain unchanged the RSPB Scotland object to the Hywind Development for the following reasons:

- The cumulative and in-combination environmental impacts, arising primarily from existing consents for offshore wind in the Forth and Tay, are unacceptable to the RSPB and in their view inappropriate environmental assessment methods have been relied upon.
- Impacts on draft marine Special Protection Areas (dSPAs) have not been considered.

Conditions are also being implemented as part of the licence to further minimise the potential impacts of the Development **(ANNEX D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2)).**

Public Representations

No representations were received from members of the public.

Publicity

Officials will liaise with Communications once a determination has been made on this Application to agree the appropriate means of announcing the decision. At an appropriate time, Communications will submit a draft News Release under separate cover for your approval.

As a potential way of meeting any relevant Freedom of Information requests which may be received, and in order for the determination process to be fully open and transparent, MS-LOT recommend that this submission is published on the Marine Scotland licensing page of the Scottish Government website, alongside the key documentation relating to this Application including consultee responses and public representations with personal information, e.g. names, email addresses and phone numbers redacted.

Recommendation

The Development offers a significant and strategic opportunity to drive the harnessing of Scotland's vast offshore renewable resources forward and will also make a significant contribution to Scotland's target of generating the equivalent of 100% of Scotland's gross electricity consumption from renewables by 2020.

Having taken all material considerations into account, including the statutory and non-statutory consultation responses, public representations and objections received, and being

satisfied that all legislative requirements have been met, MS-LOT is of the view that you should:

> **Determine that it is appropriate not to cause a public local inquiry to be held, and to grant a Marine Licence under Part 4 of the Marine (Scotland) Act 2010 and under Part 4 of The Marine and Coastal Access Act 2009 (as amended).**

Please be aware that it is normal practice to amend a Marine Licence post decision. Should that be necessary in this case, we will notify you in advance of issuing an updated Licence.

List of Annexes

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Copy List:	For Action	For Comments	For Information		
			Portfolio Interest	Constitutional Interest	General Awareness
Deputy First Minister and Cabinet Secretary for Finance, Constitution and Economy			X		
Minister for Business, Energy, and Tourism			X		
Minister for Environment, Climate Change and Land Reform			X		
Minister for Transport and Islands					X
Minister for Local Government and Planning					X

DG Enterprise, Environment & Digital
Linda Rosborough - Marine Scotland
David Palmer - Marine Scotland
Jim McKie - Marine Scotland
Karen Major - Marine Scotland
Nicola Bain - Marine Scotland
Gayle Holland - Marine Scotland
Phil Gilmour - Marine Scotland
David Pratt - Marine Scotland
Mark Christie - Marine Scotland
David Mallon - Marine Scotland
Ian Davies - Marine Scotland
Chris Stark - Energy & Climate Change
Simon Coote - Energy & Climate Change
David Stevenson - Energy & Climate Change
Alan Williams - SGLD
Claire Cullen - SGLD
Fiona McClean - SGLD
Ian Vickerstaff - SGLD
Graham Marchbank - Planning
Simon Bonsall - Planning
Keith Connal - E&RA
Iain Malcolm - Freshwater Fisheries
Chris Wilcock - Ports and Harbours
Malcolm Fleming – Advisor
Julie Grant - Communications
Michael Berry - Communications
Chris Nabney - Communications
Communications - Greener
Communications - Deputy First Minister

ANNEX A – REGULATORY REQUIREMENTS: LEGISLATION AND POLICY

APPLICATION FOR A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED) TO CONSTRUCT AND OPERATE 5 FLOATING WIND TURBINES IN THE BUCHAN DEEP, APPROXIMATELY 25 KM OFF THE COAST OF PETERHEAD, NORTH EAST SCOTLAND.

LEGISLATION

The Marine (Scotland) Act 2010

1. The Marine (Scotland) Act 2010 ("the 2010 Act") received Royal Assent on 10 March 2010 and, along with the UK Marine and Coastal Access Act 2009 (as amended) ("the 2009 Act"), provides a framework for marine management. The Marine (Scotland) Act 2010 legislates for marine planning and licensing and conservation activities in Scottish inshore waters (from Mean High Water Springs out to 12 nautical miles). An agreement between UK and Scottish Ministers defining the responsibilities was established through a Joint Ministerial Committee and the 2009 Act executively devolved to Scottish Ministers functions in relation to marine planning, licensing and conservation powers in the offshore region (12-200 nm). In addition to the 2009 Act, international responsibilities for the implementation of the Marine Strategy Framework Directive ("MSFD") in the Scottish inshore and offshore region will fall to Scottish Ministers who are the competent authority.

2. The Acts meet demands from a wide diversity of marine users for the better stewardship and management of Scotland's seas and introduce a framework for sustainable management. The framework includes:

    i. The introduction of a statutory marine planning system;
    ii. Improved marine nature conservation and conservation of the marine historic environment with new powers to protect and manage areas of importance for marine wildlife, habitats and historic monuments; and
    iii. Improved protection for seals.

3. The Acts also introduce a streamlined marine licensing system with accompanying enforcement powers. The Marine Licence supersedes the former Food and Environmental Protection Act 1985 ("FEPA") licence and Coast Protection Act 1949 ("CPA") consent and provide that Scottish Ministers are responsible for issuing new marine licences in the Scottish inshore and offshore waters.

4. Under the Acts, a marine licence from Scottish Ministers is required before any person may:

    i. Deposit any substance or object in the sea or on or under the seabed;
    ii. Construct, alter or improve any works on or over the sea or on or under the seabed;
    iii. Remove any substances or objects from the seabed,

    using a vehicle, vessel and other structure;

iv. Carry out any form of dredging (including plough, agitation, side-casting and water injection dredging), whether or not involving the removal of any material from the sea or seabed;
v. Deposit or use any explosive substances or articles; or
vi. Incinerate any substances or objects on any vehicle, vessel or other structure.

5. Liaison with MS-LOT is recommended to determine the licensing requirements of any pre-development activities such as seabed surveys. This includes the removal of small quantities of sediment from the seabed over 1 m^3 as part of scientific and/or investigative surveys (Marine (Scotland) Act 2010, Part 4 Marine Licensing General Guidance for Applicants).

6. Part 7 of the Marine (Scotland) Act 2010 makes provision for Marine Enforcement Officers. These officers have specific powers to enforce the marine licensing regime and marine protection and nature conservation legislation. For the majority of offshore renewables developments an Environmental Impact Assessment ("EIA") will be required to support the application for a marine licence in line with the EIA Directive (85/337/EC as amended). MS-LOT ensure applications meet the requirements of the EIA Directive prior to formally accepting the application.

7. By section 3 of the 2010 Act, when exercising any function that affects the Scottish marine area (this includes the determination of marine licence applications) the Scottish Ministers have a general duty to act in the way best calculated to further the achievement of sustainable development, including the protection and, where appropriate, the enhancement of the health of the area.

8. Under section 4 of the 2010 Act when exercising any function that affects the Scottish marine area either under that Act, the Climate Change (Scotland) Act 2009 or any other Act the Scottish Ministers must act in the best way calculated to mitigate and adapt to climate change.

9. When determining marine licence applications the Scottish Ministers must, in terms of section 27 of the 2010 Act, have regard to the need to protect the environment and human health as well as the need to prevent interference with legitimate users of the sea and such other matters as they may consider relevant.

10. In addition, Scottish Ministers must have regard, amongst other things, to the practical availability of any alternative method of taking forward the proposed development as well as having regard to the effects of any use intended to be made to the project once it has been constructed.

11. Section 29 of the 2010 Act allows Scottish Ministers to consider marine licence applications and to grant licences either unconditionally or subject to conditions, or to refuse such applications. The conditions that may be attached to a licence may, under section 29(2) of the 2010 Act, relate to the activities authorised by the licence, precautions to be taken or works to be carried out in connection with the activities and the monitoring of the licensed activities. Section 29(3) of the Act sets out some particular conditions that may be attached to a licence.

12. Furthermore, under section 29(6) of the 2010 Act Scottish Ministers are not authorised to grant a marine licence to carry on any activity which is contrary to international law.

Environmental Impact Assessment Directive; The Marine Works (Environmental Impact Assessment) Regulations 2007

13. The Environmental Impact Assessment Directive, which is targeted at projects which are likely to have significant effects on the environment, identifies projects which require an EIA to be undertaken. The Company identified the proposed Development as one requiring an Environmental Statement ("ES") in terms of Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the 2007 Regulations").

14. The Development has been publicised, to include making the ES available to the public, in terms of the 2007 Regulations. The Scottish Ministers are satisfied that an ES has been produced and the applicable procedures regarding publicity and consultation all as laid down in the 2007 Regulations have been followed.

15. The Scottish Ministers have, in compliance with the 2007 Regulations, consulted with the Joint Nature Conservation Committee ("JNCC"), Scottish Natural Heritage ("SNH"), the Scottish Environment Protection Agency ("SEPA"), the Planning Authority most local to the offshore development and in whose jurisdiction the onshore development is located, and such other persons likely to be concerned by the proposed Development by reason of their specific environmental responsibilities on the terms of the Application in accordance with the regulatory requirements. The Scottish Ministers have taken into consideration the environmental information, including the ES and the representations received from the statutory consultative bodies and from all other persons.

16. The Scottish Ministers have also consulted a wide range of relevant organisations including colleagues within the Scottish Government on the Application and the ES.

17. The Scottish Ministers are satisfied that the regulatory requirements have been met.

The Habitats Directive and the Wild Birds Directive

18. Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and wild fauna and flora (as amended) ("the Habitats Directive") and Council Directive 79/409/EEC of 2nd April 1979 on the conservation of wild birds (as amended and codified) ("the Wild Birds Directive") have, in relation to the marine environment, been transposed into Scots law by the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) ("the 1994 Regulations") for devolved matters, the Conservation of Habitats and Species Regulations 2010 ("the 2010 Regulations") for reserved matters and section 36 consents, and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 ("the OMC 2007 Regulations") for developments out with 12 nm. As the Development is to be sited in the Scottish offshore region it is the OMC 2007 Regulations which are, in the main, applicable in respect of the marine licence application. The 1994 Regulations do, however, apply to those parts of the associated transmission infrastructure which lie inside the region within 12 nm from the shore.

19. The key mechanism for securing compliance with the Habitats Directive and the Wild Birds Directive is the carrying out of an Appropriate Assessment ("AA") as required under Article 6(3) of the Habitats Directive, being an assessment of a project's implications for European protected sites in view of such sites' conservation objectives. Article 7 of the Habitats Directive applies the obligations arising under Article 6(2), (3) and (4) of that Directive to the Wild Birds Directive. Developments in, or adjacent to European

protected sites, or in locations which have the potential to affect such sites, must undergo what is commonly referred to as a Habitats Regulations Appraisal ("HRA"). The appraisal involves two stages, and if the Development is likely to have a significant effect on a protected site, then an AA must be carried out.

20. Due to their proximity to the Development, the AA which has been undertaken has considered the combined effects of the consented Forth and Tay offshore wind farms, (the Neart na Gaoithe Offshore Wind Limited ("NnGOWL") and Inch Cape Offshore Limited ("ICOL") applications) and the Seagreen Alpha ("SAWEL") and Seagreen Bravo ("SBWEL") developments. The applications for which were consented by the Scottish Ministers in October 2014. Where appropriate (depending on the receptor) other offshore wind farm developments and licensable marine activities have also been considered in the AA.

21. The JNCC, SNH, RSPB Scotland and the Scottish Wildlife Trust ("SWT") flagged up issues in relation to the Habitats Regulations. This is because the Development has the potential to have an impact on a number of sites designated as Special Protection Areas ("SPA") and Special Areas of Conservation ("SAC"). In the view of the JNCC and SNH, the Development is likely to have a significant effect on the qualifying interests of the Buchan Ness to Collieston Coast SPA, Forth Islands SPA, Fowlsheugh SPA and the Moray Firth SAC; therefore an AA would be required.

22. In line with advice from the JNCC and SNH, and to ensure compliance with European Union ("EU") obligations under the Habitats Directive and the Wild Birds Directive, MS-LOT, on behalf of the Scottish Ministers, undertook an AA. In carrying out the AA, MS-LOT concludes that the Development will not adversely affect the site integrity of the Buchan Ness to Collieston Coast SPA, Forth Islands SPA, Fowlsheugh SPA and the Moray Firth SAC either alone or in-combination with other projects already consented. Conditions can also be imposed on any grant of consent ensuring that the sites are protected from damage. The JNCC and SNH were consulted on the AA and agreed with the conclusions of the AA for all species / site combinations except puffin from Forth Islands SPA. As per the legislative requirements MS-LOT have had regard to the representations made by SNH and the JNCC, and in reaching conclusions consider that the best available evidence has been used. A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA. (**ANNEX E – APPROPRIATE ASSESSMENT**). The AA will be published and available on the Marine Scotland licensing page of the Scottish Government's website.

Marine and Coastal Access Act 2009 (as amended)

23. Other than for certain specified matters, the Marine and Coastal Access Act 2009 (as amended) ("the 2009 Act") executively devolved marine planning, marine licensing and nature conservation powers in the offshore marine region (12-200 nm) to the Scottish Ministers.

24. Although the Development is to be located in the offshore region it will also have an impact upon, although to a much lesser extent, the territorial sea in connection with the construction of the transmission infrastructure and cable to shore at Peterhead.

Climate Change (Scotland) Act 2009

25. Also of relevance to the Application is that under Part 2 of the 2010 Act, the Scottish Ministers must, when exercising any function that affects the Scottish marine area under the Climate Change (Scotland) Act 2009, act in the way best calculated to

mitigate, and adapt to, climate change so far as is consistent with the purpose of the function concerned. Under the Climate Change (Scotland) Act 2009 annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.

26. The Applicant estimates that, once the Development is fully constructed and operational, there could be a saving of between 55,000 and 120,000 tonnes of CO_2 per year, depending on whether gas or coal is displaced and assuming an existing mix based on conventional fuels. MS-LOT estimates that the Development could provide renewable electricity for approximately 19,900 homes. This is approximately 0.8% of all the homes in Scotland (2014 estimate of 2.42 million households by gro-scotland.gov.uk).

27. You can be satisfied that in assessing this Application you have acted in accordance with your general duties.

MARINE AND TERRESTRIAL POLICY

Marine Policy

National Marine Plan

28. The National Marine Plan, developed in accordance with the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 (as amended), provides a comprehensive statutory planning framework for all activities out to 200 nautical miles.

29. Scottish Ministers must make authorisation and enforcement decisions, or any other decision that affects the marine environment, in accordance with the National Marine Plan.

30. The National Marine Plan sets out a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of the Plan.

31. Consideration has been given to chapter 11 of the National Marine Plan as part of the assessment of the Application.

The UK Marine Policy Statement 2011

32. The UK Marine Policy Statement 2011 ("the Statement") prepared and adopted in accordance with Chapter 1 of Part 3 of the Marine and Coastal Access Act 2009 (as amended) ("the 2009 Act") requires that when Scottish Ministers take authorisation decisions that affect, or might affect, the marine area they must do so in accordance with the Statement.

33. The Statement which was jointly adopted by the UK Administrations sets out the overall objectives for marine decision making. It specifies issues that decision-makers need to consider when examining and determining applications for energy infrastructure at sea, namely – the national level of need for energy infrastructure as set out in the Scottish National Planning Framework; the positive wider environmental, societal and economic benefits of low carbon electricity generation;

that renewable energy resources can only be developed where the resource exists and where economically feasible; and the potential impact of inward investment in offshore wind, wave, tidal stream and tidal range energy related manufacturing and deployment activity. The associated opportunities on the regeneration of local and national economies need also to be considered.

34. Chapter 3, paragraphs 3.3.1 to 3.3.6, 3.3.16 to 3.3.18 and 3.3.22 to 3.3.30 of the Statement are relevant and have been considered by The Scottish Ministers as part of the assessment of the Application.

35. Existing terrestrial planning regimes generally extend to mean low water spring tides ("MLWS"). The marine plan area boundaries extend up to the level of mean high water spring tides ("MHWS"). The Statement clearly states that the new system of marine planning introduced across the UK will integrate with terrestrial planning. The Statement also makes it clear that the geographic overlap between the Marine Plan and existing plans will help organisations to work effectively together and to ensure that appropriate harmonisation of plans is achieved. MS-LOT has, accordingly, had regard to the terms of relevant terrestrial planning policy documents and plans when assessing the Application for the purpose of ensuring consistency in approach.

36. The Scottish Ministers have had full regard to the Statement when assessing the Application and therefore considers that the Development accords with the Statement.

Other Marine Policy

37. As we move into deeper water this pilot project will enable us to understand the viability of this technology for future deployment further from shore. If successful it has the potential to make a significant contribution towards Scotland's renewable energy aspiration via its connection to the National Grid. It will also provide wider benefits to the offshore wind industry which are reflected within Scotland's Offshore Wind Route Map.

38. Published in September 2010, Scotland's Offshore Wind Route Map sets out the opportunities, challenges and priority recommendations for action for the sector to realise Scotland's full potential for offshore wind. The refreshed version of this document, published in January 2013, highlighted the progress that has been made but pointed to the continuing challenges that need to be overcome.

MATERIAL CONSIDERATIONS

39. MS-LOT has carefully considered the issues in connection with the Application and has identified the material considerations, for the purposes of deciding whether it is appropriate to cause a public inquiry to be held or for making a decision on the Application for a marine licence.

40. MS-LOT are content that the material considerations have been addressed in the Application, the ES, and within the responses received to the consultations by the closest onshore Planning Authority, SEPA, the JNCC, SNH and other relevant bodies. The material considerations have been addressed in **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS.**

PUBLIC LOCAL INQUIRY ("PLI")

41. Under Section 28 of the Marine (Scotland) Act 2010 Scottish Ministers may cause an inquiry to be held in connection with their determination of an application for a marine licence.

42. Under Schedule 5, paragraph 4(2)(a) of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the EIA Regulations") the Scottish Ministers may, if they consider it appropriate to do so, instigate a local inquiry if a representation from a member of the public cannot be resolved in order to enable the EIA consent decision to be made.

43. During the consultation process, objections were received from the Aberdeen International Airport ("AIA"), BP Exploration Operating Company Limited ("BP"), the Ministry of Defence ("MOD"), National Air Traffic Services (EnRoute) pic ("NERL"), the Royal Society for the Protection of Birds Scotland ("RSPB Scotland") and the Scottish Fishermen's Federation ("SFF"). Further discussion between the Company and AIA, BP, MOD, SFF and NERL resulted in those stakeholders withdrawing their objections subject to conditions and / or agreements being put in place to minimise the impact(s) of the Development. Objections are being maintained from the RSPB Scotland.

44. RSPB Scotland recognised the benefits of siting arrays further offshore in deeper waters where there are likely to be fewer ecological sensitivities. However, in spite of RSPB's overarching support for such technologies their view was that the Hywind Application must be considered in the context of the eight commercial scale offshore wind sites that were granted consent in 2014 in the firths of Moray, Forth and Tay. RSPB Scotland hold major reservations over the environmental assessments supporting these consents and are extremely concerned about the cumulative and in-combination impacts to important and internationally protected seabird populations, specifically on Scotland's east coast. The consents for four of these developments (those in the Forth and Tay region including Inch Cape, Seagreen Alpha and Bravo and Neart na Gaoithe) are currently subject to judicial review. Should these existing consents remain unchanged the RSPB Scotland object to the Hywind Development for the following reasons:

- The cumulative and in-combination environmental impacts, arising primarily from existing consents for offshore wind in the Forth and Tay, are unacceptable to the RSPB and in their view inappropriate environmental assessment methods have been relied upon.

- Impacts on draft marine Special Protection Areas (dSPAs) have not been considered.

DETERMINATION ON WHETHER TO CAUSE A PUBLIC LOCAL INQUIRY TO BE HELD

45. Before you can make a decision on the Application for a Marine Licence, you must determine whether it is appropriate to cause a PLI to be held.

46. Advice regarding the matters you must consider before you may make a decision regarding the holding of a PLI is included in **ANNEX B – BACKGROUND**

INFORMATION AND SCOTTISH MINISTERS' CONSIDERATION. If, following your consideration of that advice, you are content that causing a PLI to be held is not appropriate in terms of the Statutory provisions, then, and only then, can you proceed to make a decision on the marine licence application.

DECISION ON THE APPLICATION FOR A MARINE LICENCE

47. If, having considered the Application, the ES, representations, and the objections received, as outlined in **ANNEX B - BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS**, together with other material considerations as outlined in **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**, you determine that it would not be appropriate for a PLI to be held, then it remains for you to grant or refuse a marine licence for the Development having regard to the considerations in **ANNEX B.**

Joao Queiros
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Marine Scotland Planning and Policy
28th October 2015

ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS

APPLICATION FOR A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED) TO CONSTRUCT AND OPERATE 5 FLOATING WIND TURBINES IN THE BUCHAN DEEP, APPROXIMATELY 25 KM OFF THE COAST OF PETERHEAD, NORTH EAST SCOTLAND.

Background Information

The following application has been made to the Licensing Authority for:

A marine licence to be considered under the Marine (Scotland) Act 2010 ("the 2010 Act") and the Marine and Coastal Act 2009 (as amended) ("the 2009 Act") by the Company to deposit any substance or object, and to construct, alter, or improve any works in relation to the Hywind Scotland Pilot Park.

The Application

I refer to the application above made by the Company on 27th March 2015, for the construction and operation of a floating offshore wind pilot park situated in the North Sea, with a maximum generating capacity of up to 30 megawatts ("MW"), in an area known as the Buchan Deep, approximately 25 km off the coast of Peterhead, North East Scotland, just outside the 12 nm territorial water limit (**ANNEX F – DEVELOPMENT LOCATION**). The Application received consisted of an application form and Environmental Statement.

Project Description

The Hywind Scotland Pilot Park is located as shown at **ANNEX F – DEVELOPMENT LOCATION** and has a gross electrical output capacity of up to 30 MW and comprises:

1. not more than five three-bladed horizontal axis wind turbines each with:

    a. a maximum blade tip height of up to 181 metres (above Mean Sea Level ("MSL"));
    b. a minimum blade clearance of 22 metres (MSL to blade tip);
    c. a maximum rotor diameter of 154 metres; and
    d. minimum spacing of 800 metres. Each WTG always being subject to micro-siting of +/- 50 m;

2. all associated substructures, fixtures, and fittings;

3. for each WTG a transition piece (including access ladders / fences and landing platforms), turbine tower, rotors and nacelle; and

4. inter array cabling to the connection point on the offshore sub-station platform including protections and cable crossings;

and, except to the extent modified by the foregoing, all as specified in the application form and the project description contained in the accompanying Environmental Statement ("ES") (Chapter 4 of the ES) but subject always to the conditions specified in **Annex D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2)** of this consent.

Location of Development

The wind farm site is located towards the southern end of the Buchan Deep, approximately 25 km east of Peterhead. It is expected that the total area of seabed that will be occupied by turbine deployment will be 15 km^2.

The Company identified the wind farm site as a suitable area for floating offshore wind development; there are a number of reasons for the site being suitable:

- Water depth – the WTG Units require, in general, water depths of more than 90 m;
- Proximity to the grid – due to the relatively small scale of the Pilot Park (30 MW) potential development sites need to be close to the coast to facilitate export of power in a cost-effective way to the electric distribution grid without offshore sub-station and transformation;
- Access to sheltered inshore deep water areas for WTG Unit assembly;
- Proximity to deep water navigation route – once assembled the WTG Units are towed in an upright position to the Pilot Park site. Therefore the navigation route between the inshore assembly area and Pilot Park site must be of sufficient water depth to accommodate the unit's towing draft; and
- Suitable seabed conditions – an even seabed, with sufficient soil above bedrock is preferred for the ease of installation.

Statoil identified two locations in Scottish waters which met all or most of the criteria above. These potentially viable locations included an area in The Minch off Stornoway, and the Buchan Deep off Peterhead. Identification of these areas was supported by high level constraint mapping and initial consultations with statutory consultees and some local stakeholders. Feedback from the conservation bodies at that early stage suggested that there were less environmental risks at the Buchan Deep location due to it being further offshore with less environmental sensitivity. The Buchan Deep site also offered better availability of grid connections and was therefore selected by the Company as the preferred development location.

An Exclusivity Agreement was awarded by The Crown Estate in 2011, and an Agreement for Lease was then awarded in 2013.

Consultation Exercise

Under Regulation 17 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended), the Scottish Ministers (Marine Scotland) as the Appropriate Authority, must consult with the appropriate consultation bodies in respect of applications for a Marine Licence which require an EIA. The consultation bodies include the local Planning Authority, nature conservation bodies considered by the Appropriate Authority to have an interest in the activity by reason of their responsibilities (the Joint Nature Conservation Committee ("the

JNCC") and Scottish Natural Heritage ("SNH")), any relevant authority, any consenting authority and such other bodies as the Appropriate Authority considers likely to have an interest in the regulated activity.

In complying with the EIA Regulations, the Company identified the proposed development as an EIA development, and hence it would require an Environmental Statement ("ES"). This statement described the environmental impact and the proposed mitigation measures associated with the development.

As part of the consultation undertaken by Marine Scotland ("MS"), a wide range of relevant organisations including colleagues within the Scottish Government have been contacted regarding the Application and the ES. As part of the overall consultation, Marine Scotland sought the advice of the Aberdeenshire Council ("AC"), the JNCC, SNH and Scottish Environment Protection Agency ("SEPA").

Statutory Consultees

Aberdeenshire Council ("AC") did not object to the Development and welcomed it as an innovative project which exploits natural resources offshore. AC broadly agreed with the findings of the ES and concluded that the Development would not have any significant visual effects, noise impacts, impacts on the offshore environment or the cultural heritage under its jurisdiction. However AC made a number of additional comments concerning the CO_2 pipeline, the White Fish sector and the Shipping Radar, which it requested to be considered during the assessment of the Development.

Visual issues

With respect to visual impacts, AC considered that the Company had carried out the offshore and onshore seascape / landscape impact visual impact assessment in accordance with recommended guidance and that the issue of cumulative and sequential effects had also been addressed.

The Company's landscape / seascape visual impact assessment information consistently indicated the visual significance of the proposed development in relation to the combination of the sensitivity of each receptor with the magnitude of effect and level of impact as being not significant. This conclusion relates to assessing the Development's landscape / seascape and visual impact assessment for the 7 specific viewpoints, the assessment of sequential visual effects and the assessment of cumulative effects. Given the distance of the proposed development from the shore in particular, and the Company's landscape / seascape visual impact assessment process, AC considered there was little reason to question the Company's conclusions with regards to the Development's visual impact assessment. The AC therefore had no objection to the Development in terms of visual impact.

Noise

AC's Environmental Health Service have been consulted and having read the relevant sections of the Offshore Environmental Statement associated with the Development, no adverse comments were made.

Archaeology

AC agreed with the methodology used on the ES for assessing direct and potential impacts the Development may have on the historic environment, and the recommended mitigation

approach. Furthermore, AC considered the visible component part of the development, namely the turbines themselves where they appear above the waterline, are at a sufficient distance offshore as to not be considered as having a negative visual impact on any onshore designated sites.

Environment

AC had no comments to make on the Development, or ES, for the offshore element of the Development.

Additional Comments

Members of the Buchan Area Committee were briefed on the Development by AC's Planning Service. AC requested the following comments were considered during assessment of the Development:

- **New CO_2 pipeline** – ensure that the new pipeline which is to be laid for the Carbon Capture Project from Peterhead Power Station to the existing gas pipeline that runs from the Goldeneye platform to St Fergus is taken into consideration. This has not been identified on *"Figure 17.1 Other sea Users in the vicinity of the project"* where an indicative location for the proposed North Connect cable is shown.
- **White Fish Sector** – during the summer months this area is believed to be fished intensively for both haddock and cod. The Development could therefore have a significant impact on this sector at certain times of year.
- **Shipping Radar** – this area has a large amount of traffic in terms of both fishing vessels and supply boats for the offshore sector. The wind turbines may cause clutter on shipping radar in addition to aviation radar.

The Company replied to the comments from the Buchan Area Committee in an email dated 14th August 2015, stating it is aware of the new CO_2 pipeline and that it had an ongoing dialogue with the developer. The Company confirmed that the pipeline will be taken into account in the cable laying plan which is to be completed before construction and installation starts.

Regarding the White Fish Sector, the Company acknowledged that Buchan Deep is important for some fisheries and may vary over time. Based on the available fisheries statistics presented in Chapter 14 on Commercial Fisheries, the Company however, maintained that relative distribution of fishing effort and value of catches show lower activity and catches in the actual turbine deployment area compared to other parts of the ICES rectangles. The Company stated that, to mitigate negative impacts, there will be a guard vessel in place during construction, and marking and lighting will be done according to the Northern Lighthouse Board ("NLB") requirements. The Company also stated that it will ensure continued dialogue with the Scottish Fishermen's Federation ("SFF") when clarifying details around these measures, as well regarding other possible measures relevant for the fisheries.

On the subject of the Shipping Radar, the Company informed the Buchan Area Committee that a Navigational Risk Assessment ("NRA") had been carried out for the Development, which included assessment of implications on marine navigation and communication equipment, including impacts on marine radar. The Company further informed that the NRA concluded that the reduction in sea room and re-routing is likely to result in an increase in the risk of collisions, but as the turbine locations occupy a relatively small footprint area of approximately 5 km^2, the increase is likely to be marginal. The Company confirmed that where necessary, relevant mitigating measures related to Shipping and Navigation had been identified in Chapter 15 of the ES and will be implemented by the Development.

The **Joint Nature Conservation Committee ("the JNCC")** and **Scottish Natural Heritage ("SNH")**, provided advice on 3rd July 2015. The JNCC is the statutory nature conservation adviser for developments from 12 nautical miles ("nm") offshore out to the edge of the continental shelf. SNH is the statutory adviser for developments within 12 nm of the coast. The JNCC and SNH, jointly referred to as the Statutory Nature Conservation Bodies ("SNCBs"), have been liaising closely to provide joint advice on the Development.

Ornithology

SNCBs advised that likely significant effect ("LSE") could not be ruled out on the qualifying features of several European protected sites and therefore Marine Scotland was required to complete an AA. LSE was identified as follows:

Special Protection Areas ("SPAs")

- Herring gull (Buchan Ness to Collieston Coast SPA, collision risk);
- Northern gannet (Forth Islands SPA, collision risk);
- Black-legged kittiwake (Buchan ness to Collieston Coast SPA, Fowlsheugh SPA, collision risk);
- Common guillemot (Buchan Ness to Collieston Coast SPA, displacement);
- Razorbill (Fowlsheugh SPA, displacement);
- Atlantic puffin (Forth Islands SPA, displacement); and
- Seabird assemblages.

The SNCBs advised that the project alone would not adversely affect the integrity of any site. Any in-combination assessment however, should take into account any impacts from the recently consented Moray Firth offshore wind farm developments (Moray Offshore Renewables Limited ("MORL") and the Beatrice Offshore Windfarm Limited ("BOWL")), the four Forth and Tay offshore wind farm proposals (Neart na Gaoithe Offshore Wind Limited ("NnGOWL"), Inch Cape Offshore Limited ("ICOL"), Seagreen Alpha ("SAWEL") and Seagreen Bravo ("SBWEL")), the European Offshore Wind Deployment Centre ("EOWDC") in Aberdeen Bay and proposed tidal developments within species' mean-max foraging range.

On 3rd July 2015 the SNCBs advised that due to the in-combination effects, they were unable to conclude that the Development will have no adverse effect on site integrity, with respect to the following features at the following sites:

- Northern gannet (Forth Islands SPA);
- Black-legged kittiwake (Fowlsheugh SPA);and
- Atlantic puffin (Forth Islands SPA).

The SNCBs noted that given the small size of the Development and correspondingly small impacts on birds, the additional bird mortality attributable to the Development is probably smaller than the uncertainty in mortality predicted to occur due to the Forth and Tay developments. However, despite this the Development will still contribute some additional mortality to interest features of SPAs for which the JNCC and SNH have previously advised that predicted impacts from consented developments exceed levels that would allow a conclusion of no adverse impact on site integrity.

The SNCBs highlighted the high densities of auks during the post-fledging dispersal which were a prominent feature at the site of the Development, and raised some concerns

regarding pollutant release and disturbance by shipping. A condition will be included in the marine licence for a Vessel Management Plan ("VMP") to manage scheduled maintenance, construction and decommissioning traffic during July / August, when it is possible that post-breeding adult and chick dispersal is occurring and significant numbers of birds are at risk of being disturbed around the structures.

The SNCBs noted that the HRA report provided by the Company relies on the Biologically Defined Minimum Population Scales ("BDMPS") report (Furness, 2015) using population totals (including SPA totals) and regional populations based on that report, or other 'reference populations'. The SNCBs advised that there aren't yet guidelines for assessment of non-breeding season HRA, but the approach used by the Company was clearly explained. The Appropriate Assessment ("AA") completed by MS considered non-breeding season effects in a qualitative way.

The SNCBs raised some concerns over the Development's site-specific data being used in the collision risk modelling over the generic Johnston *et al,* (2014) flight height data, due to a lack of evidence supporting its use. However Marine Scotland Science ("MSS") considered that sufficient justification for the use of site specific flight height data was presented in the Caloo (2014b) report. The AA completed by MS uses the site specific data for the Development. It should be noted that for gannet, use of the generic (Johnston *et al* 2014) flight height data would not have made any difference to the collision estimates used, whilst for kittiwake would have resulted in slightly lower collision estimates being used (see Table 8 of Caloo 2014b).

Following the concerns raised by the SNCBs on the 3 species above (northern gannet (Forth Islands SPA), black-legged kittiwake (Fowlsheugh SPA) and Atlantic puffin (Forth Islands SPA)), Marine Scotland completed an assessment of the predicted impacts of the Development on its own and in-combination with other already consented developments including the Forth and Tay offshore wind farms. This assessment included the most up to date information and recommendations from the Marine Scotland commissioned British Trust for Ornithology ("BTO") report on the most appropriate avoidance rates of collision between birds and offshore turbines. These new recommendations on avoidance rates resulted in the predicted impacts on gannet and kittiwake being lower for the Development in-combination with the Forth and Tay wind farms than had been predicted for the Forth and Tay wind farms on their own in 2014. Marine Scotland shared this with the SNCBs for their consideration on 18th August 2015. On 3rd September 2015, a further response was provided by the SNCBs. The SNCBs advised that the revised collision mortality for gannet brings the predicted total mortality apportioned to this population below previously advised thresholds, and that a conclusion of no adverse effect on site integrity could be reached for the Forth Islands SPA with respect to gannet.

For kittiwake the SNCBs advised that there is a difference in the predictions between the BTO and SNCB avoidance rates. The use of the SNCB avoidance rates for the Collision Risk Model ("CRM"), as well as consideration of the displacement effects, means that the predicted impacts are above previously advised thresholds. The SNCBs were therefore unable to conclude that there would not be an adverse effect on site integrity to kittiwake at Fowlsheugh SPA.

The SNCBs also noted that there had been no reassessment of the Forth and Tay projects with respect to puffin. However, the impact of the Development had been revised downward by reducing the proportion of breeding adults in the population (due to the site being close to the mean-max foraging limit and that it attracts fewer breeding birds). The SNCBs acknowledged that this had merit and also suggested that puffins at Seagreen (furthest of the Forth and Tay sites from Forth Islands SPA) may also experience lower mortality / breeding failure rate than puffins at developments nearer to the SPAs. However, as the

puffin impacts for Forth and Tay have not been reassessed in this account, the SNCBs concluded that adverse effect on site integrity for the Forth Islands SPA could not be ruled out.

In their 3rd September 2015 response, the SNCBs also advised that the Development could have LSE on the gannet, puffin and manx shearwater qualifying interests of the Forth and Tay Bay Complex draft SPA, and the sandwich tern qualifying interest of the Ythan Estuary draft SPA. The SNCBs will not be in a position to provide further advice until the conservation objectives are finalised and the consultation on the new designations is complete.

Following a teleconference between MSS and the SNCBs on 21st September 2015, to discuss the kittiwake predicted mortality, further advice was received on 24th September 2015. The SNCBs accepted the mortality figures for kittiwake estimated by MSS and agreed that these were below the threshold applied in the Forth and Tay AA. The SNCBs did advise that the kittiwake population at Fowlsheugh is in decline and that, while the drivers of this decline are unclear, additional mortality over and above that from the consented Forth & Tay wind farms will further contribute to the decline. Following these communications with the SNCBs, the only species / site where the SNCBs did not agree with the AA conclusion of no adverse effect on site integrity was puffin from Forth Islands SPA.

As per the legislative requirements MS-LOT have had regard to the representations made by the SNCBs, and in reaching conclusions consider that the best available evidence has been used. A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA.

Marine Mammals

In the response received on 3rd July 2015, the SNCBs advised that as no piling operations will take place as part of the Development, noise levels are unlikely to exceed injury / disturbance levels. The SNCBs agreed with the conclusion that the risk of injury or disturbance to marine mammals is low, and with the assessments completed by the Company of the risk of entanglement and of corkscrew fatalities. The SNCBs also agreed with the conclusion of no LSE for grey and harbour seals, due to the distance to the nearest seal Special Areas of Conservation ("SAC"), the low risk of impact and low numbers of seals in the area. The SNCBs did not agree with the Company's conclusion of no LSE on bottlenose dolphins from the Moray Firth SAC and advised that there is the potential for LSE from the cable-laying activities close to the coast from a number of sources: vessel noise, geophysical surveys, trenching and rock / mattress placement. However, due to the temporary nature of the activity, and the relatively localised nature of the disturbance (and low risk of injury), the SNCBs advised that there would be no adverse impact on site integrity. The SNCBs also advised that the developer should apply for an European Protected Species ("EPS") licence.

In their response on 3rd September 2015 the SNCBs advised that there may be LSE on the harbour porpoise qualifying interest of the Moray Firth draft SAC. The SNCBs will not be in a position to provide further advice until the conservation objectives are finalised and the consultation on the new designations is complete.

Fish of Conservation Concern

In advice received on 3rd July 2015, the SNCBs advised that there would be no significant impacts from the Development if certain mitigation was included. No piling will take place and increased turbidity due to construction would be of short duration and reduce quickly in the high energy environment. In relation to Electromagnetic Fields ("EMF"), the Department

of Energy and Climate Change ("DECC") has recommended that cables be buried to at least 1.5 m, depending on the suitability of the substrates. The SNCBs would welcome the burial of the cable to this depth where possible, particularly in shallow waters (below 20 m).

Benthic and Intertidal Ecology

In advice received on 3rd July 2015, the SNCBs noted that the footprint of the project had been estimated as 0.273 km^2, while the export cable footprint would be 0.21 km^2. The worst case scenario assumes of the 35 km of cable route up to 2 km will require protective materials, and for the inter-array cables up to 7.5 km will require protective materials. The SNCBs concluded that impacts on inshore Priority Marine Features ("PMFs") will be minor and / or of short duration. No offshore PMFs occur in the development area. Three types of Annex I reef habitat were identified along the cable route: stony reefs, bedrock reefs and *Sabellaria spinulosa* reefs. The *Sabellaria* reef is classed as "low grade" (based on height and % coverage) and patchily distributed. Although the cable trench will cut through some of this reef habitat, the impacts will be localised and the Company have committed to routing the export cable in order to minimise damage to the *Sabellaria* reef (although it will not be possible to avoid all reef areas). Moreover, the majority of the export cable is expected to be buried, which could allow for some recovery of benthic habitats after the installation phase.

The SNCBs noted that an assessment of scour was not included in the EIA, however they did not consider that effects would be significant.

Seascape, Landscape and Visual Impacts

In advice received on 3rd July 2015, the SNCBs advised that the Development will introduce a new feature within the coastal and seascape character. At times, given the clarity of light that can be experienced and the simplicity of the (flat) horizon in this coastal location, the Development may appear as a prominent new focus (as illustrated in views from Buchanhaven and Scotstown). The Development is offshore (a minimum distance of 22 km) and appears as a contained Development, occupying a minor proportion of the view. The SNCBs agreed with the ES Seascape and Landscape Visual Impact Assessment ("SLVIA") conclusion that effects are non-significant due to the distance of the development from the nearest receptors, the relatively small scale of the Development and the character of the coastline. The SNCBs also agreed with the conclusion in the ES that the addition of the Development to other offshore developments on the east coast, given the separation distances involved, would not result in a significant landscape or visual effect cumulatively.

The SNCBs in their 3rd July 2015 advice supported the commitment by the Company for a Project Environmental Management Plan and Programme ("PEMP"), requesting that certain points be coved in the PEMP or included as separate conditions on the marine licence. Where appropriate, enforceable conditions are reflected in the marine licence.

The **Maritime & Coastguard Agency ("MCA")** provided a cautious acceptance of the Development subject to all MCA recommendations being taken into account and addressed as detailed within Marine Guidance Note 371 (MGN371) *"Offshore Renewable Energy Installations ("OREIs") – Guidance on UK Navigational Practice, Safety and Emergency Response Issues"* and its annexes, and that the guidance in the latest version of the MCA's *"Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind Farms"*, published in 2013, has been followed. MCA stated that detailed consent conditions would be provided once highlighted concerns were addressed.

MCA noted that hydrographic survey data, required to validate the NRA, had not been provided at the time of application. The Company subsequently confirmed, in an email dated 20th August 2015, that the latest version of the MCA's *"Methodology for Assessing the*

Marine Navigational Safety Risks of Offshore Wind Farms" had been followed in the work with the NRA, performed by Anatec Limited (John Beattie) on behalf of Statoil. The Company also accounted to the MCA about a meeting with the United Kingdom Hydrographic Office ("UKHO") in March 2015 where questions about survey data were discussed. It confirmed that the results from the surveys had been submitted to The Crown Estate ("TCE") and made available on their Marine Data Exchange Portal, and subsequently the requested data had been submitted to the UKHO on 20th March 2015.

MCA also noted that, although not heavy, traffic in the area would be displaced by the Development and called for careful monitoring of the potential effects on vessel traffic.

If applied for, detailed justification would, in the opinion of the MCA, be required for a 50 m operational safety zone, with significant evidence from the construction phase in addition to the baseline NRA to support the case. MCA noted conflicting information behind the requirement for safety zones in that the Company confirmed (under section 15.7.4) the fishing industry felt they could safely manage the risks of fishing interaction with mid-water mooring lines, power cables and anchors, and highlighted that if this is indeed the case, then the need for safety zones is negated.

Regarding this matter, the Company informed the MCA, in an email dated 10th July 2015, that it had submitted a safety zone application to DECC on 3rd July 2015, which detailed the rationale behind the desire for a safety zone during operation and the additional studies conducted for the mooring system.

In its initial response to consultation, the MCA noted that export cable routes, burial protection and cable protection were issues that were still to be developed and that due cognisance was required to address these issues especially in navigable waters where depth may become significant. MCA advised that any consented cable protection works must ensure that existing and future safe navigation is not compromised. MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum, and recommended avoiding existing charted anchorage areas.

MCA showed concern on possible wear and tear on the export cable resulting from the movement of the turbines from waves, tides and currents.

The creation of a full ERCoP is required to be properly documented to satisfy the requirements of MCA Marine Guidance Note 371. The MCA stated that an approved ERCoP must be in place prior to construction. On this topic, the Company confirmed in its response that cable burial protection index and a cable protection plan would be conducted as soon as a cable installer supplier had been chosen, and that a draft ERCoP had been conducted as part of the consent application to Marine Scotland. It recognised MCA's advice and requirements regarding this Plan and stated they would be implemented in the final version. The Company also stated its intention to have a monitoring plan ready for approval prior to construction phase.

In response to MCA's concerns, the Company recognised the advice and requirements from the MCA and stated it will ensure they are implemented and approved by relevant authorities prior to the construction phase. The Company informed MCA that relevant authorities and stakeholders had been consulted prior to consent application and safety zone application and reaffirmed its intent to ensure further close consultations moving forward.

In a second email dated 11th August 2015, the MCA recognised that additional information would be provided in the safety zone application and other plans such as the ERCoP, however it felt there were some points that remained open, namely its concern on possible wear and tear on the export cable resulting from the movement of the turbines from waves,

tides and currents, as well as the need for clarification of risks and mitigation of two or three line failure. The MCA informed that in the event of any failure, the UKHO and Her Majesty's Coastguard ("HMCG") would need to be notified to promulgation of navigation warnings and that the relevant authority for updating Sailing Directions is the UKHO. Lastly, the MCA made a reference to the *"The Crown Estate Guidance Note March 2010: Dealing with munitions in marine sediments"*.

The Company noted the information and reference from the MCA and agreed to send updates to Sailing Directions to the UKHO, as well as with the relevance of The Crown Estate Guidance Note for the Unexploded Ordnance ("UXO") survey planned to Quarter 3 and Quarter 4 of 2016.

With regards to the MCA's concern on possible wear and tear on the export cable, the Company recognised that environmental conditions like wind, waves and current will introduce motions on the WTG and hence into the export cable riser and informed that, as part of the detail design, the exact configuration of the riser system was thoroughly analysed, describing a number of tests and analysis performed by 4Subsea. Based on these, the Company confirmed that the riser configuration is acceptable with regards to interference with mooring bridles, i.e. no interference, loads in different parts of the riser and minimum bending radius.

The Company further reported that the risk for two or three line failure had been heavily debated the year leading to the Application, as there didn't exist any relevant statistics. However, DNV GL had tried to quantify the risk in the *"Assessment of the probability of mooring line failure and the implications for the Forties Pipeline System (revision 04)"*, and the study had been submitted to Marine Scotland. The Company was at the time approaching several companies to develop a method statement / procedure for arresting a turbine, given one, two or three mooring line failure, which will be incorporated in the Emergency preparedness plan. The Company also confirmed that notification to UKHO and HMCG will be incorporated in the emergency preparedness plan / ERCoP, under development at the time of the correspondence.

The **Northern Lighthouse Board ("NLB")** did not object to the Development, were content with the findings within the ES and had no significant concerns regarding the Development.

In general, NLB advised that:

- Appropriate means of ensuring the necessary International Association of Lighthouse Authorities ("IALA") Availability target for Category 1 Aids to Navigation ("AtoN") is achieved through redundancy, monitoring and repair are in place, and arrangements are made to warn the mariner promptly of any AtoN fault and its subsequent return to fully operational service. NLB expected that the Company will co-operate fully in this matter.
- 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.
- The marking and lighting of the wind turbines and the subsea infrastructure should include all three phases of the wind farm deployment.

Construction Phase

For the construction phase, NLB required:

- Regular Notice(s) to Mariners and Radio Navigation Warnings to be promulgated stating the nature and duration of any marine operation within the site. The site area

to be charted including a chart note describing the nature of the Works, and that the Company informs the UKHO and provides all relevant information to the Hydrographer.

- Any vessel engaged in the works of the construction phase to be marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the Standard Marking Schedule for Offshore structures if secured to the seabed.

NLB noted that during consultation meetings with the Company, they advised that there would be no requirement to mark the area, nor any subsea infrastructure such as mooring chains or anchors deployed prior to the arrival of the turbines, with surface buoyage. If the Company wishes to implement marking and lighting, NLB would advise on the type and number in further discussions.

As the export cable from the site to the grid connection at Peterhead will not require to be brought to the surface and across the shoreline, NLB advised that it will not be necessary to provide any cable marker board or lighting at the shore side.

Operational Phase

In agreement with the Company and due to the number and position of the turbines, NLB designated all turbine devices as Significant Peripheral Structures ("SPS") and prescribed they are marked as such in that:

- The tower of every wind generator should be painted yellow all round from the waterline to 15 metres or the height of the Aid to Navigation, whichever is greater.
- The structures shall have lights visible from all directions in the horizontal plane. These lights should all be synchronised to display a character of one yellow flash every 5 seconds, with a range of not less than 5 nautical miles.
- All lights shall be placed not less than 6 metres and not more than 30 metres above the waterline.
- Given the small number of turbines and the small area of deployment a sound signal shall be attached to turbine HS2 as to be audible upon approaching the wind farm from any direction. The sound signal should be placed not less than 6 metres and not more than 30 metres above the waterline and should have a range of at least 2 nautical miles. The character shall be rhythmic blasts corresponding to Morse letter 'U' every 30 seconds. The minimum duration of the short blast shall be 0.75 seconds. The sound signal shall be operated when the meteorological visibility is two nautical miles or less.
- Each tower shall display identification panels with black letters or numbers one metre high on a yellow background visible in all directions. These panels shall be easily visible in daylight as well as at night, by the use of illumination or retro-reflecting material.
- All navigation lights should have an availability of not less than 99.8% (IALA Category 1) over a rolling three year period. The sound signal should have an availability of not less than 97% (IALA Category 3) over a rolling three year period.
- Automatic Identification System ("AIS") as an Aid to Navigation should be fitted to turbines HS1 and HS3. Appropriate Maritime Mobile Service Identity ("MMSI") numbers will be allocated by OFCOM.

Decommissioning Phase

NLB required to be consulted on the manner and process in which the site, devices and the subsea infrastructure is to be removed at the end of its deployment.

In its response to the NLB, dated 2nd July 2015, the Company recognised the advice and requirements described and committed to implement NLB's requirements both during construction and operation. Despite the base case for the Development at the moment being to install AIS on all turbines, the Company noted NLB's advice regarding this matter and were looking forward to further consultations with NLB after consent was granted.

The Company informed the NLB of its intent to submit the safety zone application to DECC shortly after their correspondence, and further informed that some adjustments had been made to the draft Application based on NLB's and other relevant stakeholders feedback.

The **Scottish Environment Protection Agency ("SEPA")** replied with a standing advice letter dated 16th June 2015, stating it does no longer provide site specific advice on Marine Licence consultations, and pointing to the standing advice within the guidance document *"SEPA standing advice for The Department of Energy and Climate Change and Marine Scotland on marine consultations"*, issued 17th April 2015.

General standing advice

On its standing advice, SEPA recommends that marine licence and Electricity Consent applicants be encouraged to submit information detailing how proposed developments will contribute to sustainable development, advising that opportunities to enhance marine habitats in line with Water Framework Directive ("WFD") and The Nature Conservation (Scotland) Act 2004 objectives and SPP guidance should be explored. Examples mentioned are the coastal realignment, removal of structures, consideration of soft engineering techniques, the incorporation of naturalistic features in the design of shoreline works, or planting with salt tolerant species and reference is made to the following guidance that may be drawn upon:

- Water Framework Directive Mitigation Measures Manual
- Estuary Edges: Ecological Design Guidance

SEPA's standing advice states that given that the accidental introduction of Marine Non-Native Species ("MNNS") has been highlighted as a risk for water body degradation, SEPA recommends that controls should be included in development planning and marine licensing for Marine Non-Native Species in line with WFD and Marine Strategy Framework Directive objectives, and EU Biodiversity Strategy targets. SEPA supports the GB Non-Native Species Secretariat recommendation to put in to place effective biosecurity measures to prevent introduction and to stop their spread. The standing advice from SEPA further states that 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. SEPA therefore also recommends that method statements produced as part of the marine licence or Electricity Consents application process also include measures that will be adopted to minimise these risks before the constructional, operational or decommissioning phases of a project commence. Reference is made to the following guidance that may be drawn upon:

- The alien invasive species and the oil and gas industry guidance produced by the Oil and Gas industry;
- SNH web-based advice on Marine non-native species;

- Marine non-native guidance from the GreenBlue (recreation advice), for which the link provided on the standing advice was broken.

Specific standing advice

Particularly in what concerns the installation of tidal, wave and wind devices (and any associated infrastructure) below MHWS, the standing advice states that SEPA has no objection to this application and in this instance has no site-specific advice or comment to make.

On the subject of decommissioning and removal of all renewable devices and associated infrastructure, as well as of all other structures and cabling, the standing advice is that SEPA has no objection to this application provided the devices and as much of the support infrastructure is removed, and that other structures and cabling is removed as possible, and all waste materials are removed and reused, recycled or disposed of at a licensed onshore site. The seabed and/or shoreline should be restored to as near its former natural condition as possible on completion of the works.

Non Statutory Consultees

Aberdeen International Airport ("AIA") initially objected to the Development on behalf of the National Air Traffic Services (EnRoute) pic ("NERL"). AIA examined the Development from an aerodrome safeguarding perspective and concluded it conflicts with safeguarding criteria. AIA, therefore, objected to the Development on the grounds that the Development is located approximately 25 km off the coast of Peterhead, and within controlled airspace which is intensively used by aircraft. This consultee considered that the Development would have a detrimental effect on Air Traffic Control ("ATC") and an operational impact on the primary radar used at Aberdeen International Airport.

Both NERL and Air Traffic Control Aberdeen have agreed to pursue the possibility of blanking mitigation, which was agreed with the Company and is in place for the Development. AIA therefore removed its objection in a letter dated 18th August 2015.

Bristow Helicopters ("BH") noted with interest that the Development will be very close to 'SPIKE', one of the IFR/VFR (Instrument Flight Rules / Visual Flight Rules) reporting points for Aberdeen airfield. BH stated that helicopters returning to Aberdeen airport from offshore will be at or below 1000 ft above-sea-level passing through this point, and that they were concerned as to the vertical clearance the aircraft will have from the turbines. As such, BH asked to be informed of the vertical extent of the proposed installations and whether Aberdeen ATC and / or National Air Traffic Services ("NATS") were aware of the proximity of the Development to an ATC reporting point.

The Company replied with the requested information in an email dated 10th June 2015, and further stated that it had agreed a mitigating solution for the Perwinnes radar, and as a result, NERL/NATS would withdraw their objection. The Company wasn't able to confirm whether NATS were aware of the proximity of the 'SPIKE' reporting point, and provided the contact details for its contact person at NATS. BH found this information to be satisfactory.

BP Exploration Operating Company Limited ("BP") initially objected to the Development on the grounds there was potential risk of damage to the Forties Pipeline System ("FPS") arising out of the Development during its construction, installation and operational life. It was the opinion of BP that the risks during construction and installation were not at the time clear due to a lack of information from the Company, and that the key risk identified during the operational life of the Development, which would exist for many years, was a wind turbine

breaking free of its mooring lines and as a result drifting, impacting and causing rupture of the FPS.

In a letter dated 3rd July 2015 BP stated that the FPS transports 500,000 barrels ("bbls")/day of hydrocarbon from over eighty fields, and it is in close proximity to the Development, as detailed in an illustrative attachment to BP's objection. BP claimed this represents ca. 40% of UK produced oil and it also enables the delivery of ca. 30% of UK gas production, highlighting that any damage to the FPS would have the potential to cause a nationally significant impact on the economy, the environment and the security of gas supply.

If a rupture of the FPS was to occur, BP was of the opinion that:

- There could be a loss of about $50 million per day (based on the combined losses of all shippers at oil and gas prices current at the time of BP's letter). Further, because a pipeline break would take several months to repair, the aggregate loss could run to between $5 billion and $10 billion, a significant proportion of which would comprise government tax income.

- There would be release of hydrocarbons into the environment constituting a pollution incident, the volume of which could be significant and would be expected by BP to be in excess of 110,000 bbls. The location where the rupture would occur is close enough to shore that oil may wash up on the shoreline, where there are areas designated as Site of Special Scientific Interest ("SSSI") (Sands of Forvie, Foveran Links).

BP reported that it had engaged closely with the Company for a considerable period of time, providing technical expertise to review and comment on the Development. BP had sought to understand the detail of the Development; advise on the risks it poses to the FPS; and to work with the Company to identify suitable mitigations such that the risk imposed by the Development to the FPS is reduced to an acceptably low level. BP informed it is in agreement with the Company as to:

- The probability and consequence of the key risks;
- The measures that would mitigate the key risks; and
- The feasibility of undertaking these measures.

However, while BP is of the view that given the magnitude of the risks both in terms of the potential for a significant pollution event and financial loss, they require to be mitigated to an acceptable level, in BP's opinion the Company had not been prepared to agree to proceed with the actions BP considers necessary.

In light of the potential magnitude of the economic, environmental and security of gas supply consequences of a rupture of the FPS arising out of a mooring failure at the Development, BP considered that it would be inappropriate for permission to be granted in respect of this application without imposing conditions to address the identified risks, the probability and consequence of which are accepted by the Company. BP accordingly objected to the application.

The conditions which BP referred to, aimed to reduce either the consequence of a risk event happening or its probability, and were for:

1. The Company to obtain the appropriate permits for and agree to pay for the cost of mechanically protecting the FPS against damage or rupture from collision between a

free floating wind turbine and the Forties Pipeline. BP have offered to cap the amount of such costs to the Company at £30 million; and

2. The Company to enter into a proximity agreement with BP to cover the construction and installation of the Development. This would be based on standard oil and gas industry terms; and
3. The design of the Development to be amended to include High Safety Class Moorings (BP might waive this if point 1 above was put in place, and the Company demonstrate the quality control assumed in the DNV GL report); and
4. The draft emergency response plan to be successfully demonstrated, including successful trials of the equipment designed to arrest and control a free floating wind turbine in sea states up to those where it is assumed to work in the DNV GL report.

Based on the details of its objection and bearing in mind the risk to the FPS, BP recommended that Marine Scotland either refused the Application as it currently stands or, if Marine Scotland is minded to grant the Application, to grant it subject to conditions as set above.

Following the receipt of BP's response, the Company initiated dialogue in order to achieve a solution that could be beneficial to both parties. Consequently, in correspondence dated 17th September and 5th October 2015, MS-LOT was informed that both parties had signed an agreement outlining the main terms in respect of rock dumping works to be carried out to mitigate the risk of damage to the Forties Pipeline System ("FPS") from the Development. The rock berm detailed design will be as recommended by the rock dumping study by the WoodGroupKenny (J00586-00-WGK) and jointly agreed by BP and the Company. Note that the agreement which has been signed is to be followed up by a fully termed Rock Dumping Agreement between the parties in relation to the actual rock dumping works. The company has agreed to keep BP informed as to its construction and installation plans and schedule. BP therefore considered that subject to the conclusion of a fully termed agreement, and being kept fully informed, that the issues raised by BP in its objections have been addressed by the Company. Furthermore, the OGA will be informed by the Company when the fully termed agreement is reached. Conditions are being implemented, as part of the licence, to address BP's concerns and to reflect the agreement between both parties **(ANNEX D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2))**.

The **Oil and Gas Authority ("OGA")** were alerted to the concerns raised by BP and submitted a response to the consultation. The OGA did not object to the Development, but noted that it lies in close proximity to several important North Sea pipelines. OGA encouraged the Company to continue dialogue with interested parties in order to consider all reasonable mitigation measures that could avoid damage to these pipelines arising from the possible mooring failure of a WTG.

In response to OGA's advice, the Company informed that it had been in dialogue with BP regarding the Forties pipeline since the project for the Development started in 2013. The Company accounted that the Development had undertaken several risk assessments and it had continuous dialogue with BP on how to reduce the risk of impacting the Forties pipeline. Various mitigation measures had been identified and implemented and the risk was at the time, in the Company's opinion, according to the ALARP ("as low as reasonably practicable") principle. Third party design verification done by DNV GL confirmed, in May 2015, that the Development mooring design is in accordance to the relevant standard. The Company stated it will ensure a continued involvement with BP as the Development moves forward.

OGA subsequently acknowledged that discussions may have moved on since the Company prepared the ES and requested for a summary of the position at the time regarding

mitigation measures: which had been adopted, which had been considered and dismissed, and whether any further measures were still under consideration. This has been provided by the Company in correspondence dated 9th July 2015.

The **Dee District Salmon Fishery Board ("DeeDSFB")** did not object to the Proposal and welcomed the opportunity to engage with the developer to ensure the respective populations of salmon and sea trout are not adversely impacted upon and that the Proposal proceeds smoothly should all necessary permissions be subsequently received.

DeeDSFB noted the close proximity of the cable export corridor to the River Ugie and the presence of protected populations of Atlantic salmon and river lamprey along the east coast of Scotland, considering that migratory species were expected to transit the inshore areas of the export cable corridor. The DeeDSFB noted that salmon are present in the River Ugie which is directly to the north of the cable landfall area, and referred that the closest SACs with a qualifying interest in diadromous species whose dominant migratory routes have potential to pass through the Proposal area are the River Dee (40 km) and South Esk (80 km).

The DeeDSFB believed that smolts move offshore in schools to deep-sea feeding areas and referred that adult and sub-adult salmon from Scottish rivers pass through or make use of areas around west Greenland and the Faroe Islands (Malcolm *et al*, 2010). The DeeDSFB stated that not only will salmon associated with the River Ugie be present, but the long range movements of salmon smolts leaving other rivers and adult salmon returning to other rivers, means they could pass through the Proposal area. The DeeDSFB referred that the routes by which they depart and return to rivers on the North East coast of Scotland are in a northerly direction (Malcolm *et al*, 2010), however the exact routes they will take on their movements to and from feeding and spawning grounds are not always known.

This area of coast was considered by the DeeDSFB to be very important for salmon and sea trout in two ways: access to the estuaries of rivers is critical so that the fish can complete their lifecycle; the inshore environment is important as a feeding ground for migratory salmonids, particularly sea trout.

As well as being of prime importance in the conservation of the populations of salmon and sea trout, the DeeDSFB affirmed that rod and line fisheries are important contributors to the local rural economy by generating approximately £15 million (2015 values) annually to the rural economy of Deeside and supporting approximately 500 full time equivalent jobs.

In order to emphasise the recognition of the importance of the various river habitats and therefore the multiplier effect any potential negative consequences the offshore proposals may have on these, the DeeDSFB considered it important to state the current river designations and management structures in place.

The Dee has been designated as a Special Area of Conservation under the EC Habitats Directive 92/43 EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna for Atlantic salmon. Whilst sea trout, common to all most North East rivers, are a priority species under the United Kingdom's Biodiversity Action Plan. All lamprey species are protected under the EC Habitats Directive whilst river and sea lampreys are additionally protected under the UKBAP priority list. Eels are a UKBAP priority species, critically endangered under the IUCN red list and protected under CITES.

The DeeDSFB noted that the most significant impacts associated with the construction phase were deemed to be noise and vibration and that these can arise from increased boat traffic, construction activities such as pile driving and dredging for the cable channel.

DeeDSFB considered this needed to be more fully understood prior to the Proposal being consented.

The DeeDSFB considered the electromagnetic fields ("EMF") associated with the cabling for the individual turbines and overall scheme had not been adequately addressed in terms of the potential impact on the migration of salmon and sea trout and their associated foraging habits. The DeeDSFB acknowledged that the level of understanding of this situation is weak due to the lack of clear scientific information, However due to the potential impacts on a SAC river, considered this needed to be quantified and mitigated against.

The Board, with technical input from the Trust, requested that a monitoring plan and research programme be designed, approved and included as a condition of the consenting process.

The DeeDSFB admitted that due to the lack of available scientific information it had been difficult to appropriately assess the level of predicted impact. As such, the DeeDSFB considered that safeguards and a contingency should be put in place in case damage is detected through the monitoring programmes. To this end, the DeeDSFB requested that part of the planning gain for this development should be to agree a programme to monitor migratory fish movements through the area of development to improve knowledge of fish movements to enable greater understanding of the potential impacts future offshore developments may have.

In conclusion the Board stated it is a forward thinking progressive body that does not wish to delay progress on a potentially important economic development for Scotland, particularly the North East but stated that that progress should not, however, be to the detriment in any way to the ecology and conservation status of the Dee. The DeeDSFB hoped to positively work with the Company, not only during the consenting phase, but also through the operational lifespan of the Proposal.

The Board recognised that this trial development provides an excellent opportunity to gain a greater understanding on the impacts that such marine renewable developments can have on migratory salmonids. To that end, the Board would wish to meet with the Licensing Authority and the Company to discuss its response and to agree a clear way forward to mutual benefit.

Conditions are being implemented, as part of the licence, to address the DeeDSFB concerns, in particular, a condition requesting a Project Environmental Monitoring Programme **(ANNEX D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2))**. In an email dated 26th October the DeeDSFB stated their agreement with this condition.

The **Chamber of Shipping ("CoS")** had no objection to the Development, but due to the novel concept of the Development in UK waters, highlighted a number of issues that it deemed will require further consideration and consultation with navigational stakeholders post-consent.

The CoS requested to be consulted, together with other commercial shipping stakeholders, on any proposals to apply operational safety zones. The CoS does not support the application of operational safety zones around traditional turbine structures (based on a lack of existing safety justification) but may consider them appropriate for floating turbines due to the presence of mooring systems and the ability of the turbines to move. The CoS requested any proposal to be supported by a full NRA justifying the need for safety zones, and stated that would not support designation of the site as an Area to be Avoided.

The CoS advised that local ports and harbours and commercial vessel operators should be kept regularly updated on progress with construction, normal operations and maintenance through Notices to Mariners and other means of communication.

Additionally, the CoS requested the Emergency Response Co-operation Plan ("ERCoP") to include full details of the emergency procedures to be executed in the event of a turbine breaking free of its moorings, including the process for informing vessels in the vicinity of the site of any potential hazards.

The Company, in its response to comments from the CoS, referred to a meeting on 2nd March 2015 between the Company and representatives of the CoS, the Cruising Association and the Scottish Fishermen's Federation, to consult on Safety Zones and other mitigation. The Company recognised that comments from the CoS were in line with the feedback received at said meeting, and as a result of those and also feedback from other stakeholders such as the SFF and NLB, some adjustments had been made to the safety zone application. The Company submitted the planning application to DECC on 3rd July 2015.

The Company also agreed with the further comments and confirmed it will abide by the above stated advice and request from the CoS.

The **Civil Aviation Authority ("CAA")** did not object to the Development but stressed the need to inform the Defence Geographic Centre of the locations, heights and lighting status of the turbines and meteorological masts, the dates of construction and the maximum height of any construction equipment to be used prior to construction to allow the inclusion on aviation charts. The CAA also recommended that the Maritime and Coastguard Agency ("MCA") are consulted with regard to any impact on offshore Search and Rescue helicopter operations.

In addition, CAA noted that it would be the intention of the Company to assemble the turbines at a to be decided onshore assembly point and tow them to their final position. The CAA considered this has the potential to create an aviation obstacle and therefore requested that, should consent be granted, the CAA are notified of the proposed route and timings at least one month prior to commencement of the first turbine being towed into position to ensure that aviation stakeholders can be appropriately notified. It is likely that the CAA would require aviation lighting to be fitted to the turbines during the tow but the CAA would be happy to discuss this requirement with the developers should consent be granted.

In its response to comments from the CAA, the Company stated that when the assembly site has been agreed upon, the Company will consult with all relevant stakeholders and ensure that proper procedures for such operation are agreed upon in good time prior to commencement of the towing operation. The Company stated that since the Development is based on new technology, it would make an application for safety zones, both for construction and operation phase, prior to consent and that it had several meetings with MCA, NLB, DECC, SFF, the United Kingdom Hydrographic Office ("UKHO") and other relevant stakeholders. The Company further informed that marking and lighting had also been discussed at these meetings and that a meeting with the Health & Safety Executive ("HSE") was held 5th February 2015, with focus on safety and search and rescue operations. Additionally, a joint meeting with HSE and MCA would be arranged for after the summer break.

CAA was content with the information provided at the time, and showed interest in the results of the Company's discussions with the MCA and informed of the need to agree a lighting and marking plan with the Company both for the park itself and also for the towing phase. The CAA stated that lighting will be in accordance with The Air Navigation Order 2009 ("ANO") Article 220 and as agreed with the CAA and the Ministry of Defence ("MOD").

The CAA also showed interest in attending the meeting with the MCA and HSE, should the Company find it appropriate.

Historic Scotland ("HS") raised no objection to the Development noting there would be no significant adverse impacts on marine or terrestrial assets within Historic Scotland's statutory remit. However, HS noted the potential for direct impact on potential heritage assets of unknown significance and requested a condition be included requiring the developer to submit a Written Scheme of Investigation ("WSI") for approval by Historic Scotland / Marine Scotland prior to commencement of construction, covering the proposed investigation of any site where avoidance is not possible and setting out in detail the mitigation strategies, recording and reporting of these. HS also requested for a second condition to be included in any Licence, requiring the developer to adopt and implement a suitable Protocol for Archaeological Discoveries ("PAD"), again to be approved by Historic Scotland / Marine Scotland prior to the commencement of works on site.

The **Health and Safety Executive ("HSE")** had no comments relevant to the Development, and noted that the developers had proactively contacted HSE to discuss the management arrangements for health and safety during the construction and operational phases of the Development.

The **Joint Radio Company Limited ("JRC")** did not raise any objection and cleared the Development with respect to radio link infrastructure operated by Local Electricity Utility and Scotia Gas Networks. JRC highlighted that if any details of the wind farm change, particularly the disposition or scale of any turbine(s), it will be necessary to re-evaluate the Development.

Marine Scotland Science ("MSS") did not object to the Development and provided advice on the socio-economics, physical environment, fish ecology and commercial fisheries, diadromous fish and aquaculture. MSS have provided significant input into the AA with regards to ornithology and marine mammal interests.

Socio-economics

MSS noted the indicators assessed – predominantly Gross Value Added ("GVA") and employment – were the ones expected, however noted there was insufficient information contained within the report to allow determination of whether the estimates appear plausible or otherwise. MSS further noted the two scenarios presented also differed fairly significantly with no indication of which is the most likely.

Physical environment

MSS had no concerns regarding the physical processes of the Development. MSS noted that the main areas of potential impact are scour around the anchors and cable corridor (if horizontal directional drilling ("HDD") is not used), and the potential for added suspensions and erosions during the construction of the cable corridor (again if HDD is not used), and considered those issues were adequately assessed in the ES.

Fish ecology and commercial fisheries

MSS commended the Company for a very thorough job supported by a lot of survey data and researched information and considered the methods used well described and referenced. MSS noted the availability of additional sources of information, e.g. on recently published fisheries sensitivities, http://www.gov.scot/Resource/0046/00465795.pdf, although did not think those would affect the overall conclusions.

MSS agreed with the assessments of impact significance in Chapter 10 (Fish and Shellfish Ecology) and most of those in Chapter 14 (Commercial Fisheries) of the ES.

With respect to potential effects of the export cable route on the inshore fishing area MSS would consider the magnitude of effect would be *Moderate* as opposed to *Minor*, justifying this with the type of fishing and limited opportunities for small boats to place static gear elsewhere. Still regarding the cable, MSS noted that various sections of the ES state that, depending on seabed conditions along the export cable corridor, it may not be possible to bury the full length of cable to the desired depth. Where this is not possible, additional protection measures (e.g. rock placement, mattresses or sand/ grout bags) may be required to protect the cable, and MSS noted that a worst case scenario of a maximum of 2 km of cable requiring protection was used, requesting that after completing geophysical / geotechnical surveys, the Company provides MS with a map of annotated cable sections with both expected burial depths and proposed protection method overlaid with fishing activity. MSS advised the same map should be used to facilitate follow-up discussions with the fishing industry before construction, and that additional mitigation measures may include consultation with the fishing industry to decide on fishing-gear-friendly cable protection measures.

MSS noted that cumulative and in combination effects on loss of fishing grounds due to this and other (larger) wind farm developments proposed in the sea area were alluded to and recognised that there were no agreed criteria to assess or evaluate these at the time. MSS also noted the relatively small footprint of the Development.

The identified commercial fisheries data sources, baseline characterisation strategy, impact identification and assessment strategies, and proposed mitigation measures were, in the opinion of MSS, suitable with regards to meeting the EIA requirements.

MSS observed that pelagic fishing activity had been identified along the export cable corridor and advised that additional mitigation measures should include minimising the temporal overlap between construction timing of the export cable and peak seasonality of herring and mackerel fishing activities (e.g. avoid August for herring fisheries as indicated in figures 14-12 & 14-13). MSS advised that similar consideration should be given to Peterhead Harbour activity.

MSS noted that the ES table summarising the consultation activities (14-2) had no reference to consultation events with the inshore static gear fleet, stating that it is likely that SFF may not represent these fleets and advising that entries on ‘local stakeholders’ and ‘various stakeholders’ should be more explicit, e.g. consultation with other local fishermen’s associations and fish producers’ organisations.

MSS noted that discussions around safety zones and/or fishing prohibition were still ongoing with regulators and stakeholders, and further noted that the Company is in the process of establishing a project with the objective to look at what activities can be carried out within a floating wind farm and how the area can be used positively in a biological and commercial manner. In light of future (potentially larger) floating wind developments, MSS advised that MS should be involved in these discussions and suggested the Fishing Liaison with Offshore Wind and Wet Renewables (“FLOWW”) Group, of which MS is a member, might be an appropriate forum to present initial outputs from this project.

Diadromous fish

In view of this being a relatively small floating development, MSS did not anticipate any major issues with either constructional or operational noise.

Likewise, MSS did not anticipate any major issues with Electromagnetic Fields ("EMF") during operation, particularly in view of the export cable being buried up to a depth of 1.5 m where possible – which will hopefully include close inshore where the chances of interaction with migratory fish are greater. However, MSS did not notice any mention of any EMF study and little information is presented in the ES section dedicated to this matter on the basis of the anticipated field strengths. MSS observed it would have been better if this had been clearer.

MSS noted there is an assumption in the lead in to section 10 (Fish and Shellfish Ecology) that migratory species are only expected to transit the inshore areas of the export cable corridor and highlighted that this is not likely to be correct, they could transit anywhere in the Development.

MSS observed that Table 10-7 details what are said to be the sensitive periods for the diadromous species and were of the opinion that the periods identified are not comprehensive as the entries for salmon, sea trout and lampreys only cover the emigrating smolts (salmon and sea trout) and transformers (lamprey), and stated that later stages, including adults, could be present at any time of the year.

MSS noted the River Ugie is directly to the north of the cable landfall area, and assume that there will be no direct interference with any coastal net fisheries for salmon or sea trout, although this didn't appear to be stated.

MSS also noted the ES reports (section 10.3) that JNCC and SNH do not consider that the Development will have an impact on migratory fish species which are qualifying interests of freshwater SACs.

Aquaculture

MSS had no further comments to add to those made in July 2013 in response to the consultation request for the Development's Screening Opinion.

The **Ministry of Defence ("MOD")** initially objected to the Development on the grounds that it would have an adverse impact upon the Air Defence radar at the Remote Radar Head ("RRH") Buchan. The MOD noted that if the Company was able to overcome these unacceptable impacts that the turbines should be fitted with appropriate aviation lighting.

The MOD also advised that there had been discussions with the Company since the submission of their objection, and that an agreement on appropriate mitigation to address the unacceptable impacts of the Development had been reached. The MOD provided an updated response on their safeguarding position, removing its objection to the Development subject to appropriate conditions being imposed upon the consent, if granted. The MOD also requested to be advised of the date construction starts and ends, the maximum height of construction equipment and the latitude and longitude of the turbines erected.

National Air Traffic Services (EnRoute) pic ("NERL") initially objected to the Development due to unacceptable adverse impacts to the Perwinnes radar and associated air traffic operations of NERL without suitable mitigation.

Further discussions between the Company and NERL resulted in an agreement of suitable consent conditions and the implementation of an identified and defined mitigation solution in relation to the Development. Such mitigation solution required works to be carried out to NERL's infrastructure and comprised a modification to the radar system.

NorthLink Ferries ("NLF") responded stating that they had no issues with the Development.

The **Royal Society for the Protection of Birds Scotland ("RSPB Scotland")** recognised the significant contribution floating offshore wind could make to achieving a low carbon energy mix in Scotland and globally, and identified the opportunity to site arrays further offshore in deeper waters where there are likely fewer ecological sensitivities and greater siting flexibility, as a potential major benefit.

However, in spite of RSPB's overarching support for such technologies, RSPB Scotland considered the Development in the context of the eight commercial scale offshore wind sites that were granted consent in 2014 in the firths of Moray, Forth and Tay. RSPB Scotland held major reservations over the environmental assessments supporting these consents and were extremely concerned about the cumulative and in-combination impacts to important and internationally protected seabird populations, specifically on Scotland's east coast.

This consultee noted that the consents for four of these developments (those in the Forth and Tay region including Inch Cape, Seagreen Alpha and Bravo and Neart na Gaoithe) were at the time subject to judicial review. Should these existing consents remain unchanged, RSPB Scotland objected to the Development, as it considered the cumulative and in-combination environmental impacts, arising primarily from existing consents for offshore wind in the Forth and Tay, were unacceptable and inappropriate environmental assessment methods had been relied upon. RSPB Scotland have also highlighted that impacts on draft marine Special Protection Areas ("dSPAs") had not been considered.

RSPB Scotland appreciated that many of the issues raised were beyond the control of the Company. However, it considered that a significant scale of offshore wind development had at the time been consented in Scotland and a number of seabird colonies were at risk of significant and unacceptable cumulative and in-combination impacts. RSPB Scotland were of the opinion that a more precautionary approach to consenting would have supported, within acceptable environmental limits, progression of a smaller yet significant scale of traditional fixed foundation commercial scale wind alongside innovative test and demonstration projects such as the Development.

Should the existing Forth and Tay consents change such that their impacts reduce significantly, then RSPB Scotland would be happy to review their objection to the Development and it is likely that it may be able to reconsider its position.

The **Royal Yachting Association Scotland ("RYA Scotland")** noted that it had had input to the Navigational Risk Assessment and had no objection to the Development.

The **Scottish Fishermen's Federation ("SFF")** objected to the Development on behalf of its nine member associations, the Anglo-Scottish Fishermen's Association, the Clyde Fishermen's Association, the Fishing Vessel Agents & Owners Association (Scotland) Limited, the Mallaig and North-West Fishermen's Association Ltd, the Orkney Fishermen's Association, Scallop Association, the Scottish Pelagic Fishermen's Association Ltd, the Scottish Whitefish Producers' Association Ltd and the Shetland Fishermen's Association, until they are convinced that their concerns over various aspects of the project are assuaged or mitigated.

It was the opinion of the SFF that the Chapter 2.3.2 of the ES cherry picks the part of the Marine Policy Statement (UK) which the Company feels will support its application, arguing that section 3.8 on Fisheries does not give projection or consideration to the existing users of the sea – Fisheries.

The SFF considered that the ES and other papers presented did not take account of the fact that the fishing industry does not have the use of 100% of the seafloor and disputed the Company's estimation of the displacement suffered by the fleet, stating this is proportionally larger than the developers estimate. Therefore, the SFF disagreed with the ES statement that fisheries will not be impacted negatively by the Development, and counters that by using the statistic from the ES, which states that 77% of Peterhead vessels have been in the area and 47% of Fraserburgh vessels. SFF maintained this shows that the area forms a useful fishing ground for local vessels and is important to ensure the fleet has options to fish at certain times of the year.

The SFF observed that the diversity of the fleet users is quite obvious in the ES Chapter on Commercial Fisheries, with every sector being noted at some point between the turbines and the shore: pelagic species are in the whole offshore area; haddock, *Nephrops* and squid in the turbine area; scallop fleet on the export cable route and static gear on the inshore segment of the cable. Consequently, the SFF disagreed with the ES statement that the area is not relevant to the fisheries due to recent average catches in the area having been low, and highlighted that no one can say with certainty that at any time in the future the area would or would not be a huge resource for the fishing industry.

It was the opinion of the SFF that the conclusions of Chapter 14 (Commercial Fisheries) seem designed to down play the economic significance of the area, citing the export cable route, the turbine area and the cumulative and in combination impact as being not significant, which to the SFF is a subjective outcome. The SFF refer to the fact that fishing does not take place in 100% of the sea, therefore "minor impact" is not relevant to the impact on the family firms which make up the fleet.

The SFF agreed with the developers that fishing is unlikely to resume within the Development, but stated that the closure will amount to the total area of turbines and moorings, the 15 km^2, not 7.5 km^2, as there is not likely to be any safe way of using mobile gear within the matrix of anchors and mooring lines. The SFF stated this impact will need mitigation.

Regarding the export cable, the SFF would expect that the route and method of burial would be agreed with the fishing industry in order to achieve minimum disruption, noting that the export cable will be laid and unused for up to 18 months, which was a concern. The SFF also noted the likelihood that about 2 km of the route will not achieve burial, and requested that the non-buried area protection is negotiated to suit the segment of the fleet it will affect, stating that discussions on mitigation of these points will be essential.

The SFF stated it had endeavoured to assist the developers, despite the area being decided prior to consulting, but would need to see some realistic mitigation for all segments of the fleet before it could withdraw its basic objects to the Development.

In correspondence dated 19th June 2015, the Company highlighted that the on-going dialogue with the SFF since 2013 to that date had contributed with important input to the decisions made in relation to important areas such as surveys, location of turbines within the Agreement for Lease ("AfL") area, export cable corridor, type of safety arrangements during construction and operation, and reaffirmed its ambition to continue this positive and open dialogue also after consent is given. The Company accompanied this email with a summary of the communications / correspondence it had had with the SFF during the scoping phase and the consenting process.

The Company noted the issues of concern raised by SFF's consultation response, regarding potential impact on commercial fisheries, method of burial of export cable, possible non-buried area and the installation of cable prior to WTG units. The Company declared it has a

strong focus on Health, Safety and Environment and agreed that consultation with the SFF is absolute necessary to succeed in finding the best solution for all parties. The Company found the knowledge and advice SFF had shared with the Development to that date were very valuable and were looking forward to continuing this cooperation with the aim of identifying relevant mitigation measures.

In a later email, dated 17th July 2015, the Company made additional comments and clarified some of the specific issues raised in SFF's objection.

Concerning the reference to the size of the area which will be occupied and excluded from fishing activities, the Company agreed that the way this had been presented may give rise to confusion on whether the total area where fisheries will be restricted is 7.5 km^2 or 15 km^2 and clarified that on commercial fisheries, and specifically on loss of access to fishing grounds, the ES concluded that fisheries will be restricted from an area of up to 15 km^2 over a 20 year period.

The Company acknowledged that fisheries may vary and change over time and an area which is important for fisheries today may become less important in the future and vice versa. It elucidated that the assessment had been based on available fisheries statistics. The Company also clarified that the percentages of the Peterhead (72%) and Fraserburgh (47%) fleets having fished in the wider area were for the ICES rectangles 43E8 and 44E8 and not only for the 15 km^2 where fisheries will be restricted. Based on the available fisheries statistics presented on commercial fisheries in the ES, the Company however maintained that relative distribution of fishing effort and value of catches show lower activity and catches in the actual turbine deployment area compared to other parts of the two ICES rectangles (referred to as the wider area). Still, the Company recognised that there may be some fishing taking place in the turbine deployment area, and more so along the cable corridor.

With regard to mitigating measures, the Company stated it generally aims to implement reasonable measures to reduce negative impacts and informed that there will be a guard vessel in place during construction, and marking and lighting will be done according to NLB requirements. The Company will ensure continued dialogue with SFF when clarifying details around these measures, as well as regarding other possible measures relevant for the fisheries.

In what refers to the export cable, the Company confirmed it will be buried to the extent possible, as stated in the ES, but rock dumping to stabilise and protect the cable may be necessary for a length estimated to be up to 2 km. Further studies will be made to detail the need for rock dumping, and the detailed plans will be presented in a cable laying plan. The Company recognised, partly based on experience from Oil and Gas developments in the Norwegian sector of the North Sea (partly supported by trawl tests), that potential impacts on over-trawlability may depend on the shape of the rock berms and size and type of rock used and stated this will be further detailed in the cable laying plan. The Company stated it will ensure that SFF are consulted when developing the cable laying plan.

On 19th September 2015, MS-LOT met with the SFF to discuss licence conditions to address the Federation's concerns. MS-LOT suggested three main conditions: the appointment of a suitable Fishery Liaison Officer ("FLO") by the Company during both cable laying and deployment / commissioning of turbines; the submission of a Cable Plan to be consulted on with SFF, in particular to review areas where the cable cannot be buried and to consult on options for other forms of cable protection; and the participation by the Company in a Fisheries Group (which one to be determined) with the aim of producing a Fisheries Management and Mitigation Strategy ("FMMS"). When considering the Fisheries Management and Mitigation Strategy, the Company will have to consider the National

Marine Plan. In particular, Fisheries policies 2 and 3; the interaction with other users policy 6.26; and offshore wind and marine renewable energy - marine licensing policies set out in chapter 11. The Company must also take into consideration any other relevant guidance when developing the Fisheries Management and Mitigation Strategy. The aforementioned conditions will be included in the Marine Licence to address SFF concerns (**ANNEX D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2)**).

The **Scottish Surfers Federation ("SSF")** did not object to the Development and noted that the proposed cable corridor does not directly impact the surfing sites within the region.

The **Scottish Wildlife Trust ("SWT")** did not object to the Development and welcomed the Company's contribution to seeking improvements and advancements in Scotland's renewable energy industry and encouraged the development and testing of new technologies that reduce environmental impacts. SWT acknowledged that renewable energy production will play a key role in reducing Scotland's carbon emissions, which will ultimately help to reduce climate change impacts on biodiversity.

SWT was encouraged to see the novel design of 'floating wind', in particular the reduction in noise during the installation stage (by eliminating the need for drilling / piling), and the potential for wind energy exploitation in previously inaccessible, deeper waters. SWT recognised that, as with all new technologies, it is important to assess long term performance and environmental impact, and were pleased to see performance testing of the turbines had been carried out in offshore conditions and that the Development is a small-scale, 5-turbine pilot study. The SWT believes that a precautionary, phased approach to development – underpinned by excellent data, monitoring and adaptive management – is essential to ensure that the industry develops sustainably. SWT further believes this phased approach should involve an initial small-scale development that avoids all but low risk areas. Additionally, SWT noted that mitigation measures should be tested as part of this approach, and monitoring results should feed into an adaptive management strategy. SWT strongly believe that there should be a presumption in favour of the avoidance of sensitive sites and species to prevent risk of damage, stating that, above all, it is essential that 'deploy and monitor' does not compromise obligations under the Habitats and Birds Directives.

The phrasing *'more or less the same species'*, used in section 9.7.2 of the ES, was considered by the SWT to be an inadequate assessment of the different species compositions that exist in both coastal regions. Although agreeing that the introduction of non-native species via the transportation of ballast water in the WTG structures is minimal, the SWT highlighted that, despite the similarities, the non-native species found in each country are different. Therefore, the transportation and release of ballast water has the potential to act as a vector of secondary spread from Norway to Scotland.

Considering there will only be 5 WTG structures being transported in a single event and that the amount of ballast water in each will be relatively small, SWT suggested that treatment should take place either prior to transportation (e.g. using freshwater) or during transportation (e.g. exchanged with open-sea water). In the opinion of the SWT, the small-scale of the project presents an ideal opportunity to take a precautionary approach to non-native species management and eliminate the potential risk of introducing any undesired species to a new location.

In its response to SWT's considerations, the Company stated it aims to avoid causing significant harm to local or regional environments from its activities, which follow precautionary rules and relevant regulations to minimise potential negative effects.

With regards to SWT's comments on non-native species, the Company emphasised that its base case is that there will be no discharge of ballast water from the WTG structures on

Buchan Deep and that all ballasting operations will be completed before start of tow from the assembly site on the west coast of Norway. The Company stated it generally follows the International Convention for the Control and Management of Ship's Ballast Water and Sediments and will adhere to relevant regulations and guidance on ballast water and transfer of non-native marine species, including the Association of Oil and Gas Producers ("OGP") / International Petroleum Industry Environmental Conservation Association ("IPIECA") guidance *"Alien invasive species and the oil and gas industry – Guidance for prevention and management"*, which the Company also had contributed to and had been involved in preparing.

The Company further stated it also supports research programs to increase knowledge about environmental issues relevant to its industry, and informed that the Development had committed to supporting a research project on bio-fouling and non-native species associated with floating turbines should a licence be granted and the project is allowed to proceed. The project will be a collaboration between the Company, the University of the Highlands and Islands, St Andrews University and Brunel University London to investigate potential operational and legislative implications of bio-fouling and non-native invasive species associated with floating turbines in Scottish Waters.

Transport Scotland ("TS"), through their Term Consultants JMP Consultants Limited, did not object to the Development and stated that the Development would not give rise to any significant negative environmental impacts, nor would it cause any negative impacts with regards to noise and vibration, on the trunk road network. Similarly, TS were satisfied that the Development would have no impact on air quality at the trunk road network, concluding that no further information was required.

BT Network Radio Protection, **The Crown Estate** and **Sport Scotland** were consulted on the ES and sent a Nil Return, while **Transport Scotland (Ports & Harbours)** and **Ugie Salmon** replied with No Comments.

The Association of Salmon Fishery Boards, **BOND Helicopters**, **Buchan Inshore Fishermen's Association**, **CHC Helicopters**, **Don District Salmon Fisheries Board**, **East Coast - Inshore Fisheries Group**, **East Grampian Coastal Partnership**, **Marine Safety Forum**, **Marine Scotland Compliance (Peterhead)**, **Peterhead Port Authority**, **River Dee Trust**, **River Don Trust**, **Scottish Canoe Association**, **Scottish Fishermen's Organisation**, **Scottish Government Planning**, **Surfers Against Sewage**, **Ugie District Salmon Fisheries Board**, **Whale & Dolphin Conservation** and **Ythan District Salmon Fisheries Board** were consulted on the ES but no responses were received.

Landscape and Visual Impacts Issues

No objections were raised in terms of the landscape and visual impacts of the Development. AC, the JNCC and SNH all agreed with the ES SLVIA conclusion that the effects of the Development are non-significant, neither on its own, nor cumulatively with other developments on the east coast of Scotland, be it onshore or offshore. These three consultees considered that although the Development will introduce a new feature within the coastal and seascape character, which at times may appear as a prominent new focus given the right conditions of light and swell, the distance of the development from the nearest receptors, the relatively small scale of the Development and the character of the coastline, limit the impact of the development.

Habitats Regulations Issues

The Company submitted an HRA report along with their Application. From the information provided in this report, the SNCBs in their advice dated 3rd July 2015 identified LSE from the Development as follows:

- Herring gull (Buchan Ness to Collieston Coast SPA, collision risk);
- Northern gannet (Forth Islands SPA, collision risk);
- Black-legged kittiwake (Buchan ness to Collieston Coast SPA, Fowlsheugh SPA, collision risk);
- Common guillemot (Buchan Ness to Collieston Coast SPA, displacement);
- Razorbill (Fowlsheugh SPA, displacement);
- Atlantic puffin (Forth Islands SPA, displacement);
- Seabird assemblages; and
- Bottlenose dolphin (Moray Firth SAC).

Therefore Marine Scotland were required to complete an AA against the sites conservation objectives. The SNCBs recognised that the Development on its own would not result in adverse effect on site integrity for any of the above SPAs, however raised some concerns due to the in-combination effects, particularly with the consented Forth and Tay offshore wind farm developments. The AA completed used the most up to date evidence, including the recently published Marine Scotland commissioned BTO report on avoidance rates and concluded that the Development would not adversely affect any of the above European protected sites. The SNCBs agreed with the conclusions of the AA for all species / site combinations except puffin from Forth Islands SPA. MS-LOT consider that the best available evidence has been used in the AA and that the assessment has been precautionary. A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA.

Scottish Ministers are currently considering advice received from the SNCBs on sites suitable for designation as SPAs and SACs. These sites are currently given “draft” status (dSPAs and dSACs). Once Ministers have agreed the case for the draft designations to be the subject of a public consultation, the proposals will be given the status of ‘pSPA and pSAC’ and will receive policy protection from that point forward until a decision on classification of the sites is made. This policy protection for proposed sites is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the National Marine Plan for Scotland (paragraph 4.45).

If these sites become designated and LSE is identified, then it will be necessary to complete a further AA and, depending on the findings of the AA, either affirm, modify or revoke the Marine Licence.

In their email of 3rd September 2015 the SNCBs advised that there was the potential for connectivity of the Development with:

- Forth Bay Complex dSPA with respect to gannet, puffin and manx shearwater;
- Ythan Estuary dSPA (for the cable route) with respect to sandwich tern; and
- Moray Firth dSAC (for the cable route) with respect to harbour porpoise.

The SNCBs advised that they will not be in a position to provide further advice on potential impacts from the Hywind Development on the draft designations until the draft conservation objectives have been finalised following the consultation.

Local Fisheries Issues

The AC did not raise any objection in terms of commercial fisheries. However, on behalf of the Buchan Area Committee, AC noted that the area is believed to be fished intensively for both haddock and cod during the summer months and highlighted that Development could have a significant impact on the white fish sector at certain times of year. AC therefore requested that this impact was considered during assessment of the Development.

The SFF initially objected to the Development on behalf of its nine member associations. SFF disputed the Company's ES estimation of the displacement suffered by the fleet, arguing this would be proportionally larger than the developers estimate. SFF disagreed with the ES statement that fisheries would not be impacted negatively by the Development, and also with the ES statement that the area is not relevant to the fisheries due to recent average catches having been low, highlighting that the area could potentially become a huge resource for the fishing industry in the future. SFF emphasised the Development would imply a loss of access to 15 km^2 of fishing grounds in the area and stated this impact would need mitigation.

The SFF also raised concerns regarding the export cable, namely the fact it will be laid and unused for up to 18 months. SFF requested that the route and method of burial was agreed with the fishing industry in order to achieve minimum disruption. The SFF also noted the likelihood that about 2 km of the route will not achieve burial, and requested that the non-buried area protection was negotiated to suit the segment of the fleet it will affect, stating that discussions on mitigation of these points would be essential.

On 19th September 2015, MS-LOT met with the SFF to discuss licence conditions to address the Federation's concerns. MS-LOT suggested three main conditions: the appointment of a suitable FLO by the Company during both cable laying and deployment / commissioning of turbines; the submission of a Cable Plan to be consulted on with SFF, in particular to review areas where the cable cannot be buried and to consult on options for other forms of cable protection; and the participation by the Company in a Fisheries Group (which one to be determined) with the aim of producing a FMMS which will be approved by the Licensing Authority in consultation with the SFF. When considering the Fisheries Management and Mitigation Strategy, the Company will have to consider the National Marine Plan. In particular, Fisheries policies 2 and 3; the interaction with other users policy 6.26; and offshore wind and marine renewable energy - marine licensing policies set out in chapter 11. The Company must also take into consideration any other relevant guidance when developing the FMMS.

Other Material Issues

Environmental Benefits and Carbon Payback

The Scottish Government has signalled its commitment to tackling climate change and its strong support for renewable energy through both legislation and policy. The Climate Change (Scotland) Act 2009 imposes a legal commitment on the Scottish Government to reduce emissions by 42% from 1990 levels by 2020 and a further 8% by 2050. The Scottish Government's stated objective is for the equivalent of 100% of Scottish electricity demand to be generated from renewable sources by 2020. The Marine Energy Roadmap highlights the key role marine renewables will play in meeting these targets and objectives. The UK has committed to sourcing 15% of its total energy from renewable sources by 2020 and projections suggest that by 2020, 30% or more of our electricity could come from renewable sources, compared with 6.7% in 2009.

Projects such as the Hywind Scotland Pilot Park Project are important in developing the renewables industry in Scotland and shifting energy consumption away from non-renewable sources. The Project is a significant step towards developing a full commercial scale floating wind turbine development. The Project will contribute up to 30 MW installed capacity from wind energy and will make a contribution to achieving the policy aims on reduced emissions. The annual power production from the Hywind Scotland Pilot Park Project is expected to be well above 100 GWh (approximately 135 GWh/year). The production from the pilot park will therefore have the ability to power more than 19,900 households in Scotland based on an average consumption of 4435 kWh per household per year. This may prevent the emission of 55,000 - 120,000 tonnes CO_2 per year depending on whether gas or coal is being displaced.

Economic Benefits

The Company, in its ES, considered the economic benefits from the Development would range from minor to moderate, where the economic benefits to Scotland would depend on the level of local content under two different development scenarios.

For the first scenario assumed all construction, installation, operations and maintenance and decommissioning (except turbine manufacture and heavy lift charter) would take place in Scotland. In this instance the Development, according to the Company, would create an estimated 39 direct full-time equivalent ("FTE") jobs, £5.6 million direct Gross Value Added ("GVA") and support a further 218 indirect FTE jobs and £31 million GVA in the supply chain during construction. A total of 260 direct, indirect and induced FTE jobs and £40 million GVA during construction and installation in the first two years. This is considered to represent a moderate economic benefit. During operations and maintenance it is estimated that there will be £100 million spend per annum and 33 FTE jobs, along with £10 million spend and 21 temporary jobs during decommissioning. This is considered to represent a minor economic benefit.

For the second scenario which assumes only Operations and Maintenance ("O&M") and decommissioning will take place in Scotland, the economic impact significance of the Development will be minor. Under this scenario £44 million GVA and 33 FTE jobs will be sustained during operations and maintenance along with £10 million spend and 21 temporary jobs during decommissioning.

Direct, indirect and induced economic jobs and GVA supported by the Hywind Scotland project from construction, installation, O&M and decommissioning are summarised below.

Under Scenario 1 – where all construction, installation, operations & maintenance and decommissioning takes place in Scotland – except for turbine manufacture and heavy lift vessel charter costs – the cumulative economic impacts are projected to be:

- A total potential capital investment of £210 million, equating to around £84 million direct and indirect GVA.
- £5.6m GVA and 39 direct FTE jobs created supporting a further 218 indirect jobs FTE jobs and £31 GVA in the supply chain during construction.
- £100 million capital spend on construction and installation resulting in a potential £40 million direct, indirect and induced GVA in the Scottish economy within a two year project timeframe. £100 million long-term operational spend, generating a potential £40 million GVA and supporting 33 FTE net direct, indirect and induced jobs over the 20-year Development timeframe.

- Supporting nearly 260 FTE net direct, indirect and induced short-term jobs in Aberdeenshire and the rest of Scotland during the first two years of construction and installation of five offshore turbines off Peterhead.
- £10 million capital spend on decommissioning of five turbines after completion of the 20 year Development, supporting around 21 temporary short-term jobs within a 6 month time window.
- Around £8 million direct spend in and around the Peterhead area during the onshore construction phase, with potentially a high level of local content.

For Scenario 1, the economic impact significance of the Development will be moderate, where the magnitude and consequence of nearly 260 direct, indirect and induced FTE jobs supported and £40 million GVA during construction and installation in the first two years is judged to be moderate. The £100 million spend per annum and 33 FTE jobs during O&M, along with £10 million spend and 21 temporary jobs during decommissioning are considered to be of minor magnitude.

The Project has the potential to attract inward investment especially for turbine manufacture, tower/substructure fabrication and O&M operation which would have significant economic impact, although the five turbine pilot park alone is unlikely to attract investors to setup facilities in Scotland.

Under Scenario 2 – where only operations & maintenance and decommissioning takes place in Aberdeenshire and the rest of Scotland, the cumulative economic impacts are projected to be:

- £110 million operational spend over 20 years of the Development lifetime, generating an estimated £44 million of GVA and supporting 33 long-term direct, indirect and induced jobs.
- £10 million decommissioning expenditure for the removal, re-use and/or recycling of five offshore installations, generating £4 million GVA after 20 years of operational life.
- £4 million of direct and indirect GVA creating around 21 temporary jobs over a six month operational window.

For Scenario 2, the economic impact significance of the Development is minor, where the magnitude of the £44m GVA and 33 FTE jobs sustained during O&M along with £10 million spend and 21 temporary jobs during decommissioning.

Impacts on existing tourism and recreational businesses during construction and installation is likely to be a combination of both positive (related to increase local spend) and negative (due to short term local disruption around onshore construction works), although both impacts are likely to be minor and not significant.

Economic impacts from new tourism activities for boat operators are considered positive, although their magnitude, consequence and impact are considered to be of minor and not significant.

During the operation stage the impacts from loss of scenic visual quality are likely to be minor and not significant.

Joao Queiros
Marine Renewables Casework Manager
Marine Scotland Planning and Policy
28th October 2015

ANNEX C – ADVICE TO MINISTERS AND RECOMMENDATION

ADVICE TO THE SCOTTISH MINISTERS IN RELATION TO PUBLIC LOCAL INQUIRY

A key issue is whether it is appropriate to cause a public inquiry to be held and whether the Scottish Ministers are capable of weighing up the various competing considerations and of properly taking account of the representations the various parties have made without an inquiry.

Having regard to the considerations set out in **ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS**, Marine Scotland Licensing Operation Team ("MS-LOT") advice is that the Scottish Ministers are able to weigh up the various competing considerations and properly take account of the representations the various parties have made without the need for an inquiry.

The Scottish Ministers have sufficient evidence provided by the Company concerning the benefits of the Development, including the Environmental Statement ("ES"), representations from the Company, as well as representations from consultees together with an Appropriate Assessment ("AA") .

In the circumstances, the Scottish Ministers can be satisfied that:

1. they possess sufficient information upon the Development in order to determine the Application for a marine licence under Part 4 of the Marine (Scotland) Act 2010 ("the 2010 Act") and under Part 4 of the Marine and Coastal Access Act 2009 (as amended) ("the 2009 Act"); and

2. an inquiry into the issues raised by consultees would not be likely to provide any further factual information to assist the Scottish Ministers to resolve any issues raised by the Application or to change their views on these matters;

and, accordingly, may conclude that it is not appropriate to cause an inquiry to be held into these matters. **MS-LOT recommends that you determine that it is not appropriate to cause a PLI to be held**.

ADVICE TO THE SCOTTISH MINISTERS IN RELATION TO THE DECISION WHETHER TO GRANT A LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED).

MS-LOT consider that you have sufficient information to weigh the issues and that adequate opportunity was afforded for public representation. MS-LOT is of the view that in considering the characteristics and location of the Development and the potential impacts, you may be satisfied that this Application has had regard to the need to protect the environment, protect human health and prevent interference with legitimate uses of the sea.

If you decide to grant consent, MS-LOT consider that where any adverse environmental impacts cannot be prevented, adequate mitigation can be put in place. An obligation has been placed on the Company to give effect to all the mitigation through the attachment of conditions to the Licence.

For the reasons set out in **ANNEX A – REGULATORY REQUIREMENTS: LEGISLATION AND POLICY**, **ANNEX B - BACKGROUND INFORMATION AND SCOTTISH MINISTERS'**

CONSIDERATIONS, and **ANNEX E – APPROPRIATE ASSESSMENT**, the Scottish Ministers may be satisfied to the appropriate test that the Development, alone, and in combination with Seagreen Alpha ("SAWEL") and Bravo ("SBWEL"), Inch Cape ("ICOL") and Neart na Gaoithe ("NnGOWL") wind farms, will not adversely affect the integrity of any European sites assessed to have connectivity with the Development.

Taking into account the socio-economic benefits and the benefits of renewable energy generation, it is MS-LOT's recommendation that the Scottish Ministers' planning judgment should be that whilst you accept the environmental impacts, when weighing up that material consideration with the considerations mentioned in the next paragraph you can make an appropriate planning judgment nevertheless to grant consent, with conditions, to the Development in its proposed location.

The considerations mentioned in this paragraph are:

1. The benefits that the Development would be expected to bring in terms of the contribution to the development of the renewable energy sector;

2. The need to achieve targets for renewable energy;

3. The economic and social importance of Scotland's renewable energy sector; and

4. The potential to unlock a variety of economic benefits.

Before any construction work may commence a licence allowing the disturbance of European Protected Species ("EPS") (cetaceans) will be required to be authorised by the Scottish Ministers under the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 . This will be applied for by the Company separately once the final layout of the wind farm and wind turbine generator specifications have been agreed through conditions attached to the consent at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**.

MARINE LICENCE RECOMMENDATION

MS-LOT recommend that you determine to grant **consent under Part 4 of the Marine (Scotland) Act 2010 and under Part 4 of the Marine and Coastal Act 2009 (as amended) for the Hywind Scotland Pilot Park, subject to the imposition of conditions**. The draft decision letter with conditions are enclosed at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**.

ANNEX D – DRAFT DECISION LETTER AND CONDITIONS

marinescotland

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MS.MarineLicensing@gov.scot

The Scottish Government
Riaghaltas na h-Alba

XX October 2015

Dear Mr Nakken,

APPLICATION FOR A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED) TO CONSTRUCT AND OPERATE 5 FLOATING WIND TURBINES IN THE BUCHAN DEEP, APPROXIMATELY 25 KM OFF THE COAST OF PETERHEAD, NORTH EAST SCOTLAND.

Application

I refer to the Application at (i) below made by Hywind (Scotland) Limited (Company Number 08709450) ("the Company"), submitted on 27th March 2015 to Marine Scotland ("MS"), the Licensing Authority on behalf of the Scottish Ministers, for:

i. A marine licence to be considered under Part 4 of the Marine (Scotland) Act 2010 ("the 2010 Act") and under Part 4 of the Marine and Coastal Access Act 2009 (as amended) ("the 2009 Act") by the Company to construct and operate the Hywind Scotland Pilot Park ("HSPP").

The Application

I refer to the application at (i) above made by the Company under the 2010 Act and the 2009 Act for the Hywind Scotland Pilot Park, comprising of 5 floating wind turbines situated in the North Sea, with a maximum generating capacity of up to 30 megawatts ("MW"), in an area known as the Buchan Deep, approximately 25 km off the coast of Peterhead, North East Scotland, just outside the 12 nautical miles ("nm") territorial water limit.

Consultation

In accordance with the statutory requirements provided under Section 26 of the Marine (Scotland) Act 2010, notice of the Application had to be published to bring the Application to the attention of persons likely to be interested in it. The Licensing Authority note that these requirements have been met. Under section 27 of the Act and regulations made under that section, consultation with the statutory consultation bodies has taken place.

Notifications were sent to the Aberdeenshire Council ("AC") as the nearest onshore Planning Authority, as well as to the Joint Nature Conservation Committee ("JNCC"), the Scottish Natural Heritage ("SNH"), the Scottish Environment Protection Agency ("SEPA"), the

Maritime and Coastguard Agency ("MCA") and the Commissioners of the Northern Lighthouse Board ("NLB").

The Licensing Authority have fully and carefully considered the Application and accompanying documents and all relevant responses from consultees and third party representations that have been received.

Representations and objections

No representations were received by the Licensing Authority during the course of the public consultation exercise. Objections were received from the Aberdeen International Airport ("AIA"), BP Exploration Operating Company Limited ("BP"), the Ministry of Defence ("MOD"), National Air Traffic Services (EnRoute) plc ("NERL"), the Royal Society for the Protection of Birds Scotland ("RSPB Scotland") and the Scottish Fishermen's Federation ("SFF"). Further discussion between the Company and AIA, BP, MOD, SFF and NERL resulted in those stakeholders withdrawing their objections subject to conditions and / or agreements being put in place to minimise the impact(s) of the Development. Objections are being maintained from the RSPB Scotland.

Public Local Inquiry

Under Section 28 of the Marine (Scotland) Act 2010 Scottish Ministers may cause an inquiry to be held in connection with their determination of an application for a marine licence.

Under Schedule 5, paragraph 4(2)(a) of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the EIA Regulations") the Scottish Ministers may, if they consider it appropriate to do so, instigate a local inquiry if a representation from a member of the public cannot be resolved in order to enable the EIA consent decision to be made.

The Scottish Ministers do not consider that it is appropriate to cause a public inquiry to be held. They are of the view that there are no significant issues which have not been adequately considered and that they have all the information required to make an informed decision without the need for a Public Local Inquiry.

The Licensing Authority's Considerations

Environmental matters

An Environmental Statement has been produced in accordance with The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the 2007 Regulations").

The 2007 Regulations prohibit the Licensing Authority from granting a Licence unless it has taken into consideration the environmental information, as defined in those Regulations, and unless the applicable procedures regarding publicity and consultation laid down in those regulations have been followed. The Licensing Authority are satisfied that the Company has had due regard to these features.

The Licensing Authority have fully and carefully considered the Application and accompanying documents and all relevant responses from consultees. They have also considered the third party representations received. The Licensing Authority have taken account of the extent to which any environmental effects will be modified and mitigated by measures the Company has agreed to take, or will be required to take, under the conditions

attached to the Licence. The Licensing Authority are satisfied that environmental issues can be appropriately addressed by way of mitigation, and that any impacts which remain are outweighed by the benefits which the Development will bring.

Impact on Commercial Fishing

The Scottish Fishermen's Federation ("SFF") had concerns over impacts on fishing and initially objected the Development on behalf of its nine member associations. SFF disputed the Company's Environmental Statement's estimation of the displacement suffered by the fleet, arguing this would be proportionally larger than estimated. SFF disagreed with the ES statement that fisheries would not be impacted negatively by the Development, and also with the ES statement that the area is not relevant to the fisheries due to recent average catches having been low, highlighting that the area could potentially become a huge resource for the fishing industry in the future. SFF emphasised the Development would imply a loss of access to 15 km^2 of fishing grounds in the area and stated this impact would need mitigation.

The SFF also raised concerns regarding the export cable, namely the fact it will be laid and unused for up to 18 months. SFF requested that the route and method of burial was agreed with the fishing industry in order to achieve minimum disruption.

To mitigate the impacts of the Development on commercial fishing, the Licensing Authority has included three conditions within the licence to address the Federation's concerns: the appointment of a suitable Fishery Liaison Officer ("FLO") by the Company during both cable laying and deployment / commissioning of turbines; the submission of a Cable Plan to be consulted on with SFF, in particular to review areas where the cable cannot be buried and to consult on options for other forms of cable protection; and the participation by the Company in a Fisheries Group (which one to be determined) with the aim of producing a Fisheries Management and Mitigation Strategy which will be approved by the Licensing Authority in consultation with the SFF. When considering the Fisheries Management and Mitigation Strategy, the Company will have to consider the National Marine Plan. In particular, Fisheries policies 2 and 3; the interaction with other users policy 6.26; and offshore wind and marine renewable energy - marine licensing policies set out in chapter 11. The Company must also take into consideration any other relevant guidance when developing the FMMS.

Economic and Renewable Energy Benefits

The 30 MW Hywind Scotland Pilot Park, in the Buchan Deep, approximately 25 km off the coast of Peterhead, will provide power equivalent to the needs of approximately 19,900 homes. This increase in the amount of renewable energy produced in Scotland is entirely consistent with the Scottish Government's policy on the promotion of renewable energy and its target for the equivalent of 100% of Scotland's electricity demand to be met from renewable sources by 2020.

The Scottish Ministers aim is to achieve a thriving renewables industry in Scotland. The focus being to enhance Scotland's manufacturing capacity, to develop new indigenous industries, particularly in rural areas, and to provide significant export opportunities. The Licensing Authority have considered material details of how this Development can contribute to local or national economic development priorities as stated in Scottish Planning Policy ("SPP") and are satisfied that the Development is not contrary to the provisions contained within SPP in relation to renewable energy production.

Landscape and Visual Impacts

No objections were raised in terms of the landscape and visual impacts of the Development. AC, the JNCC and SNH all agreed with the ES Seascape and Landscape Visual Impacts Assessment ("SLVIA") conclusion that the effects of the Development are non-significant, neither on its own, nor cumulatively with other developments on the east coast of Scotland, be it on-shore or offshore. These three consultees considered that although the Development will introduce a new feature within the coastal and seascape character, which at times may appear as a prominent new focus given the right conditions of light and swell, the distance of the development from the nearest receptors, the relatively small scale of the Development and the character of the coastline limit the impact of the development.

Wildlife and Habitats

The Company submitted an HRA report along with their Application. From the information provided in this report, the SNCBs in their advice dated 3rd July 2015 identified LSE from the Development as follows:

- Herring gull (Buchan Ness to Collieston Coast SPA, collision risk);
- Northern gannet (Forth Islands SPA, collision risk);
- Black-legged kittiwake (Buchan ness to Collieston Coast SPA, Fowlsheugh SPA, collision risk);
- Common guillemot (Buchan Ness to Collieston Coast SPA, displacement);
- Razorbill (Fowlsheugh SPA, displacement);
- Atlantic puffin (Forth Islands SPA, displacement);
- Seabird assemblages; and
- Bottlenose dolphin (Moray Firth SAC).

Marine Scotland were therefore required to complete an AA against the sites' conservation objectives. The SNCBs recognised that the Development on its own would not result in adverse effect on site integrity for any of the above SPAs, however raised some concerns due to the in-combination effects, particularly with the consented Forth and Tay offshore wind farm developments. The completed AA used the most up to date evidence, including the recently published Marine Scotland commissioned BTO report on avoidance rates and concluded that the Development would not adversely affect any of the above European protected sites. The SNCBs agreed with the conclusions of the AA for all species / site combinations except puffin from Forth Islands SPA. MS-LOT consider that the best available evidence has been used in the AA and that the assessment has been precautionary. A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA.

Scottish Ministers are currently considering advice received from the SNCBs on sites suitable for designation as SPAs and SACs. These sites are currently given "draft" status (dSPAs and dSACs). Once Ministers have agreed the case for the draft designations to be the subject of a public consultation, the proposals will be given the status of 'pSPA and pSAC' and will receive policy protection from that point forward until a decision on classification of the sites is made. This policy protection for proposed sites is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the National Marine Plan for Scotland (paragraph 4.45).

If these sites become designated and LSE is identified, then it will be necessary to complete a further AA and, depending on the findings of the AA, either affirm, modify or revoke the Marine Licence.

In their email of 3rd September 2015 the SNCBs advised that there was the potential for connectivity of the Development with:

- Forth Bay Complex dSPA with respect to gannet, puffin and manx shearwater;
- Ythan Estuary dSPA (for the cable route) with respect to sandwich tern; and
- Moray Firth dSAC (for the cable route) with respect to harbour porpoise.

The SNCBs advised that they will not be in a position to provide further advice on potential impacts from the Hywind Development on the draft designations until the draft conservation objectives have been finalised following the consultation.

Other Considerations

The Licensing Authority has had full regard to the UK Marine Policy Statement when assessing the application. It is considered that the Development accords with the Statement.

The Licensing Authority's Determination

Subject to the conditions set out in the Marine Licence (05515/15/0) the Licensing Authority grant a licence under Part 4 of the Marine (Scotland) Act 2010 and under Part 4 of the Marine and Coastal Access Act 2009 (as amended) for construction, operation and deposits of substances carried out in association with the Hywind Scotland Pilot Park, in the Buchan Deep, approximately 25 km off the coast of Peterhead, North East Scotland (as described in **Annex 1**).

The Licensing Authority direct that within 2 months of the date of this licence (and within 2 months of the Final Commissioning of the Development if there has been any variation on the original approved plan), the Company must provide to the Licensing Authority a detailed plan showing the site boundary and all WTG's and pipelines in a format compatible with the Scottish Government's Spatial Data Management Environment ("SDME"), along with appropriate metadata. The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data should be supplied in ESRI shapefile format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by the Scottish Government), all metadata should be provided in this format.

In order to ensure compatibility with Marine Scotland Interactive ("MSI"), the Company must provide the Licensing Authority with a summary of the Environmental Statement so as to maintain the online public register for Marine Scotland Licensing Operations Team ("MS-LOT"). The project summary must be less than 300 words, provide a location coordinate in latitude and longitude decimal degrees for the centre of the project area and the outline coordinates in degrees decimal minutes for the agreement for lease area. A selection of the most pertinent figures used in the Environmental Statement should be provided as jpegs approximately 2 Mb in size.

In accordance with regulation 23 of the 2007 Regulations, the Licensing Authority considers it appropriate that the Company must publicise this determination in the same publications as where the original Application notices were placed. Copies of this public notice must be provided to the Licensing Authority by the Company.

In reaching their decision, the Licensing Authority have taken into account the environmental information submitted with the Application, including the Environmental Statement, the representations made by statutory consultative bodies and others, in accordance with the 2007 Regulations; the Application; further representations received, in the context of the expert advice provided by statutory consultees, and Scottish Government policy.

The Licensing Authority have considered all material considerations and have concluded that it is not appropriate for a public inquiry to be held before reaching their decision. In reaching their decision they have had regard to all relevant considerations and, subject to the conditions of this licence, are satisfied that it is appropriate for the Company to construct and operate the Development in the manner set out in the Application. The Licensing Authority also consider that the Development is consistent with Government policy on the promotion of renewable energy.

Copies of this letter and the licence have been sent to all consultation bodies and persons who responded or made representations to the Application. This letter has also been published on the Scottish Government MS-LOT website.

The Licensing Authority's decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review and to the right of the applicant to appeal the decision under the terms of section 38 of the Act and regulations made thereunder. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Licensing Authority exercise their statutory function to determine Applications for a Licence. The rules relating to the judicial review process can be found on the website of the Scottish Courts – http://www.scotcourts.gov.uk/session/rules/print/rules/CHAP58.pdf. Your local Citizens' Advice Bureau or your solicitor will be able to advise you about the applicable procedures.

Yours sincerely

James McKie

Leader, Marine Scotland Licensing Operations Team
A member of the staff of the Scottish Ministers

ANNEX 1 – DESCRIPTION OF THE DEVELOPMENT

The Company is proposing to develop a Pilot Park which is to be located approximately 25 km off the coast at Peterhead, North East Scotland just outside the 12 nm territorial water limit. The Development includes construction, installation, operation and maintenance activities.

The Development will involve the installation of five 6 MW wind turbine generator units and will be expected to produce up to 135 GWh per year of electricity. The turbines are expected to have a hub (centre) height of no less than 82 m and no more than 101 m above Mean Sea Level ("MSL") and a height to tip of rotor blade of 181 m from MSL, with a draught of no less than 70 m to no more than 85 m and a rotor diameter of 154 m. The turbines will be positioned no less than 800 m to no more than 1,600 m apart and attached to the seabed by a three-point mooring spread and anchoring system. Three anchors will be required per turbine and the radius of the mooring system will extend no less than 600 m to no more than 1,200 m out from each turbine. The anchor and mooring system could be installed up to 18 months prior to the turbines being installed.

The turbines will be connected by inter-array cables which may require stabilisation by rock dumping in some locations. The export cable, which will transport electricity from the Pilot Park to shore at Peterhead, will be buried where seabed conditions allow. Where this is not possible cable protection in the form of concrete mattresses and rock will be required. Both the inter-array and export cables will have 33 kV transfer voltage. The export cable is planned to come ashore at Peterhead and connect to the local distribution network at SSE Peterhead Grange substation. The onshore Project infrastructure will comprise an underground cable approximately 1.5 km in length and a small switchgear yard facility close to Peterhead Grange substation.

In addition to the proposed Pilot Park area and associated offshore and onshore infrastructure, the Development will use a deep water inshore area, to assemble the turbines prior to installation. The location of this inshore assembly is still to be decided; however, suitable facilities on the west coast of Norway have been identified. Once assembled, the turbines will be towed in an upright position from the assembly point to the turbine deployment area in the Buchan Deep.

The Company aims to begin onshore construction in 2015 / 2016 followed by offshore construction in 2016 / 2017. This will allow for final commissioning of the Pilot Park in 2017. The Pilot Park is expected to have an operational life of 20 years and decommissioning will commence in the late 2030's. During the operational phase the Pilot Park will be serviced from a base most likely in Peterhead.

ANNEX 2 – CONDITIONS OF THE MARINE LICENCE

3. Conditions

3.1. General conditions

3.1.1. Licence conditions binding other parties

All conditions attached to this licence bind any person who for the time being owns, occupies or enjoys any use of the Works for which this licence has been granted in relation to those licensed activities authorised under item 5 in section 21(1) of the 2010 Act and item 7 in section 66(1) of the 2009 Act whether or not this licence has been transferred to that person.

3.1.2. Vessels, vehicles, agents, contractors and sub-contractors

The Licensee must provide, as soon as reasonably practicable in advance of their engagement in any Licensable Marine Activity, the name and function of any vessel, vehicle, agent, contractor or sub-contractor appointed to engage in the Works. Where applicable the notification must include the master's name, vessel type, vessel IMO number and vessel owner or operating company.

Any changes to the supplied details must be notified to the Licensing Authority, in writing, prior to any vessel, vehicle, agent, contractor or sub-contractor engaging in the Licensable Marine Activity.

The Licensee must ensure that only those vessels, vehicles, agents, contractors or sub-contractors notified to the Licensing Authority are permitted to carry out any part of the Works.

The Licensee must satisfy themselves that any masters of vessels or vehicle operators, agents, contractors or sub-contractors are aware of the extent of the Works for which this licence has been granted, the activity which is licensed and the terms of the conditions attached to this licence. All masters of vessels or vehicle operators, agents, contractors and sub-contractors permitted to engage in the Works must abide by the conditions set out in this licence.

The Licensee must give a copy of this licence, and any subsequent variations made to this licence in accordance with section 30 of the 2010 Act and section 72 of the 2009 Act, ensuring it is read and understood, to the masters of any vessels, vehicle operators, agents, contractors or sub-contractors permitted to engage in the Works.

3.1.3. *Force Majeure*

Should the Licensee or any of their agents, contractors or sub-contractors, by any reason of *force majeure* deposit anywhere in the marine environment any substance or object, then the Licensee must notify the Licensing Authority of the full details of the circumstances of the deposit within 48 hours of the incident occurring (failing which as soon as reasonably practicable after that period of 48 hours has elapsed). *Force majeure* may be deemed to apply when, due to stress of weather or any other cause, the master of a vessel or vehicle operator determines that it is necessary to deposit the substance or object other than at the Site because the safety of human life or, as the case may be, the vessel, vehicle or marine structure is threatened. Under Annex II, Article 7 of the Convention for the Protection of the

Marine Environment of the North-east Atlantic, the Licensing Authority is obliged to immediately report force majeure incidents to the Convention Commission.

3.1.4. Material alterations to the licence application

The Licensee must ensure that no deviation from the schedule specified in this licence is made without the further written approval of the Licensing Authority.

The Licensee must, where any information upon which the granting of this licence was based has after the granting of the licence altered in any material respect, notify the Licensing Authority of this fact, in writing, as soon as is practicable.

3.1.5. Submission of plans and specification of studies and surveys to the Licensing Authority

The Licensee must submit plans and the details and specifications of all studies and surveys that are required to be undertaken under this licence in relation to the Works, in writing, to the Licensing Authority for their written approval. Commencement of the studies or surveys and implementation of plans must not occur until the Licensing Authority has given its written approval to the Licensee.

Plans or the specification of studies and surveys prepared pursuant to another consent or licence relating to the Works by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

3.1.6. Submission of reports to the Licensing Authority

The Licensee must submit all reports to the Licensing Authority, in writing, as are required under this licence within the time periods specified in this licence. Where it would appear to the Licensee that there may be a delay in the submission of the reports to the Licensing Authority, then the Licensee must advise the Licensing Authority of this fact as soon as is practicable and no later than the time by which those reports ought to have been submitted to the Licensing Authority under the terms of this licence.

The reports must include executive summaries, assessments and conclusions and any data will, subject to any rules permitting non-disclosure, be made publically available by the Licensing Authority or by any such party appointed at their discretion.

Reports prepared pursuant to another consent or licence relating to the Works by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

3.1.7. Chemical usage

The Licensee must ensure that all chemicals which are to be utilised in the Works have been approved in writing by the Licensing Authority prior to use. All chemicals utilised in the Works must be selected from the List of Notified Chemicals assessed for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002 (as amended 2011), unless approved in writing by the Licensing Authority.

3.1.8. Environmental protection

The Licensee must ensure that all reasonable, appropriate and practicable steps are taken at all times to minimise damage to the Scottish marine area and the United Kingdom (“UK”)

marine licensing area caused by the Licensable Marine Activity authorised under this licence.

The Licensee must ensure appropriate steps are taken to minimise damage to the beach and foreshore by the Licensable Marine Activity.

The Licensee must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code where appropriate.

The Licensee must ensure that any debris or waste arising during the course of the Works are removed from the Site of the Works, as soon as is reasonably practicable, for disposal at a location above the MHWS approved by the Scottish Environment Protection Agency ("SEPA").

The Licensee must ensure that all substances and objects deposited during the execution of the Works are inert (or appropriately coated or protected so as to be rendered inert) and do not contain toxic elements which may be harmful to the marine environment, the living resources which it supports or human health.

The Licensee must ensure that the risk of transferring marine non-native species to and from the Site is kept to a minimum by ensuring appropriate bio-fouling management practices are implemented during the Works.

The Licensee must ensure that if oil based drilling muds are utilised they must be contained within a zero discharge system. Any drill cuttings associated with the use of water-based drilling muds situated within Site of the Works need not be removed from the seabed.

3.1.9. Availability of the licence for inspection

The Licensee must ensure that copies of this licence and any subsequent amendments or variations, are available for inspection, at any reasonable time, by any authorised marine enforcement officer at:

a) the premises of the Licensee;
b) the premises of any agent, contractor or sub-contractor acting on behalf of the Licensee;
c) any onshore premises directly associated with the Works; and
d) aboard any vessel permitted to engage in the Works.

3.1.10. Inspection of the Works

The Licensee must ensure that any persons authorised by the Licensing Authority, are permitted to inspect the Works at any reasonable time. The Licensee must, as far as reasonably practicable, on being given reasonable notice by the Licensing Authority (of at least 72 hours), provide transportation to and from the Site for any persons authorised by the Licensing Authority to inspect the Site.

3.1.11. Emergencies

If the assistance of a Government Department (to include departments of Devolved Administrations) is required to deal with any emergency arising from:

a) the failure to mark and light the Works as required by this licence;
b) the maintenance of the Works; or

c) the drifting or wreck of the Works,

to include the broadcast of navigational warnings, then the Licensee is liable for any expenses incurred in securing such assistance.

3.2. Conditions specific to the Works

3.2.1. Conditions applicable to all phases of the Works

3.2.1.1. Project Environmental Monitoring Programme ("PEMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, to submit a PEMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the Joint Nature Conservation Committee ("JNCC"), the Scottish Natural Heritage ("SNH"), Marine Scotland Science ("MSS"), the Dee District Salmon Fishery Board ("DeeDSFB") and any other ecological advisors or organisations as required at the discretion of the Licensing Authority. The PEMP must be in accordance with the Application as it relates to environmental monitoring.

The PEMP must set out measures by which the Licensee must monitor the environmental impacts of the Works. Monitoring is required throughout the lifespan of the Works where this is deemed necessary by the Licensing Authority. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

Monitoring must be done in such a way as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Works. Monitoring may also serve the purpose of verifying key predictions in the Application. Additional monitoring may be required in the event that further potential adverse environmental effects are identified for which no predictions were made in the Application.

The Licensing Authority may agree that monitoring may be reduced or cease before the end of the lifespan of the Works.

The PEMP must cover, but not be limited to the following matters:

a) Pre-construction, construction (if considered appropriate by the Licensing Authority) and post-construction monitoring surveys as relevant in terms of the Application and any subsequent surveys for:

    1. birds;
    2. non-native species;
    3. diadromous fish;
    4. benthic communities; and
    5. seabed scour and local sediment deposition.

b) The participation by the Licensee in a National Strategic Bird Monitoring Framework ("NSBMF") and surveys to be carried out in relation to regional and / or strategic bird monitoring which may include but not necessarily limited to:

    1. the avoidance behaviour of breeding seabirds around turbines;
    2. flight height distributions of seabirds at wind farm sites;
    3. displacement of auk species from wind farm sites; and

4. effects on survival and productivity at relevant breeding colonies.

All initial methodologies for the above monitoring must be approved, in writing, by the Licensing Authority and, where appropriate, in consultation with the Forth and Tay Regional Advisory Group ("FTRAG"), referred to in condition 3.2.1.4 of this licence. Any pre-consent surveys carried out by the Licensee to address any of the above species may be used in part to discharge this condition subject to the written approval by the Scottish Ministers.

The PEMP is a live document and must be regularly reviewed by the Licensing Authority, at timescales to be determined by the Licensing Authority, in consultation with the FTRAG to identify the appropriateness of on-going monitoring. Following such reviews, the Licensing Authority may, in consultation with the FTRAG, require the Licensee to amend the PEMP and submit such an amended PEMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation with FTRAG and any other ecological, or such other advisors as may be required at the discretion of the Licensing Authority. The PEMP, as amended from time to time, must be fully implemented by the Licensee at all times.

The Licensee must submit written reports and associated raw data of such monitoring surveys to the Licensing Authority at timescales to be determined by the Licensing Authority in consultation with the FTRAG. Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Licensing Authority, or by such other party appointed at their discretion.

3.2.1.2. Environmental Management Plan ("EMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit an EMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, Aberdeenshire Council ("AC") and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The EMP must set out a mechanism for the approval process for all proposed updates to the EMP. This must include, but not be limited to, a programme for the consideration of the consultation on, and any subsequent grant of approval of the proposed updated EMP, to be agreed in writing between the Licensee and the Licensing Authority.

The EMP must provide the over-arching framework for on-site environmental management during the phases of the Works as follows:

a) all construction as required to be undertaken before the Final Commissioning of the Works; and
b) the operational lifespan of the Works from the Final Commissioning of the Works until the cessation of electricity transmission (environmental management during decommissioning is addressed by condition 3.2.2.3).

The EMP must be in accordance with the Application as it relates to environmental management measures. The EMP must set out the roles, responsibilities and chain of command of any Licensee personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the Works. It must address, but not be limited to, the following over-arching requirements for environmental management:

a) mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the Application and pre-consent and pre-construction surveys, and include the relevant parts of the Construction Method Statement ("CMS");
b) a completed Written Scheme of Investigation ("WSI") approved by Historic Scotland;
c) pollution prevention measures and contingency plans;
d) management measures to prevent the introduction of marine non-native marine species;
e) measures to minimise, recycle, reuse and dispose of waste streams; and
f) the methods for responding to environmental incidents and the reporting mechanisms that will be used to provide the Licensing Authority and relevant stakeholders (including, but not limited to, the JNCC, SNH, SEPA, Maritime and Coastguard Agency ("MCA") and the Northern Lighthouse Board ("NLB")) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The Licensee must, no later than 3 months prior to the Final Commissioning of the Works, submit an updated EMP, in writing, to cover the operation and maintenance activities for the Works to the Licensing Authority for their written approval. Such approval may be given only following consultation with the JNCC, SNH, SEPA, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The EMP must be regularly reviewed by the Licensee and the FTRAG (refer to condition 3.2.1.4.) over the lifespan of the Works, and be kept up to date (in relation to the likes of construction methods and operations of the Works in terms of up to date working practices) by the Licensee in consultation with the FTRAG.

The EMP must be informed, so far as is reasonably practicable, by the baseline surveys undertaken as part of the Application and the PEMP.

3.2.1.3. Fisheries Management and Mitigation Strategy ("FMMS")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a Fisheries Management and Mitigation Strategy ("FMMS"), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The Works must, at all times, be constructed in accordance with the approved FMMS (as updated and amended from time to time by the Licensee). Any updates or amendments made to the FMMS by the Licensee must be submitted, in writing, by the Licensee to the Licensing Authority for their written approval.

3.2.1.4. Forth and Tay Regional Advisory Group ("FTRAG")

The Licensee must participate in the FTRAG established by the Licensing Authority for the purpose of advising the Licensing Authority on research, monitoring and mitigation programmes for, but not limited to, non-native species, ornithology, marine mammals and commercial fish species. Should a Scottish Strategic Marine Environment Group ("SSMEG") be established (refer to condition 3.2.1.5), the responsibilities and obligations being delivered by the FTRAG will be subsumed by the SSMEG at a timescale to be determined by the Licensing Authority.

3.2.1.5. Scottish Strategic Marine Environment Group ("SSMEG")

The Licensee must participate in any SSMEG established by the Licensing Authority for the purposes of advising the Licensing Authority on research, monitoring and mitigation programmes for, but not limited to, non-native species, ornithology, marine mammals and commercial fish species.

3.2.1.6. National Research and Monitoring Strategy for Diadromous Fish ("NRMSD")

The Licensee must, to the satisfaction of the Scottish Ministers, participate in the monitoring requirements as laid out in the NRMSD so far as they apply at a local level. The extent and nature of the Licensee's participation is to be agreed by the Scottish Ministers in consultation with the FTRAG.

3.2.1.7. Health and safety incident

If any serious health and safety incident occurs on the Site requiring the Licensee to report it to the Health and Safety Executive, then the Licensee must also notify the Licensing Authority of the incident within 24 hours of the incident occurring.

3.2.1.8. Bunding and storage facilities

The Licensee must ensure suitable bunding and storage facilities are employed to prevent the release of fuel oils, lubricating fluids associated with the plant and equipment into the marine environment.

3.2.1.9. Restoration of the Site to its original condition

The Licensee must take all reasonable, appropriate and practicable steps to restore the Site to its original condition before any Licensable Marine Activity was undertaken, or to as close to its original condition as is reasonably practicable, in accordance with the PEMP and the Decommissioning Programme ("DP") to the satisfaction of the Licensing Authority. Should the Licensed Marine Activity be discontinued prior to Completion of the Works, the Licensee must inform the Licencing Authority in writing of the discontinuation of the Works. This licence will be varied under section 30(3) of the 2010 Act following procedures laid out under section 31 of the 2010 Act, and under section 72(3) of the 2009 Act to allow the removal of Works already installed.

3.2.1.10. Emergency Response Co-operation Plans ("ERCoP")

The Licensee must, in discussion with the MCA's Search and Rescue Branch, complete an ERCoP. Detailed completion of the plan will be in co-operation with the National Maritime Operations Centre ("NMOC"). The ERCoP should include full details for the construction, operation and decommissioning phases of the authorised scheme in accordance with MCA recommendations contained within Marine Guidance Notice ("MGN") 371 and 372 (or subsequent updates). A copy of the final plan must be submitted to the Licensing Authority no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works.

3.2.2. Prior to the Commencement of the Works

3.2.2.1. Commencement date of the Works

The Licensee must, prior to and no less than 1 month before the Commencement of the Works, notify the Licensing Authority, in writing, of the date of Commencement of the Works authorised under this Licence.

3.2.2.2. Bathymetry surveys

The Licensee must, prior to the Commencement of the Works, complete a full sea floor coverage swath-bathymetry survey that meets the requirements of IHO S44ed5 Order 1a of the area(s) within the Order limits in which it is proposed to carry out construction works, including a 500 m buffer area around the site of each work, inclusive of seabed anomalies or sites of historic or archaeological interest that lie within that 500 m buffer.

3.2.2.3. Decommissioning Programme ("DP")

Where the Secretary of State has, following consultation with the Licensing Authority, given notice requiring the Licensee to submit to the Secretary of State a DP, pursuant to section 105(2) and (5) of the Energy Act 2004, then construction may not begin on the Site of the Works until after the Licensee has submitted to the Secretary of State a DP in compliance with that notice.

3.2.2.4. Construction Programme ("CoP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CoP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The CoP must set out:

a) the proposed date for Commencement of the Works;
b) the proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;
c) the proposed timings and sequencing of construction work for all elements of the Works infrastructure;
d) contingency planning for poor weather or other unforeseen delays; and
e) the scheduled date for Final Commissioning of the Works.

The Licensee must, prior to the Commencement of the Works, provide a copy of the final CoP, and any subsequent revisions as agreed by the Licensing Authority, to BP Exploration Operating Company Limited ("BP"), Defence Geographic Centre ("DGC") and the Ministry of Defence ("MOD").

3.2.2.5. Construction Method Statement ("CMS")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CMS, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CMS must set out the construction procedures and good working practices for constructing the Works. The CMS must also include details of the roles and responsibilities, chain of command and contact details of company personnel, any contractors or sub-

contractors involved during the construction of the Works. The CMS must be in accordance with the construction methods assessed in the Application and must include details of how the construction related mitigation steps proposed in the Application are to be delivered.

The Works must, at all times, be constructed in accordance with the approved CMS (as updated and amended from time to time by the Licensee). The CMS must, so far as is reasonably practicable, be consistent with the Development Specification and Layout Plan ("DSLP") the EMP, the Vessel Management Plan ("VMP"), the Navigational Safety Plan ("NSP"), the Cable Plan ("CaP") and the Lighting and Marking Plan ("LMP").

3.2.2.6. Development Specification and Layout Plan ("DSLP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a DSLP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the MCA, NLB, the Chamber of Shipping ("CoS"), the JNCC, SNH, Civil Aviation Authority ("CAA"), the Scottish Fishermen's Federation ("SFF") and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The DSLP must include, but not be limited to the following:

a) a plan showing the proposed location of each individual WTG (subject to any required micro-siting), including information on WTG spacing, WTG identification / numbering, location of the substation platforms, seabed conditions, bathymetry, confirmed mooring type for each WTG and any key constraints recorded on the Site;
b) a list of latitude and longitude coordinates accurate to three decimal places of minutes of arc for each WTG. This should also be provided as a Geographic Information System ("GIS") shape file using WGS84 format;
c) the generating capacity of each WTG used on the Site and a confirmed generating capacity for the Site overall;
d) the finishes for each WTG (see condition 3.2.2.11 Lighting and Marking Plan);
e) the length and proposed arrangements on the seabed of all inter-array cables; and
f) the mooring system: a list of latitude and longitude coordinates accurate to three decimal places of minutes of arc for each anchor point, this should also be provided as a GIS shape file using WGS84 format.

The Licensee must, prior to the Commencement of the Works, provide a copy of the final DSLP, and any subsequent revisions as agreed by the Licensing Authority, to the MOD.

3.2.2.7. Vessel Management Plan ("VMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a VMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, MCA, NLB, CAA, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The VMP must include, but not be limited to, the following details:

a) the number, types and specification of vessels required;
b) working practices to minimise disturbance to auk species during July / August;

c) how vessel management will be coordinated, particularly during construction but also during operation;
d) location of working port(s), how often vessels will be required to transit between port(s) and the Site and indicative vessel transit corridors proposed to be used; and
e) any required aviation lighting fitted to turbines during tow to site.

The confirmed individual vessel details must be notified to the Licensing Authority in writing no later than 14 days prior to the Commencement of the Works, and thereafter, any changes to the details supplied must be notified to the Licensing Authority, as soon as practicable, prior to any such change being implemented in the construction or operation of the Works.

The VMP must, so far as is reasonably practicable, be consistent with the CMS, the DSLP the EMP, the PEMP, the Navigational Safety Plan ("NSP"), and the Lighting and Marking Plan ("LMP").

3.2.2.8. Navigational Safety Plan ("NSP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a NSP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB and any other navigational advisors or organisations as may be required at the discretion of the Licensing Authority. The NSP must include, but not be limited to, the following:

a) navigational safety measures;
b) construction safety zones;
c) Notice(s) to Mariners and Radio Navigation Warnings;
d) anchoring areas;
e) temporary construction lighting and marking;
f) emergency response and coordination arrangements for the construction, operation and decommissioning phases of the Works; and
g) buoyage.

The Licensee must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note 371 (or subsequent update), and its annexes, that may be appropriate to the Works, or any other relevant document which may supersede said guidance prior to approval of the NSP.

3.2.2.9. Operation and Maintenance Programme ("OMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit an OMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The OMP must set out the procedures and good working practices for the operations and maintenance of the WTG, substructures, and cable network of the Works. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

The OMP must, so far as is reasonably practicable, be consistent with the EMP, the PEMP, the VMP, the NSP, the CaP and the LMP.

3.2.2.10. Cable Plan ("CaP")

The Licensee must, no later than 6 months, or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CaP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, AC, MSS, MCA, and the SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CaP must be in accordance with the Application.

The CaP must include but not be limited to the following:

a) details of the location and cable laying techniques for the export cable and inter-array cable;
b) the results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
c) a pre-construction survey for Annex 1 habitat and priority marine features to inform cable micro-siting and installation methods in consultation with the Licensing Authority and their advisors;
d) technical specification of all cables, including a desk based assessment of attenuation of electromagnetic field strengths and shielding;
e) a burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures must be provided;
f) methodologies for surveys of the cables through the operational life of the Works where mechanical protection of cables laid on the sea bed is deployed. Suitable mitigation should be put in place where hazards have been identified caused by cable burial or protection, i.e., over trawling;
g) methodologies for inter array cable inspection with measures to address and report to the Licensing Authority any exposure of any cables; and
h) ensure that the new pipeline which is to be laid for the Carbon Capture Project from Peterhead power station to the existing gas pipeline that runs from the Goldeneye platform to St. Fergus is taken into consideration.

3.2.2.11. Lighting and Marking Plan ("LMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a Lighting and Marking Plan ("LMP"), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the AC, MCA, NLB, CAA, MOD and any such other advisors as may be required at the discretion of the Licensing Authority.

The LMP must include but not be limited to the following:

a) lighting and marking in accordance with the current MCA, CAA and MOD navigational and aviation lighting policy and guidance that is in place as at the date of the Licensing Authority approval of the LMP, or any such other documents that may supersede said guidance prior to the approval of the LMP;
b) navigational lighting requirements detailed in International Association of Marine Aids to Navigation and Lighthouse Authorities ("IALA") Recommendations O-139 or any other documents that may supersede said guidance prior to approval of the LMP in agreement with NLB;
c) sound signals requirements; and
d) AIS requirements e.g. fitted to turbines HS1 and HS3.

3.2.2.12. Compliance with and amendments to approved plans

The Licensee must, at all times, construct the Works in accordance with the approved EMP, CoP, CMS, DSLP, VMP, NSP, CaP, OMP, FMMS and LMP (as updated and amended from time to time by the Licensee).

Any updates or amendments made to the EMP, CoP, CMS, DSLP, VMP, NSP, CaP, OMP, FMMS and LMP by the Licensee must be submitted, in writing, by the Licensee to the Licensing Authority for their written approval.

3.2.2.13. Environmental Clerk of Works ("ECoW")

Prior to the Commencement of the Works, and for the duration of the Works, the Licensee must at its own expense, and with the approval of the Licensing Authority in consultation with the JNCC and SNH, appoint an independent ECoW. The ECoW must be appointed in time to review and approve the final draft version of the first plan or programme submitted under this consent to the Licensing Authority for approval, until the Final Commissioning of the Works.

The Licensee will provide a detailed ECoW Scope of Works for consideration and approval by the Licensing Authority. The Scope of Works will set out, as a minimum:

i. Roles and Responsibilities;
ii. Resourcing;
iii. Reporting Mechanisms; and
iv. Post Construction Monitoring.

The responsibilities of the ECoW must include, but not be limited to:

a) quality assurance of final draft version of all plans and programmes required under this licence;
b) provide advice to the Licensee on compliance with licence conditions, including the conditions relating to the CMS, the EMP, the PEMP, the OMP, the CaP and the VMP;
c) monitor compliance with the CMS, the EMP, the PEMP, the OMP, the CaP and the VMP; permits, legislation and guidance associated with this licence;
d) report back to the Licensing Authority who will respond to instances of non-compliance, in consultation with relevant stakeholders;
e) provide reports on point c) above to the Licensing Authority at timescales to be determined by the Licensing Authority; and
f) inducting site personnel on the Site / the Works environmental policy and procedures.

The ECoW role may be carried out by a party appointed by the Licensee or a third party to carry out an equivalent role pursuant to other consents or licences granted in relation to the Works and subject to the written approval of the Licensing Authority.

3.2.2.14. Fisheries Liaison Officer ("FLO")

Prior to the Commencement of the Works, a FLO, approved by the Licensing Authority in consultation with the SFF, must be appointed by the Licensee for the period from

Commencement of the Works until the Final Commissioning of the Works. The Licensee must notify the Licensing Authority of the identity and credentials of the FLO before Commencement of the Works by including such details in the EMP (refer to condition 3.2.1.2.). The FLO must establish and maintain effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Works, and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include, but not be limited to:

a) establishing and maintaining effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea concerning the Works and any amendments to the CMS and site environmental procedures;
b) provision of information relating to the safe operation of fishing activity on the Site of the Works; and
c) ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

The FLO role may be carried out by a party appointed by the Licensee or a third party to carry out an equivalent role pursuant to other consents or licences granted in respect of the Works and subject to the written approval of the Licensing Authority.

3.2.2.15. Navigation and Aviation Safety and Charting

The Licensee must, as soon as reasonably practicable prior to Commencement of the Works, notify the UK Hydrographic Office ("UKHO") of the proposed works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The Licensee must, as soon as reasonably practicable prior to the Commencement of the Works, ensure that local mariners, fishermen's organisations and HM Coastguard, in this case the National Maritime Operations Centre, is made fully aware of the Licensable Marine Activity through local Notice to Mariners or any other appropriate means.

The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, as soon as reasonably practicable prior to the Commencement of the Works, to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.

The Licensee must, prior to Commencement of the Works, complete an "Application for Statutory Sanction to Alter / Exhibit" form and submit this to the NLB for the necessary sanction to be granted.

The Licensee must, prior to the Commencement of the Works, and following confirmation of the approved DSLP by the Licensing Authority, provide the precise location and maximum heights of all WTG and construction equipment over 150 m above lowest astronomical tide ("LAT"), to the UKHO for aviation and nautical charting purposes.

3.2.2.16. Air Defence Radar Mitigation Scheme

The Licensee must, prior to the commencement of the Works, submit Air Defence Radar Mitigation Scheme ("the ADRM scheme"), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the MOD.

For the purposes of this condition, the ADRM Scheme means a detailed scheme to mitigate the adverse impacts of the works on the air defence radar at Remote Radar Head ("RRH") Buchan and the air surveillance and control operations of the MOD. The scheme will set out the appropriate measures to be implemented to that end.

No turbines shall become operational until the mitigation measures, which the approved ARDM Scheme requires to be implemented prior to the operation of the turbines, have been implemented, and the Licensing Authority has confirmed this in writing.

No turbines shall become operational until any performance criteria specified in the approved ADRM Scheme, and which the approved ADRM Scheme requires to have been satisfied prior to the operation of the turbines, have been satisfied.

The Licensee shall thereafter comply with all other obligations contained within the approved ADRM Scheme for the duration of the operation of the Development.

3.2.2.17. Primary Radar Mitigation Scheme

No part of any turbine shall be erected above ground until a Primary Radar Mitigation Scheme agreed with the Operator has been submitted to and approved in writing by the Licensing Authority and following consultation with the Operator, in order to avoid the impact of the Development on the Primary Radar of the Operator located at Perwinnes and associated air traffic management operations.

No part of any turbine shall be erected above ground until the approved Primary Radar Mitigation Scheme has been implemented and the Works shall thereafter be operated fully in accordance with such approved Scheme.

For the purposes of this condition:

a) "Operator" means NATS (En Route) plc, incorporated under the Companies Act (4129273) whose registered office is 4000 Parkway, Whiteley, Fareham, Hants POlS 7FL or such other organisation licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services to the relevant managed area (within the meaning of section 40 of that Act); and

b) "Primary Radar Mitigation Scheme" or "Scheme" means a detailed scheme agreed with the Operator which sets out the measures to be taken to avoid at all times the impact of the development on the Perwinnes primary radar and air traffic management operations of the Operator.

3.2.2.18. Third Party Certification or Verification ("TPC" or "TPV")

The Licensee must, no later than 6 months prior to the Commencement of the Works, provide the Licensing Authority (unless otherwise agreed, in writing, with the Licensing Authority) with TPC or TPV (or suitable alternative as agreed, in writing, with the Licensing Authority) of the basis of design for all WTGs mooring systems, spars and WTGs platform structures.

3.2.2.19. Marine Archaeology Reporting Protocol ("MARP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a MARP which sets out what the

Licensee must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the Works, in writing, to the Licensing Authority for their written approval. Such approval may be given only following consultation by the Licensing Authority with Historic Scotland and any such other advisors as may be required at the discretion of the Licensing Authority. The MARP must be implemented in full, at all times, by the Licensee.

3.2.2.20. Forties Pipeline System Mitigation

The Licensee must ensure that prior to the Commencement of the Works a fully termed Rock Dumping Agreement is agreed by BP and the Licensee in accordance with the signed agreement between BP and the Statoil in respect of rock dumping works to be carried out to mitigate the risk of damage to the Forties Pipeline System ("FPS") from the Hywind Scotland Pilot Park Project.

The Oil and Gas Authority must be informed when this agreement is reached.

All Works must be carried out in accordance with this agreement and must be completed prior to commencement of the Hywind offshore construction activity with the rock berm detailed design as recommended by the WoodGroupKenny (J00586-00-WGK) rock dumping study and jointly agreed by BP and the Licensee.

3.2.3. During the construction of the Works

3.2.3.1. Transportation audit sheet

The Licensee must create, complete and submit to the Licensing Authority on the first working day of the month, a detailed transportation audit sheet for each month during the period when Construction of the Works is undertaken, for all aspects of the Construction of the Works. The transportation audit sheet must include information on the loading facility, vessels, equipment, shipment routes, schedules and all materials to be deposited (as described in Part 2 of this licence) in that month. Where, following the submission of a transportation audit sheet to the Licensing Authority, any alteration is made to the component parts of the transportation audit sheet, the Licensee must notify the Licensing Authority of the alteration in the following month's transportation audit sheet.

If the Licensee becomes aware of any substances or objects on the transportation audit sheet that are missing, or an accidental deposit occurs, the Licensee must contact the Licensing Authority as soon as practicable after becoming aware, for advice on the appropriate remedial action. Should the Licencing Authority deem it necessary, the Licensee must undertake a side scan sonar survey in grid lines (within operational and safety constraints) across the area of the Works, to include cable routes and vessel access routes from local service port(s) to the Site to locate the substances or objects. If the Licensing Authority is of the view that any accidental deposits associated with the Construction of the Works are present, then the deposits must be removed by the Licensee as soon as is practicable and at the Licensee's expense.

3.2.3.2. Nature and quantity of deposited substances and objects

The Licensee must, in addition to the transportation audit sheets required to be submitted to the Licensing Authority under condition 3.2.3.1, following the Commencement of the Works, submit audit reports, in writing, to the Licensing Authority, stating the nature and quantity of all substances and objects deposited below MHWS under the authority of this licence. Such

audit reports must be submitted in writing to the Licensing Authority, by the Licensee, at 6 monthly intervals, with the first such report being required to be submitted on a date no later than 6 months following the Commencement of the Works. Where appropriate, nil returns must be provided.

3.2.3.3. Navigational safety

The Licensee must notify the UKHO of the progress of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The Licensee must notify, from Kirkwall to Stonehaven, local mariners, fishermen's organisations and HM Coastguard, in this case the National Maritime Operations Centre, of the progress of Construction of the Works through local Notice to Mariners or any other appropriate means.

The Licensee must ensure that the progress of Construction of Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.

The Licensee must notify the Licensing Authority, in writing, as soon as reasonably practicable, of any case of damage to or destruction or decay of the Works. The Licensing Authority will advise, in writing, of any remedial action to be taken and any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisers as required.

The Licensee must ensure that any Emergency Response and Rescue Vehicle ("ERRV") and/or cable-laying vessel permitted to engage in the Works must be equipped with and operate, an Automatic Identification System ("AIS") and Automatic Radar Plotting Aids ("ARPA").

The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the Office of Communications ("OfCom").

The Licensee must ensure that navigational safety is not compromised by the Works. The navigable depth must not be altered by more than 5% of stated Chart Datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.

3.2.3.4. Horizontal Directional Drilling ("HDD")

The Licensee must ensure the seaward exit point of the HDD, if used, will be located as far offshore as reasonably practicable towards the depth of closure; the landward exit point of the HDD will be located onshore of the high-water mark, which may move landward due to coastal retreat; and the cables will be suitably buried between the seaward exit of the HDD and the depth of closure (the depth of water beyond which annually significant wave events will cease to contribute to beach sediment supply and morphological processes).

3.2.4. Conditions upon Completion of the Works

3.2.4.1. Date of Completion of the Works

The Licensee must, no more than 1 month following the Completion of the Works, notify the Licensing Authority, in writing, of the date of Completion of the Works.

3.2.4.2. Nature and quantity of deposited substances and objects

The Licensee must, no later than 1 month following the Completion of the Works, submit a final audit report, in writing, to the Licensing Authority stating the nature and quantity of all substances and objects deposited below MHWS within the Scottish marine area and the UK marine licensing area under the authority of this licence. Where appropriate, nil returns must be provided.

3.2.4.3. Final Commissioning of the Works

The Licensee must, no more than 1 month following the Final Commissioning of the Works, notify the Licensing Authority, in writing, of the date of the Final Commissioning of the Works.

3.2.4.4. Navigational safety

The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The Licensee must, within 1 month of Completion of the Works, provide the “as-built” positions and maximum heights of all WTGs, along with any sub-sea infrastructure, cable landing points and changes to navigable depths, to the UKHO for nautical charting purposes.

The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case the National Maritime Operations Centre, are made fully aware of the Completion of the Works.

The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.

The Licensee must notify the Licensing Authority, in writing, as soon as reasonably practicable, of any case of damage to or destruction or decay of the Works. The Licensing Authority will advise, in writing, of any remedial action to be taken and any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisers as required.

The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the OfCom.

As per the requirements of MCA’s MGN 371 and supplementary updates, the Licensee must complete post-installation hydrographic surveys of the consented area or subsections thereof, to the IHO Order 1a survey standard. On completion of these survey the data and a corresponding report of survey must be supplied to the UKHO, with notification to the MCA Hydrography Manager.

The Licensee must ensure that the required IALA availability target for Category 1 Aids to Navigation (“AtoN”) is achieved through redundancy, monitoring and repair, must be in place and arrangements made to warn the mariner promptly of any AtoN fault and its subsequent return to fully operational service.

3.2.4.5. Environmental protection

The Licensee shall ensure the beach and foreshore is returned to the original profile, or as close as reasonably practicable, following Completion of the Works.

3.2.4.6. Decommissioning

This licence does not permit the Decommissioning of the Works, for which a separate marine licence is required.

ANNEX E - APPROPRIATE ASSESSMENT

APPLICATION FOR A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED) TO CONSTRUCT AND OPERATE 5 FLOATING WIND TURBINES IN THE BUCHAN DEEP, APPROXIMATELY 25 KM OFF THE COAST OF PETERHEAD, NORTH EAST SCOTLAND.

MARINE SCOTLAND'S CONSIDERATION OF A PROPOSAL AFFECTING DESIGNATED SPECIAL AREAS OF CONSERVATION ("SACs") OR SPECIAL PROTECTION AREAS ("SPAs")

SITE DETAILS:

Hywind Scotland Pilot Project ("Hywind") approximately 25 km off the North East coast of Scotland near Peterhead

FILE REF:

Appropriate Assessment Conclusion

Marine Scotland Licensing Operations Team ("MS-LOT") concludes that, based upon the content of the following assessment the proposed Hywind Development will not, on its own or in combination with other developments already licensed (including the Forth and Tay offshore wind farms) adversely affect the integrity of the Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA, Forth Islands SPA or Moray Firth SAC (where each SPA or SAC is taken as a whole), provided that the conditions set out in 3d are complied with.

Following Marine Scotland Science ("MSS") advice, MS-LOT consider that the most up to date and best scientific evidence available has been used in reaching the conclusion that any decision to approve the Hywind Development will not adversely affect the integrity of the sites concerned and are satisfied that no reasonable scientific doubt remains.

Introduction

This is a record of the Appropriate Assessment ("AA") for the Hywind Development and associated offshore transmission works. The assessment has been undertaken by MS-LOT and MSS on behalf of the Scottish Ministers. This assessment is required to be undertaken under Council Directive 92/43/EEC on the conservation of natural habitats of wild fauna and flora ("the Habitats Directive") and Council Directive 79/409/EEC on the conservation of wild birds (as amended, and codified by Directive 2009/147/EC of the European Parliament and of the Council) ("the Wild Birds Directive") as implemented, in particular, by Regulation 25 of the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 for projects beyond 12 nautical miles ("nm") from the mainland of Scotland and by Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 for projects within 12 nm of the mainland before the Scottish Ministers may decide to give consent to the development. As the Hywind Development is located out with 12 nm and the transmission works are located within 12 nm, both sets of regulations ("the Habitats Regulations") apply to this assessment.

MS-LOT, on behalf of the Scottish Ministers as the 'competent authority' under the Habitats Regulations, has to be satisfied that the project will not adversely affect the integrity of any European protected sites (SACs and SPAs) before it may grant a licence for the project. The precautionary principle requires to be applied when complying with obligations under the Habitats Regulations and in preparing an AA. In accordance with the ECJ case of

Waddenzee MS-LOT may only authorise a development if they are certain that it will not adversely affect the integrity of European protected sites; and "that is the case where no reasonable scientific doubt remains as to the absence of such effects".

Consultation

A detailed AA has been undertaken and the Joint Nature Conservation Committee ("JNCC") and the Scottish Natural Heritage ("SNH") - jointly referred to as the Statutory Nature Conservation Bodies ("SNCBs") - have been consulted, as is required, under the Habitats Regulations. Those Regulations allow for the competent authority to consult the general public on the AA if they consider it appropriate. This has not been done as the general public have already had the opportunity to respond to the Application through the Environmental Impact Assessment ("EIA") process where information regarding the potential impacts on European protected sites was available in the Environmental Statement ("ES") and Habitats Regulations Appraisal ("HRA") report provided for Hywind. No representations were received from members of the public raising concerns about Natura issues, therefore it is not deemed appropriate to consult the general public further. Consultation responses regarding Natura issues were received from the Royal Society for the Protection of Birds, Scotland ("RSPB Scotland"), the Scottish Wildlife Trust ("SWT") and the Dee District Salmon Fishery Board ("DeeDSFB"). RSPB Scotland recognised the benefits of siting arrays further offshore in deeper waters where there are likely to be fewer ecological sensitivities. However, in spite of RSPB's overarching support for such technologies their view was that the Hywind Application must be considered in the context of the eight commercial scale offshore wind sites that were granted consent in 2014 in the firths of Moray, Forth and Tay. RSPB Scotland hold major reservations over the environmental assessments supporting these consents and are extremely concerned about the cumulative and in-combination impacts to important and internationally protected seabird populations, specifically on Scotland's east coast. The consents for four of these developments (those in the Forth and Tay region including Inch Cape ("ICOL"), Seagreen Alpha ("SAWEL"), Seagreen Bravo ("SBWEL") and Neart na Gaoithe ("NnGOWL")) are currently subject to judicial review. Should these existing consents remain unchanged the RSPB Scotland object to the Hywind Development for the following reasons:

- The cumulative and in-combination environmental impacts, arising primarily from existing consents for offshore wind in the Forth and Tay, are unacceptable to the RSPB and in their view inappropriate environmental assessment methods have been relied upon.
- Impacts on draft marine Special Protection Areas ("dSPAs") have not been considered.

Full details of the RSPBs concerns relating to the Forth and Tay offshore wind farms are addressed in Appendix 1 of the Forth and Tay offshore wind farm AA

SWT acknowledged that renewable energy production will play a key role in reducing Scotland's carbon emissions, which will ultimately help to reduce climate change impacts on biodiversity. SWT is encouraged to see the novel design of 'floating wind', in particular the reduction in noise during the installation stage (by eliminating the need for drilling/piling), and the potential for wind energy exploitation in previously inaccessible, deeper waters. With regards to ornithology SWT consider that Marine Scotland must consider the conclusions of the pending judicial review of the 'Forth and Tay' wind proposals before reaching a conclusion to the Hywind Scotland Pilot Park. Marine Scotland are however not aware when the judgement will be made on the judicial review and until such a time Marine Scotland operate business as usual.

The DeeDSFB advised that the closest SACs with diadromous fish qualifying interests whose migratory routes have the potential to pass through the Hywind development area are the River Dee SAC (40 km) and South Esk (80 km). Some concerns were raised relating to increased noise and vibration during construction and possible electromagnetic fields (EMF) associated with the cabling of the wind farm during operation. MSS advised that they did not anticipate any major issues with either constructional or operational noise, and that any effects from EMF would be limited by cable burial. The SNCBs noted that no piling will take place and that increased turbidity due to construction would be of short duration and reduce quickly in this high energy environment. In relation to EMF, the SNCBs advised that DECC has recommended that cables be buried to at least 1.5 m, depending on the suitability of the substrates (DECC, 2011). The SNCBs welcome the burial of the cable to this depth where possible, particularly in shallow waters (below 20 m). The SNCBs advised that, with the above mitigation, there will be no significant impacts to fish of conservation concern from the Hywind Development, therefore these SACs are not considered further in this assessment.

The Whale and Dolphin Conservation ("WDC") were consulted on the ES, however no response was received.

A map showing the locations of the Hywind Development (and other offshore wind farms already consented on the east coast of Scotland) along with the European protected sites which are considered in this assessment is presented below.

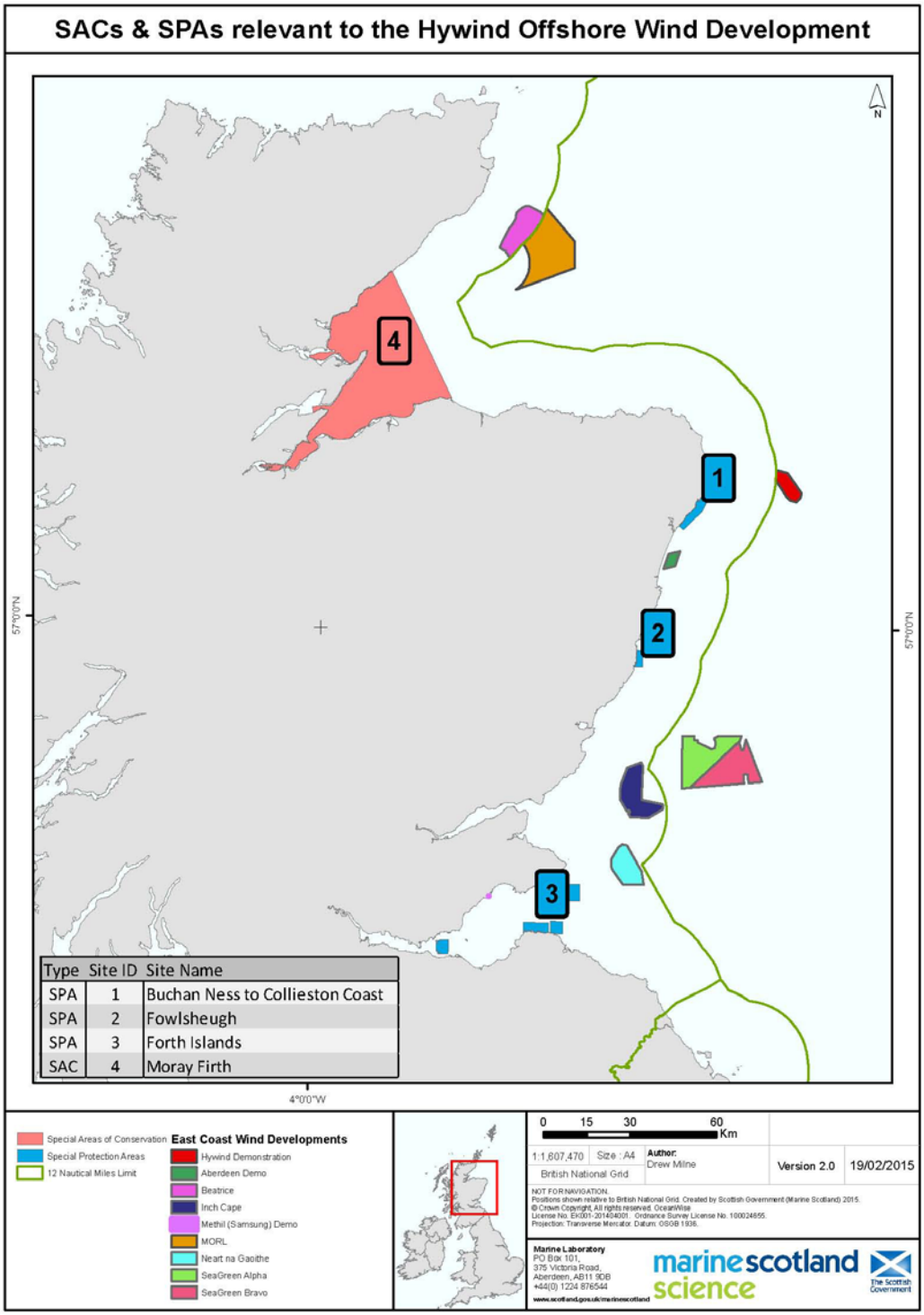

Figure 1: Locations of the Hywind Demonstrator (and the other offshore wind farms included in the in-combination assessment) along with the European protected sites which are considered in this assessment.

Section 1a. provides links to the Scottish Natural Heritage Interactive ("SNHi") website where the background information on the sites being considered in this assessment is available. Section 1b. details the qualifying features of the SACs and SPAs in this assessment. The conservation objectives being considered are detailed in section 1c. For the qualifying interests where likely significant effect ("LSE") has been identified (section 3b), the

appropriate assessment addresses whether or not the relevant conservation objectives will be achieved. This enables a conclusion to be made in relation to whether or not the Hywind proposal, either alone or in combination with other projects (i.e. the Forth and Tay offshore wind farms), will adversely affect the integrity of the sites which have been assessed.

1a. Name of Natura site affected & current status available from:

1. Buchan Ness to Collieston Coast SPA http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8473
2. Fowlsheugh SPA http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8505
3. Forth Islands SPA http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8500
4. Moray Firth SAC http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8327

1b. European qualifying interests & whether priority/non-priority:

1. Buchan Ness to Collieston Coast SPA • Fulmar (breeding) • Guillemot (breeding) • Herring gull (breeding) • Kittiwake (breeding) • Shag (breeding) • Seabird assemblage (breeding)	**2. Fowlsheugh SPA** • Fulmar (breeding) • Guillemot (breeding) • Herring gull (breeding) • Kittiwake (breeding) • Razorbill (breeding) • Seabird assemblage (breeding)
3. Forth Islands SPA • Arctic tern (breeding) • Common tern (breeding) • Cormorant (breeding) • Fulmar (breeding) • Gannet (breeding) • Guillemot (breeding) • Herring gull (breeding) • Kittiwake (breeding) • Lesser black-backed gull (breeding) • Puffin (breeding) • Razorbill (breeding) • Roseate tern (breeding) • Sandwich tern (breeding) • Shag (breeding) • Seabird assemblage (breeding)	**4. Moray Firth SAC** • Bottlenose dolphin • Subtidal sandbanks

1c. Conservation objectives for qualifying interests:

In their scoping advice the SNCBs advised that it is important to recognise that the conservation objectives primarily offer site-based protection and that some of the objectives will not directly apply to species when they are not present within the boundaries of the SPA or SAC in question. 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 out with the SPA but which help to maintain the population of the bird species of the SPA in the long-term.

Conservation Objectives

Buchan Ness to Collieston Coast, Fowlsheugh and Forth Islands SPAs – breeding seabirds

(i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the species; and

To ensure that the following are maintained in the long term:
(iii) Population of the species as a viable component of the site*.
(iv) Distribution of the species within site.
(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.

*As the potential effects of the proposed development, as identified, occur outside the SPA itself, any disturbance to the qualifying interests is only considered to be significant in terms of the relevant conservation objective if it could undermine the conservation objectives relating to population viability.

Moray Firth SAC - Bottlenose dolphin

(i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are established then maintained in the long term:
(iii) Population of the species as a viable component of the site.*
(iv) Distribution of the species within site.
(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.

*As the potential effects of the proposed development, as identified, occur outside the SAC itself, any disturbance to the qualifying interests is only considered to be significant in terms of the relevant conservation objective if it could undermine the conservation objectives relating to population viability.

PROPOSAL DETAILS

2a. Proposal Title

Hywind Offshore Pilot Project, 25 km off the east coast of Peterhead

2b. Advice from the SNCBs

MS-LOT received advice from the SNCBs regarding the Hywind project on 3rd July 2015, MS-LOT consulted the SNCBs on a draft assessment of the main species of concern (puffin, gannet and kittiwake) and received further advice on the 3rd, 18th and 24th of September 2015. The advice is available to view on the website at: http://www.gov.scot/Topics/marine/Licensing/marine/scoping/Hywind.

2c. Details of proposed operation:

The proposed Hywind Pilot Park is located approximately 25 km off the coast at Peterhead, North East Scotland just outside the 12 nm territorial water limit. The project includes construction, installation, operation and maintenance activities. The project will involve the installation of five 6 MW wind turbine generator ("WTG") units and will be expected to produce up to 135 GWh per year of electricity. The turbines will be positioned between 800 to 1,600 m apart and attached to the seabed by a three-point mooring spread and anchoring system. Three anchors will be required per turbine and the radius of the mooring system will extend 600 to 1,200 m out from each turbine. The anchor and mooring system could be installed up to 18 months prior to the turbines being installed.

The turbines will be connected by inter-array cables which may require stabilisation in some locations. The export cable, which will transport electricity from the Pilot Park to shore at Peterhead, will be buried where seabed conditions allow. Where this is not possible cable protection in the form of concrete mattresses and rock will be required. Both the inter-array and export cables will have 33 kV transfer voltage. The export cable is planned to come ashore at Peterhead and connect to the local distribution network at SSE Peterhead Grange substation. The onshore Project infrastructure will comprise an underground cable approximately 1.5 km in length and a small switchgear yard facility close to Peterhead Grange substation (Figure 2).

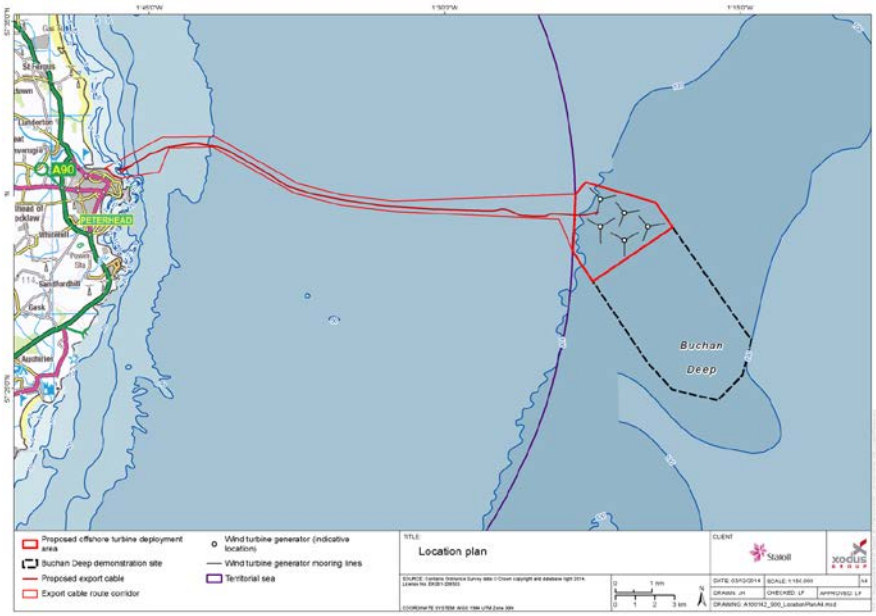

Figure 2. Location of the Hywind Pilot Park Project (figure from the Hywind ES)

In addition to the proposed Pilot Park area and associated offshore and onshore infrastructure, the project will use a deep water inshore area, to assemble the turbines prior to installation. The location of this inshore assembly is still to be decided; however, suitable facilities on the west coast of Norway have been identified. Once assembled, the turbines will be towed in an upright position from the assembly point to the turbine deployment area in the Buchan Deep.

Hywind aims to begin onshore construction in 2015 / 2016 followed by offshore construction in 2016 / 2017. This will allow for final commissioning of the Pilot Park in 2017. The Pilot Park is expected to have an operational life of 20 years and decommissioning will commence in the late 2030's. During the operational phase the Pilot Park will be serviced from a base most likely in Peterhead. The main features of the turbines are summarised in Figure 3 below.

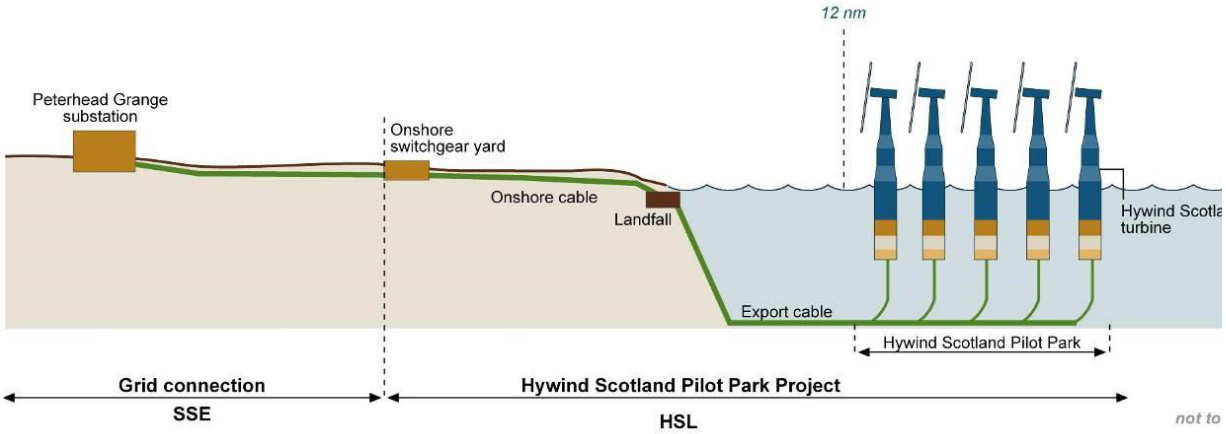

Figure 3. Key components of the Hywind Scotland Pilot Park Project (figure from the Hywind ES)

Full project details are available in the Hywind ES.

ASSESSMENT IN RELATION TO REGULATION 25 OF THE OFFSHORE MARINE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 2007 AND REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994

3a. Is the operation directly connected with or necessary to conservation management of the site?*:*

The operations are not connected with or necessary to conservation management of the sites.

3b. Is the operation likely to have a significant effect on the qualifying interest?

Birds

In section 2.4 of their HRA report Hywind identified a list of species/SPAs where LSE could not be ruled out. From this initial list the SNCBs in their advice dated 3rd July 2015, advised that LSE could not be ruled out for the following species/SPAs:

- herring gull (Buchan Ness to Collieston Coast SPA, collision risk)
- northern gannet (Forth Islands SPA, collision risk)
- black-legged kittiwake (Buchan ness to Collieston Coast SPA, Fowlsheugh SPA, collision risk)
- common guillemot (Buchan Ness to Collieston Coast SPA, displacement)
- razorbill (Fowlsheugh SPA, displacement),
- Atlantic puffin (Forth Islands SPA) and
- seabird assemblages.

The remaining species listed in the SPA citations in 1b are scoped out of further consideration in this AA as no LSE was identified - these species were either not recorded in significant numbers on-site, or else there is no pathway for significant impact and/or there is no connectivity with any SPAs.

Marine Mammals

In section 3 of their HRA report Hywind rule out LSE for all marine mammal species. Grey seal was the most frequently observed seal and third most frequently observed marine mammal during the project specific European Seabirds At Sea ("ESAS") surveys. Grey seal is a qualifying feature of three SACs located sufficiently close that individuals from those populations could potentially forage within the project area, namely the Isle of May SAC, Berwickshire and North Northumberland coast SAC and the Faray and Holm of Faray SAC. However based on the large distances between these SACs and the project area (over 150 km) there is little chance that individuals from SAC populations will be present in the project area and therefore impacted by the project. There are several SACs designated for harbour seal along the east coast, all of which are located sufficiently far from the project study area that there is very little chance that individuals from the SAC populations would be impacted by the project. The SNCBs and MSS advised no LSE for grey or harbour seals.

In their HRA report Hywind stated that the Moray Firth SAC, located approximately 115 km from the project area is one of two sites in the United Kingdom ("UK") designated to protect resident/semi-resident populations of bottlenose dolphin. Whilst 115 km is well within the foraging range of this highly mobile species, long-term studies conducted in the area suggest the species is primarily distributed along the nearshore, with the majority of sightings occurring in depths of less than 20 m and within 2 km of the coast. This observation was borne out in the site-specific ESAS surveys, during which no bottlenose dolphin were observed. As such, it is very unlikely that the project area and surrounding waters where there could be impacts on mammals are used by this species, and thus, very unlikely that they may be impacted.

The SNCBs did not agree with this conclusion for bottlenose dolphin. The SNCBs acknowledged that there were no bottlenose dolphins observed in the offshore WTG site however concluded that there is the potential for LSE from the cable-laying activities close to the coast. There is potential for disturbance to bottlenose dolphins, which travel along this coast between the Moray Firth and the East coast as far south as the Forth/Tay estuaries, from a number of sources: vessel noise, geophysical surveys, trenching and rock/mattress placement.

The sandbank habitat qualifying interest listed in the SAC citation in 1b is scoped out of further consideration in this AA as no LSE was identified.

3c. Appropriate assessment of the implications for the site in view of the site's conservation objectives.

Ornithology

The assessment for birds is based on the project description summarised in Section 2c above, and the wind farm parameters used in the collision risk modelling presented in Section 11.5.3 of the Hywind Environmental Statement.

1. The Scope of In Combination Effects

For certain species, where considered appropriate, in-combination effects have also been considered from projects further afield:

Aberdeen Bay Offshore Wind farm - to be located 2 to 4.5 km off the coast at Blackdog, Aberdeenshire, comprising 11 turbines with a generating capacity of up to 100 MW. This development was consented in 2013 construction has not yet commenced, consent is for a period of 22 years. This proposal is relevant to consider in respect of kittiwake at Buchan Ness to Collieston Coast SPA and Fowlsheugh SPA.

Methil Wind Turbine – located on the coast at Methil, Fife. A single turbine with a generating capacity of up to 7 MW. This development is currently operating and has consent to operate for a period of up to 5 years. This proposal is relevant to consider in respect of gannet at Forth Islands SPA.

Blyth Offshore Wind farm – located just off the Northumberland coast, comprising 2 turbines with a generating capacity of 4 MW. This small development has been operating since 2000. This proposal is relevant to consider in respect of gannet at Forth Islands SPA.

Blyth Offshore Wind Demonstration Site - located just off the Northumberland coast, comprising 15 turbines with a generating capacity of up to 100 MW. This development was consented in 2013. This proposal is relevant to consider in respect of gannet at Forth Islands SPA.

Teesside Offshore Wind farm – located off the coast of Teesside, England, comprising 27 turbines with a generating capacity of 62 MW. Construction was completed in 2013, and the turbines are currently operating. This proposal is relevant to consider in respect of gannet at Forth Islands SPA.

The SNCBs in their advice to MS-LOT dated 6th June 2014 regarding the Forth and Tay wind farms assessment agreed with the inclusion of the above developments in the in-combination assessment. In addition to those above, the developments below also require consideration for the in-combination assessment for Hywind.

Neart na Gaoithe Offshore Wind Farm – to be located approximately 15.5 km to the east of Fife Ness in the outer Firth of Forth, comprising up to 75 turbines with a maximum generating capacity of 450 MW. Consent was granted in October 2014, construction has not

yet commenced, consent is for a period of 25 years.

Inch Cape Offshore Wind Farm – to be located 15 km to the east off the Angus coastline, to the east of the Firth of Tay, comprising up to 110 turbines with a maximum generating capacity of 784 MW. Consent was granted in October 2014, construction has not yet commenced, consent is for a period of 25 years.

Seagreen Alpha and Seagreen Bravo – to be located 27 km and 38 km to the east off the Angus coastline respectively, comprising up to 75 turbines each, with a maximum generating capacity of 525 MW each. Consent was granted in October 2014, construction has not yet commenced, consent is for a period of 25 years.

The Forth and Tay wind farms (Neart na Gaoithe, Inch Cape and Seagreen) are relevant to consider in respect of:

- Black-legged kittiwake at Buchan Ness to Collieston Coast SPA and Fowlsheugh SPA;
- Northern gannet at Forth Islands SPA;
- Herring gull at Buchan Ness to Collieston Coast SPA;
- Atlantic puffin at Forth Islands SPA;
- Common guillemot at Buchan Ness to Collieston Coast SPA;
- Razorbill at Fowlsheugh SPA.

Dogger Bank Creyke Beck A & B, and Teeside A & B – these projects are located on Dogger Bank approximately 130 km off the coast of Yorkshire. Creyke Beck was granted consent in February 2015, and is for up to 400 turbines with a generating capacity of up to 2.4 GW. Consent was granted to Teeside A & B in August 2015, also for up to 400 turbines and a total generating capacity of up to 2.4 GW. These proposals are relevant to consider in respect of gannet at Forth Islands SPA.

Kincardine Offshore wind demonstrator – this development is a commercial demonstrator site which will use floating foundation technology. Located south-east of Aberdeen, 15 km from the coastline. The project which is in the pre-application stage is for 6-8 turbines with a maximum generating capacity of 50 MW. The in-combination effects from this project are not being considered in the AA for Hywind. A further AA will be required for the Kincardine project prior to any consent being granted and that AA will take account of the in-combination effects of Hywind and the other projects above as appropriate.

Forthwind offshore wind demonstrator - this development is a commercial demonstrator site, to be located 1.5 km from the Fife coastline near Methil. The application was received by MS in July 2015 and is currently being considered. The proposal is for 2 turbines with a maximum generating capacity of 9 MW. The in-combination effects from this project are not being considered in the AA for Hywind. A further AA will be required for the Forthwind project prior to any consent being granted and that AA will take account of the in-combination effects of Hywind and the other projects above as appropriate.

2. Assessment Methods

Background information on the bird species considered in this assessment can be found at http://seabird.wikispaces.com/.

As detailed in section 1c, as the potential effects identified occur outside of the SPAs themselves, the relevant conservation objective for each qualifying interest is to “ensure the population of the species as a viable component of the site” is maintained in the long term. In order to assess the potential effects of the Hywind Development, alone and in

combination, on the achievement of this conservation objective the assessments for relevant species involved the estimation of the level of predicted effect, and the setting of a precautionary level of acceptable change to the population given the statutory requirements. Where it can be shown that the populations of all qualifying interests of concern can be maintained within the thresholds of change it can be concluded that the proposed developments will not adversely affect site integrity.

The main effects to bird species are due to:

a. Collision with Turbines (of greatest relevance to species which may regularly fly at the same height as the rotating blades e.g. gulls and gannet), and

b. Displacement and Barrier Effects resulting in birds either being displaced from foraging areas or having to fly around a wind farm to reach a foraging area (of greatest relevance to species with more limited foraging ranges or greater flight energetic costs e.g. kittiwake and puffin).

I. Collision with Turbines

Hywind presented Band Collision Risk Model ("CRM") outputs in their ES, and the SNCBs and MSS support the use of the Band CRM. Band (2012) provides guidance on how to use the CRM for seabird species in respect of offshore wind farms. It includes a 'basic' model (Options 1 and 2) and an 'extended' version (Option 3) as described below:

Option 1 – The 'Basic' model. It assumes a uniform distribution of flight heights and collision risk between lowest and highest levels of the rotors. It also uses figures for the proportion of birds at risk height derived from site-specific surveys.

Option 2 – As Option 1 but the proportion of birds at risk height is derived from modelled flight height data. Johnston et al, (2014 *corrigendum*) provides the most up to date information on modelled flight heights and effectively supersedes the previous flight height model (Cook *et al*, 2012).

Option 3 – The 'Extended' model. This differs methodologically from the 'Basic' model in that it does not assume that the density of flying birds is uniform across all heights between the minimum and maximum rotor swept height. Instead, this option uses flight height values for specific height bands (1 m flight bands by default) from modelled data to calculate collision rate in each part of the rotor swept area and then integrates that across the rotor disk. It accounts for a number of factors that change with height across the rotor swept area which together result in the collision risk varying with height. For example, the breadth of the circle (and therefore the number of birds flying through the circle) varies with height and the collision risk on transit through the swept area also depends on height (due to for example, variation in rotor speed across the radius). If the density of birds in flight also varies with height (as observed in most seabird species) rather than being uniform, then the result is a different number of predicted collisions than if the flight height distribution were assumed to be uniform (as in Options 1 and 2). The author of the Band model has clearly stated that the extended model undertakes the more correct calculation and should be used in preference over the basic model where appropriate flight height data allow (emailed note to Avoidance Rate Review project steering group received 14/05/14).

Option 4 – As Option 3 above, but with flight height data obtained for the site under consideration.

A review of available data on avoidance behaviour by seabirds around wind farms undertaken by the British Trust for Ornithology ("BTO") recommended that, based on

available information for black-legged kittiwake and northern gannet, it was not possible to calculate appropriate avoidance rates for these species to be used with the extended version of the band CRM (Cook *et al,* 2014). This recommendation was supported by the SNCBs in their Joint Response.

The SNCBs advised that for black-legged kittiwake, an avoidance rate of 98.9% i.e. lower than the 99.2% recommended by the BTO for use with the Basic version of the CRM should us used. However, MSS advice in December 2014 was that until new information became available the recommendations made by the BTO, which they consider are precautionary, in terms of CRM version and avoidance rates should be followed.

The SNCBs also advised that collision estimates be calculated for avoidance rates assuming +/- 2 standard deviations ("SD"). Whilst the resultant avoidance rates are presented below (Tables 1 and 4), the assessment does not rely upon the collision rates that would result from the use of the +/- 2 SD avoidance rates. At this stage the assessment merely notes that the BTO indicated that their recommended avoidance rates were precautionary, and considered that the avoidance rate for kittiwake assuming a 2 SD ranged from 97.8% to >100%, and for gannet ranged between 98.7% to 99.1%. The utility of uncertainties around estimated avoidance rates may increase when incorporated into probabilistic collision risk models.

The Forth and Tay assessment for collision mortality was based on the Extended version (Option 3) of the Band model as this was considered to be the most appropriate at the time based on the evidence available. Since that assessment was completed the BTO avoidance rate review which was commissioned by Marine Scotland has recommended that for kittiwake and gannet it has not been possible to recommend avoidance rates using the Extended version of the Band model. As the BTO report is now considered to represent the best available evidence the assessment method differs from that used in the Forth and Tay assessment for kittiwake and gannet as detailed below.

Comparison of the percentage of flights at risk height obtained from site specific survey data with those presented in Johnston et al, 2014 was made by Hywind, and the justification for the use of site specific flight height data is presented in Caloo 2014b. For black-legged kittiwake and northern gannet, this appropriate assessment uses the site specific flight height data as recommended by Caloo 2014b, and used in the Hywind ES. For gannet, use of the generic (Johnston et al, 2014) flight height data would not have made any difference to the collision estimates used, whilst for kittiwake would have resulted in slightly lower collision estimates being used (see Table 8 of Caloo 2014b).

For black-legged kittiwake and northern gannet, collision estimates used in this assessment are calculated using the Basic version of the model, site specific flight height data, and the avoidance rates recommended by the BTO. In order to undertake the assessment of in combination effects, collisions estimates for the recently consented Forth and Tay wind farms (see Forth and Tay AA) were also recalculated using the Basic version of the CRM and BTO recommended avoidance rates.

The scope of the appropriate assessment includes the effects of the offshore windfarm projects during the breeding season on the breeding populations. The population consequences of the collision risk effects on breeding adults resulting in changes to both adult survival rates and productivity rates are considered.

II. Displacement and Barrier Effects

It is recognised that increased activity in a sea area, or the establishment of structures such as wind farms, has the potential to displace birds. Initial monitoring of other European

offshore wind farms shows contrasting results between species and for the same species, (e.g. Leopold *et al*., 2011, Canning *et al*., 2012, Furness *et al*., 2013). Most of this monitoring focuses on the non-breeding season as this is when the wind farms being monitored were considered to have greatest impact. There is little available data to inform assessment of displacement / barrier effects to seabirds during the breeding season. There is limited understanding of the individual or population level consequences of displacement or barrier effects, via increased energetic costs, reduced nest attendance or provisioning of chicks.

The scale of the Hywind project, in combination with the foraging behaviour of many of the seabird species of potential concern makes it appropriate for a qualitative assessment of displacement and barrier effects to be undertaken for the majority of species. Where this is not possible, the method used in the Moray Forth (see e.g. Beatrice offshore wind farm AA) and for Atlantic puffin in the Forth and Tay (see Forth and Tay AA) has been used to quantify effects. The latter approach allows effect on adult survival or productivity to be estimated.

III. Acceptable level of Effect

The thresholds of acceptable change identified for species / SPA combinations of interest are based on the same approaches used by the Forth and Tay regional assessment (see Forth and Tay AA). For kittiwake the effect on productivity from adult collision mortality based on the new CRM option and AR advised by the BTO has been taken into account when setting the adult survival threshold. For the other species/SPA combinations (where less concern from the SNCBs has been raised) the assessment addresses the potential impacts from Hywind qualitatively.

Estimated effects and thresholds of acceptable change are presented within this assessment using a number of metrics in order to aid understanding of the implications of the Hywind project either alone or in combination with other relevant projects.

3. Consideration of SPAs and Qualifying Interests where LSE was Identified

I. Herring gull: Buchan Ness to Collieston Coast SPA

The MSS estimated collision estimate for adult herring gull at Hywind was 0.4 adults per breeding season. The most recent population estimate from 2007 is 6,158 individuals. The SNCBs in their advice dated 3rd July 2015 noted that there are a small number of herring gull collisions (mainly out with the breeding season) and advised that the total number of collisions attributed to Hywind is relatively small compared to the overall size of the populations. Following apportioning of collisions, these values alone are not sufficient to increase mortality rates to a level that would suggest an adverse effect on site integrity. Collision risk modelling carried out for the Forth and Tay wind farms identified practically no effects upon herring gull at Buchan Ness to Collieston Coast SPA. At Aberdeen Bay offshore wind farm the breeding season adult mortality was predicted to be 11 birds of which 2 birds were attributed to Buchan Ness to Collieston Coast SPA.

MS-LOT concludes that the Hywind project will not adversely affect the site integrity of the Buchan Ness to Collieston Coast SPA with respect to herring gull, either alone or in combination with the Forth and Tay offshore wind farms and Aberdeen Bay offshore wind farm.

II. Northern gannet: Forth Islands SPA

Due to the small size of the Hywind project and the wide ranging foraging trips undertaken by gannet (mean 93 km, mean max foraging range 229 km) it is assumed that displacement

and barrier effects upon the SPA population will be negligible. In their advice dated 3rd July 2015, the SNCBs advise that emerging evidence shows gannets to be highly susceptible to disturbance and being displaced from offshore wind farms (Leopold et al, 2013, Vanerman et al, 2013), however given the small footprint of the Hywind Development, they anticipate displacement impacts from this development alone to have a small effect on gannet.

The BTO concluded (page 135 of the BTO Avoidance Rate Report) for gannet that based on the currently available information, only avoidance rates for the Basic version of the Band model could be recommended. The SNCBs produced a response to the BTO review recommendations, advising that the rate advised by the BTO should be used for gannet, and MSS advised that the BTO recommendations should be followed. The BTO recommended and SNCBs advised avoidance rates for gannet, alongside -/+ 1 and 2 standard deviations, are presented in Table 1. For gannet, the application of -/+ 2 SD would result in collision rates approximately 14% above or below the mean values presented.

Table 1: *Northern gannet Avoidance Rates recommended for use with the Basic version of the Band model by the BTO and advised by the SNCBs*.

	Gannet				
Source	**Avoidance Rate**	**-/+ 1SD**		**-/+ 2SD**	
BTO & SNCB	0.989	0.988	0.990	0.987	0.991

For this assessment, the avoidance rates for gannet recommended by the BTO (and advised by the SNCBs) have been used with the Basic version (option 1) of the Band collision risk model to estimate collision rates (Table 2). It is clear from the collision estimate of 4 adults per breeding season for gannet that in isolation the Hywind project will have no adverse effect on site integrity for the Forth Islands SPA.

Table 2: Collision estimates from Hywind for gannet at Forth Islands SPA assuming the BTO recommended (and SNCBs & MSS advised) avoidance rates.

Species	SPA	SPA Population (Inds.)	Collision Risk Model	Avoidance Rate	Hywind collision estimate (ads during breeding season)	Estimated Hywind collision mortality as% of SPA population
Gannet	**Forth Islands**	150000	Basic	98.9%	4	-0.004

In order to undertake a cumulative assessment that includes the recently consented Forth and Tay wind farms, collision estimates for the Forth and Tay have been recalculated using the BTO recommended avoidance rates, and the Basic version (Option 2) of the Band model (for an explanation of why modelled flight height was used for the Forth and Tay rather than site specific see page 67 of the Forth and Tay AA). The results from the collision estimate recalculations for the recently consented Forth and Tay wind farms are incorporated in the revised summary of cumulative effects upon each SPCHAMBER OF A of interest (Table 3). This summary incorporates both displacement effects and those

resulting from collision mortality. For gannet, the Centre for Ecology and Hydrography ("CEH") displacement model (Searle *et al*. 2014) estimated mortality effects per breeding season for each Forth and Tay wind farm and these have been summed (total of 42) and included within the individual project effects.

Application of the BTO advised gannet avoidance rate of 98.9% with the Basic version of the CRM results in an estimate collision mortality from Hywind of 4 adult birds per breeding season, and in combination with the Forth and Tay wind farms a cumulative total of 1009 adult birds per breeding season (Table 3). This is below the cumulative total assumed for the Forth and Tay cumulative assessment of 1169 (and very substantially less that the mortality of 1827 based on the SNCBs previous advice to apply 98% avoidance rate with the Basic version of the CRM). For the Forth and Tay assessments, both the SNCBs and MSS advised a threshold for gannet at Forth Islands SPA of 1300 adults per year. The cumulative total for gannet including Hywind is well below this threshold.

Table 3: *Estimated combined wind farm effects as percentage of SPA population and number of individuals from collision mortality and displacement on gannet from Hywind in isolation and in combination with recently consented offshore wind farms in the Forth and Tay. For context, estimated effects are presented for the original regional assessment undertaken for the Forth and Tay, as well as those assuming the BTO recommended avoidance rates that have been used for this assessment.*

	Gannet			
	Forth Islands			
SPA population (individuals)	110964			
CRM Model	**Basic**		**Extended**	
Avoidance Rate	98.9%		95%	
	No. Inds	% SPA	No. Inds	% SPA
F&T AA Cumulative Effect	1005	-0.91	1169	-1.05
F&T AA Cumulative Counterfactual of Popualtion Size (CPS)	82%		79%	
Hywind Effect	**4**	**0.00**		
F&T + Hywind Cumulative Effect	**1009**	**-0.91**		
F&T + Hywind Cumulative CPS	**82%**			

The cumulative effect of 1009 adult gannet collisions per breeding season would result in a counterfactual of population size ("CPS") after 25 years of 0.82 i.e. 82% of the population forecast to be present after 25 years would be present should the estimated collision rate occur. This compares to a CPS of 0.79 estimated for the Forth and Tay regional assessment, which assumed 95% avoidance rate with the Extended version of the model.

The gannet collision estimate is precautionary in that it does not consider attraction of gannets to vessels (inflating density estimates), the assumption that all birds identified as adult plumaged during surveys were adult and breeding birds, and in the use of the BTO

recommended avoidance rates which the authors indicated were precautionary. The population level effects are precautionary as they are based on a density independent model. Wind farm effects on gannet during the non-breeding season have been considered within the assessment in a qualitative manner due to the lack of a method for apportioning effects during the non-breeding season and on immature age classes to the SPA population. A recent paper (Cleasby et al 2015) has suggested that gannet flight heights may be greater than in currently available flight height distribution (e.g. Johnston et al 2014). This would result in a greater proportion of birds flying at risk height, and therefore greater collision rates than estimated using published flight height distribution data. A number of questions exist over the methods and results presented in Cleasby et al 2015 (see Appendix 1) and the SNCBs have indicated that they are unable to advise on the use of information contained within the paper until clarification is provided on a range of matters (see emails from SNCBs to MS-LOT dated 24.10.15 and to the paper's author Hamer dated 21.10.15). The questions relate to validation of the barometric altimeter data, flight height estimates, at sea densities, and collision modelling and at present it is far from clear if or how the paper's findings could be applied in any assessment. It is also far from clear how the issues identified could be resolved, and over what timescale. Due to the issues identified above, it would be inappropriate to simply multiply existing gannet collision estimates by the values discussed in Cleasby et al. Whilst acknowledging that uncertainty in flight height distribution exists, as discussed above, this Appropriate Assessment is based on a number of precautionary assumptions; the at sea density estimates of gannets used in the CRMs; that all adult plumaged birds are assumed to be part of the breeding population; and density independent population models. Marine Scotland consider that there are outstanding questions regarding the approach adopted by Cleasby et al, and that the associated scientific uncertainties do not enable a consensus view on how to apply the results beyond the consideration given in Appendix 1 of this assessment at this point in time. MS are certain that the Hywind Development in combination with other projects will not adversely affect the integrity of the Forth Islands SPA with respect to gannet; and that is the case where no reasonable scientific doubt remains.

The cumulative total of collisions for gannet using the basic Band model are presented in the appropriate assessments for Blyth Offshore Wind Demonstrator undertaken by the Marine Management Organisation ("MMO") in 2013, for Blyth Offshore Demonstration project combined with the existing offshore turbines at Blyth and the Teesside project. The annual predicted mortality is 30, with the assessment recording that breeding birds would be most likely to be from Bass Rock which is within the Forth Islands SPA. This is a low number when considered against the identified threshold of 1300. The Aberdeen Bay appropriate assessment records up to 17 collisions per year for the Aberdeen Offshore Wind Farm using the basic Band model, and indicates that the majority of these birds are likely to be from Troup Head on the Moray coast. SNH have advised the Planning Inspectorate that the magnitude of effects to Forth Islands SPA from the Dogger Bank Teeside A & B projects during the breeding season is in the order of 1% of the effects associated with the Forth and Tay projects, which is approximately 14 collisions per year.

ICOL have intimated that their design envelope will be revised downward. A number of options have been provided by ICOL, the worst case of which in terms of collision estimates (ICOL scenario B) would result in gannet collisions at ICOL reducing by 35%, and the cumulative total by more than 12%. However, this has not been taken into consideration by this assessment when making conclusions on site integrity.

In their advice dated 3rd July 2015, the SNCBs advised that adverse effect on site integrity could not be ruled out for Forth Islands SPA with respect to gannet, due to the in-combination effects with the Forth and Tay offshore wind farms, for which the SNCBs have previously advised that predicted impacts from consented developments exceed levels that would allow a conclusion of no adverse impact on site integrity. Following consideration of a

re-assessment completed by MSS of the predicted impacts from the Forth and Tay wind farms, using the Basic Band model and the BTO recommended avoidance rates, the SNCBs changed their position and on 3rd September 2015 concluded no adverse effect on site integrity as the revised collision mortality for gannet brings the predicted total mortality apportioned to this population below previously advised thresholds.

As the predicted effects are well below the identified threshold MS-LOT concludes that the Hywind proposal will not adversely affect the site integrity of the Forth Islands SPA with respect to gannet, either alone or in-combination with the recently consented Forth and Tay Offshore Wind Farms, Aberdeen Bay Offshore Wind Farm, Blyth Offshore Wind Demonstrator, the constructed Blyth and Teesside Offshore Wind Farm developments, and the consented projects on Dogger Bank.

III. Black-legged kittiwake: Fowlsheugh SPA, Buchan Ness SPA

Due to the small size of the Hywind project and the wide ranging foraging trips undertaken by kittiwake (mean max foraging range 60 km) it is assumed that displacement and barrier effects upon all of the SPA populations will be negligible. In their advice dated 3rd July 2015, the SNCBs advise that given the small footprint of the Hywind Development, they anticipate displacement impacts from this development alone to have a small effect on kittiwake.

The BTO concluded (page 135 of the BTO Avoidance Rate Report) for kittiwake that based on the currently available information, only avoidance rates for the Basic version of the Band model could be recommended. The SNCBs produced a response to the BTO review recommendations, advising that the "all gulls" rate should be used for kittiwake, though the rationale behind the disregarding the BTO's considered recommendations is not clear. MSS advised that until additional relevant information became available, the avoidance rates recommended by the BTO should be applied for all species. The BTO recommended and SNCBs advised avoidance rates for kittiwake, alongside -/+ 1 and 2 standard deviations, are presented in Table 4. Assuming the avoidance rates recommended by the BTO, for kittiwake, the application of -/+ 2 SD would result in collision rates between zero and approximately 2.7 times the mean value presented.

Table 4: *Kittiwake Avoidance Rates for use with the Basic model recommended by the BTO and advised by the SNCBs.*

		Kittiwake				
Source	**Collision Risk Model**	**Avoidance Rate**	**-/+ 1SD**		**-/+ 2SD**	
BTO	Basic	0.992	0.985	0.999	0.978	1.006
SNCB	Basic	0.989	0.988	0.990	0.987	0.991

For this assessment, the rates recommended by the BTO have been used with the Basic version of the Band collision risk model and site specific flight height data to estimate collision rates (Table 5). For information, the estimates assuming the SNCBs advised avoidance rates are also presented. It is clear from the collision estimates for kittiwake that in isolation the Hywind project will have no adverse effect on site integrity for any of the SPAs under consideration.

Table 5: *Collision estimates from Hywind for kittiwake at Fowlsheugh and Buchan Ness to Collieston Coast SPAs assuming the BTO recommended (and MSS advised), and the SNCBs advised avoidance rates.*

Species	SPA	SPA Population (Inds.)	Collision Risk Model	Avoidance Rate	Hywind collision estimate (ads during breeding season)
Kittiwake	Fowlsheugh	18674	BTO Basic	99.2%	2
			SNCB Basic	98.9%	3
	Buchan Ness	25084	BTO Basic	99.2%	7
			SNCB Basic	98.9%	10

In order to undertake a cumulative assessment that includes the recently consented Forth and Tay wind farms, collision estimates for the Forth and Tay have been recalculated using the BTO recommended avoidance rates, and the Basic version (Option 2) of the Band model. These results are presented in the summary of cumulative effects upon each SPA of interest (Table 6). This summary incorporates both displacement and barrier effects, and adult mortality and productivity effects resulting from collision mortality. Due to synergies within the CEH displacement modelling (Searle *et al*. 2014), for kittiwake the cumulative displacement effects for the Forth and Tay windfarms are not the sum of the individual project effects. For ease of comparison, the estimated effects assuming 95% avoidance rate and the Extended version of the collision risk model that was used in the Forth and Tay regional assessment are also presented. Finally, estimated effects assuming the SNCBs advised avoidance rates have also been presented.

Black-legged kittiwake: Fowlsheugh SPA

For Fowlsheugh SPA application of the BTO advised kittiwake avoidance rate of 99.2% with the Basic version of the CRM results in an estimated collision mortality from Hywind of 3 adult birds per breeding season, or <0.01% of the SPA population. Application of the BTO recommended avoidance rates to the Forth and Tay windfarms results in their effects on Fowlsheugh SPA reducing from the 1.14% reduction in adult survival assumed in that regional assessment, to 0.94%. The Hywind project does not increase the cumulative effect upon the SPA from 0.94% of the SPA population based on effects from the Forth and Tay wind farms only. Application of the SNCBs advised avoidance rate of 98.9% for kittiwake, would result in a cumulative effect total of 1.16% i.e. only fractionally higher than the value assumed in the Forth and Tay regional AA (1.14%).

The in combination productivity effect on Fowlsheugh SPA from the Forth and Tay wind farms in combination with Hywind was an estimated reduction in productivity of 2.14% (1.67% from the CEH displacement model plus a precautionary 0.57% reduction based on the CRM adult mortality estimates).

Table 6: *Estimated combined wind farm adult kittiwake mortality effects as percentage of Fowlsheugh SPA population and number of individuals resulting from collision and displacement effects from Hywind in isolation, and in combination with recently consented offshore wind farms in the Forth and Tay. For context, estimated effects are presented for the original regional assessment undertaken for the Forth and Tay as well as those assuming the BTO recommended avoidance rates that have been used for this assessment. The productivity effects assumed in this assessment are also presented (see text).*

Fowlsheugh : Kittiwake						
SPA population (Individuals)	**18674**					
	Hywind		**F&T Cumulative**		**Hywind + F&T CIA**	
	% SPA	**Inds**	**% SPA**	**Inds**	**% SPA**	**Inds**
Displacement effects (CEH displacement model, flat prey map)						
Adult survival	**0.00**	**0**	**-0.35**	**-66**	**-0.35**	**-66**
Chick survival	**0.00**	**0**	**-1.67**	**-156**	**-1.67**	**-156**
Collision Effects (Band CRM)						
Option 3 95% (as in F&T Assessment)			-0.81	-151		
Option 2 98.9% (SNCB advice)	0.00	-4	-0.80	-150	-0.80	-154
Option 2 99.2% (BTO recommendation)	**0.00**	**-3**	**-0.58**	**-109**	**-0.58**	**-112**
Total Effects						
Adult Survival (F&T AA, Extended CRM, 95%)			-1.14	-212		
Adult Survival (SNCB advised Basic CRM, 98.9%)	0.00	-4	-1.16	-216	-1.16	-220
Adult Survival (BTO recommended Basic CRM, 99.2%)	**0.00**	**-3**	**-0.94**	**-175**	**-0.94**	**-178**
Productivity effect assumed (1.67%+0.57% based on 99.2% AR)	**0.00**	**0**	**-2.24**	**-418**	**-2.24**	**-418**

For the Forth and Tay assessments, both the SNCBs and MSS advised a threshold for kittiwake at Fowlsheugh SPA of a 1.3% reduction in adult survival and a 2.3 % reduction in productivity.

Based on the population forecasts from the CEH Population Viability Analysis ("PVA") report, the estimated adult mortality and productivity effects described above would result in a CPS value of between 0.62 and 0.82 (based on the CEH displacement model scenarios that assumed 1% adult survival + 1% productivity, or 2% adult survival and 5% productivity respectively). For context, the CEH population model forecasts that after 25 years the Fowlsheugh kittiwake population will decline by 85% in the absence of any wind farm effects. The RSPB have suggested previously that climate change is a key driver of declines in UK seabird populations, including kittiwake, and this has been supported by a number of studies (Carroll et al 2015; Frederiksen et al 2007).

Black-legged kittiwake: Buchan Ness SPA

Application of the BTO advised kittiwake avoidance rate of 99.2% with the Basic version of the CRM results in an estimate collision mortality at Buchan Ness SPA from Hywind of 7 adult birds per breeding season, or <0.01% of the SPA population (Table 7).

Application of the BTO recommended avoidance rate for kittiwake of 99.2% with the Basic version of the collision risk model results in the cumulative effects on Buchan Ness SPA from the Forth and Tay wind farms reducing from the 0.07% reduction in adult survival assumed in that regional assessment, to 0.05%.

The addition of the Hywind effects to the in combination assessment does not meaningfully increase the cumulative effect upon the SPA from 0.05% reduction in adult survival of the SPA population assumed in the Forth and Tay regional assessment. Application of the SNCBs advised avoidance rate of 98.9% for kittiwake, would result in a cumulative effect total of a 0.07% reduction on adult survival of the SPA population.

The productivity effect estimated for the Forth and Tay wind farms in combination with Hywind was negligible.

Table 7: *Estimated combined wind farm adult kittiwake mortality effects as percentage of Buchan Ness SPA population and number of individuals resulting from collision and displacement effects from Hywind in isolation, and in combination with recently consented offshore wind farms in the Forth and Tay. For context, estimated effects are presented for the original regional assessment undertaken for the Forth and Tay as well as those assuming the BTO recommended avoidance rates that have been used for this assessment. The productivity effects assumed in this assessment are also presented (see text).*

Buchan Ness : kittiwake						
SPA population (Individuals)	**25084**					
	Hywind		**F&T Cumulative**		**Hywind + F&T CIA**	
	% SPA	**Inds**	**% SPA**	**Inds**	**% SPA**	**Inds**
Displacement effects (CEH displacement model, flat prey map)						
Adult survival	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**
Chick survival	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**
Collision Effects (Band CRM)						
Option 3 95% (as in F&T Assessment)			-0.07	-17		
Option 2 98.9% (SNCB advice)	0.00	-10	-0.07	-17	-0.07	-27
Option 2 99.2% (BTO recommendation)	**0.00**	**-7**	**-0.05**	**-12**	**-0.05**	**-19**
Total Effects						
Adult Survival (F&T AA, Extended CRM, 95%)			-0.07	-17		
Adult Survival (SNCB advised Basic CRM, 98.9%)	0.00	-10	-0.07	-17	-0.07	-27
Adult Survival (BTO recommended Basic CRM, 99.2%)	**0.00**	**-7**	**-0.05**	**-12**	**-0.05**	**-19**
Productivity effect assumed	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**

For the Forth and Tay assessments, both the SNCBs and MSS advised a threshold for kittiwake at Buchan Ness SPA of a 1.6% reduction in adult survival and a 3.2 % reduction in productivity. The estimated magnitude of effect from Hywind in combination with the consented Forth and Tay wind farms is well below these thresholds.

The cumulative effect of a loss of 19 adult kittiwake during the breeding season (with the magnitude of the effect changing relative to changes in the size of the population over time) would result in a CPS after 25 years of >0.99 i.e. >99% of the population forecast to be present after 25 years in the absence of any wind farm effects would be present should the estimated wind farm effects occur. This compares to a CPS of 0.99 estimated for the Forth and Tay regional assessment, which assumed 95% avoidance rate with the Extended version of the model. A CPS value of 0.99 is derived when the SNCB advised avoidance rate of 98.9% is used rather than the BTO recommended rate of 99.2%.

The kittiwake collision estimate is precautionary in that it does not consider attraction of kittiwake to vessels (inflating density estimates), and in the use of the BTO recommended avoidance rates which the authors indicated are precautionary. The population level effects are precautionary as they are based on a density independent model. Wind farm effects on kittiwake during the non-breeding season have been considered within the assessment in a qualitative manner due to the lack of a method for apportioning effects during the non-breeding season and on immature age classes to the SPA population.

Other projects whose potential for cumulative effects are given more qualitative consideration are the offshore wind demonstration projects at Aberdeen Bay and Methil. Collision risk modelling has been undertaken for these sites using the Basic Band model. The Methil turbine is estimated to have less than 2 kittiwake collide per year. At Aberdeen Bay Offshore Wind farm the breeding season adult mortality was predicted to be 25 birds which is attributable to Buchan Ness to Collieston Coast SPA (19 birds) and Fowlsheugh SPA (6 birds), equating to 0.008% of the populations at each SPA.

ICOL have intimated that their design envelope will be revised downward. A number of options have been provided by ICOL and the worst of these in terms of estimated collisions (ICOL scenario B), would result in kittiwake collisions at ICOL reducing by more than 30%, and the cumulative total by c. 4%. However, this has not been taken into consideration by this assessment when making conclusions on site integrity.

On the 3rd July 2015 the SNCBs advised that adverse effect on site integrity could not be ruled out for Fowlsheugh SPA with respect to kittiwake, due to the in-combination effects with the Forth and Tay offshore wind farms, for which the SNCBs have previously advised that predicted impacts from consented developments exceed levels that would allow a conclusion of no adverse effect on site integrity. Following their consideration of the MSS re-assessment of the predicted impacts on kittiwake using the Basic Band model and the BTO and SNCBs recommended avoidance rates, the SNCBs on the 3rd September maintained their position that adverse effect on site integrity could not be ruled out as in their view the predicted effects exceeded the identified threshold. In addition the SNCBs advised that there may be an “unknown” amount of additional mortality out with the breeding season which is not accounted for so that thresholds should not be regarded as limits that can be approached as closely as possible. Following a teleconference between MSS and the SNCBs on the 21st September 2015, to discuss the kittiwake predicted mortality, further advice was received on the 24th September 2015. The SNCBs accepted the mortality figures for kittiwake estimated by MSS and agreed that these were below the threshold applied in the Forth and Tay AA. The SNCBs did advise that the kittiwake population at Fowlsheugh is in decline and that, while the drivers of this decline are unclear, additional mortality over and above that from the consented Forth & Tay wind farms will further contribute to the decline.

As the predicted effects (using both the MSS advised and SNCBs advised avoidance rates) are well below the identified thresholds MS-LOT conclude that the Hywind proposal will not adversely affect the site integrity of the Fowlsheugh or Buchan

Ness to Collieston Coast SPAs with respect to kittiwake, either alone or in-combination with the recently consented Forth and Tay Offshore Wind Farms, Aberdeen Bay Offshore Wind Farm and the constructed Methil turbine. MS-LOT consider that there is adequate precaution built into the assessment, and that the predicted effects are sufficiently below the identified threshold so that considering the potential for impacts out with the breeding season would not change this conclusion.

IV. Common guillemot: Buchan Ness to Collieston Coast SPA

Hywind, in their HRA document estimate the effects of displacement during the breeding season on guillemot in a precautionary way. Assumptions are made that all displaced birds are adults and the breeding attempt fails if birds are displaced, and the general displacement rate for birds is also set at 50%. The SNCBs advised that using this precautionary approach, they do not consider there to be an adverse impact on site integrity from the project alone.

The AA for the Forth and Tay developments concluded that there would be negligible effects from displacement on the Buchan Ness to Collieston Coast SPA. The Aberdeen Bay development estimates displacing between 30 and 298 guillemots during the breeding season. For the Hywind project it is estimated up to 85 guillemots will be displaced during the breeding season, resulting in a cumulative effect of 249 displaced birds (when taking the mid-point of the estimated range for the Aberdeen Bay wind farm). Hywind estimated that this equates to a reduction in breeding success of up to 1.9%(but note highly precautionary methods) .

Due to the high densities of auks during the post-fledging dispersal period, MSS has also considered potential effects at this time within this assessment. During August 2013, the upper 95% confidence limit of guillemots in the Hywind site +1 km buffer was 3,169 individuals. The appropriate Biologically Defined Minimum Population Scales ("BDMPS") during this time is 1,616,306 birds of all ages, or 921,294 adults (Furness, 2015), suggesting that the population estimate for the Hywind site + 1 km buffer represented 0.2% or 0.3% of the relevant reference population respectively. The size of the Hywind project in combination with the highly mobile nature of guillemots during the non-breeding season indicates that the displacement and barrier effects on adults would not be significant.

During July, up to 18% of guillemots observed during the post-fledging period were seen accompanying dependent young, reducing to 1% during August. Whilst not able to fly when still dependent upon the adult, fledged guillemots disperse relatively rapidly over large distances (Camphuysen, 2002; Pennington et al., 2004). It is therefore reasonable to conclude that once operational the Hywind project will not have a significant negative effect upon the SPA. There is the risk that any construction activities during July-August may have the potential to negatively impact post-fledging birds. Hywind installation is expected to be carried out over a 21 month period, although the period of time that vessels will be on site is significantly less than this. The Hywind ES anticipates that the mooring system will be installed first, this is expected to take between 15-20 days. Following this it is estimated to take 8 hours to connect each of the 5 turbines to the mooring lines. Installation of the inter array cabling is expected to take between 10 to 15 days. The SNCBs in their advice dated 3rd July 2015 advised that disturbance by shipping is not likely to result in an adverse effect on site integrity, however suggested mitigation in the form of a vessel management plan to manage scheduled maintenance, construction and decommissioning traffic during July/August, when it is possible that post-breeding adult and chick dispersal is occurring and significant numbers of birds are at risk of being disturbed around the structures.

MS-LOT conclude that the Hywind proposal will not adversely affect the site integrity

of the Buchan Ness to Collieston Coast SPA with respect to guillemot, either alone or in-combination with the recently consented Forth and Tay Offshore Wind Farms or Aberdeen Bay Offshore Wind Farm if the conditions specified in section 3d are complied with.

V. Razorbill: Fowlsheugh SPA

Hywind used the same assumptions as guillemot (see above) when estimating displacement effects on razorbill, so again their assessment was precautionary, and the SNCBs advised that they do not consider there to be an adverse impact on site integrity from the project alone.

The AA for the Forth and Tay developments concluded that there would be practically no effects from displacement on the Fowlsheugh SPA. The Aberdeen Bay development estimates displacing between 3 and 30 razorbill during the breeding season. For the Hywind project it is estimated up to 4 razorbill will be displaced during the breeding season, resulting in a cumulative effect of 21 displaced birds (when taking the mid-point of the estimated range for the Aberdeen Bay wind farm). Hywind estimated that this equates to a reduction in breeding success of up to 0.6% (but note highly precautionary methods).

Due to the high densities of auks during the post-fledging dispersal period, MSS has also considered potential effects at this time within this assessment. During August 2013, the upper 95% confidence limit of razorbill in the Hywind site +1 km buffer was 1,085 individuals. The appropriate BDMPS population during this time is 591,874 birds of all ages, or 337,368 adults (Furness, 2015), suggesting that the population estimate for Hywind + 1 km buffer represented 0.2% or 0.3% of the relevant reference population respectively. The size of the Hywind project in combination with the highly mobile nature of razorbill during the non-breeding season indicates that the displacement and barrier effects on adults would not be significant.

During July, up to 19% of razorbills observed during the post-fledging period were seen accompanying dependent young, reducing substantially by early August, and to zero in late August 2014. Whilst not able to fly when still dependent upon the adult, fledged razorbills disperse relatively rapidly over large distances. It is therefore reasonable to conclude that once operational the Hywind project will not have a significant negative effect upon the SPA. There is the risk that any construction activities during July-August has the potential to negatively impact the post-fledging birds. Hywind installation is expected to be carried out over a 21 month period, although the period of time that vessels will be on site is significantly less than this. The Hywind ES anticipates that the mooring system will be installed first, this is expected to take between 15-20 days. Following this it is estimated to take 8 hours to connect each of the 5 turbines to the mooring lines. Installation of the inter array cabling is expected to take between 10 to 15 days. The SNCBs in their advice dated 3rd July 2015 advised that disturbance by shipping is not likely to result in an adverse effect on site integrity, however suggested mitigation in the form of a vessel management plan to manage scheduled maintenance, construction and decommissioning traffic during July/August, when it is possible that post-breeding adult and chick dispersal is occurring and significant numbers of birds are at risk of being disturbed around the structures.

MS-LOT conclude that the Hywind proposal will not adversely affect the site integrity of the Fowlsheugh SPA with respect to razorbill, either alone or in-combination with the recently consented Forth and Tay Offshore Wind Farms or Aberdeen Bay Offshore Wind Farm if the conditions specified in section 3d are complied with.

VI. Atlantic puffin: Forth Islands SPA

For Atlantic puffin, this assessment uses the same 'common currency' approach used in the Forth and Tay regional assessment, and for the cumulative assessment combines the estimated effects from Hywind with those presented in appendix 4 of the Forth and Tay regional assessment. The application of the SNH apportioning tool suggested that 64% of breeding adult puffin present at Hywind were from the Forth Islands SPA, approximately 150 km to the South. The maximum foraging distance reported for puffin was 200 km, with a mean max foraging range of 105 km in Thaxter et al (2012). In the CEH displacement model for the Forth and Tay region (including the Forth Islands SPA), a maximum foraging range of 105 km was deemed appropriate for the species. The combination of the relatively high number of birds found in the Hywind area and the site's distance from Forth Islands SPA, makes it highly likely that a greater proportion of birds observed at the Hywind site were either immature or non-breeding adults than was assumed in the Forth and Tay regional assessment (35% non-breeding and/or immature). However, this assessment assumes the same values as in the Forth and Tay, and so should be viewed as highly precautionary. This assessment also assumes a displacement rate of 60% within the development footprint and 1 km buffer, and so ignores any reduction in displacement rate that may result from lower turbine density or reduced wind farm profile (SNCB advice on Forth and Tay dated 17th June 2014, 4th July 2014 & 16th July 2014).

In recognition of the distance between the Hywind project and the Forth Islands SPA (a round trip of 300 km to/ from Hywind), it is assumed for puffin that the barrier effects from the project will be small in comparison to those estimated in the CEH Forth and Tay displacement model. The relatively small scale of the Hywind project (15 km^2), alongside the large distance from the Forth Islands SPA, would suggest that the displacement effects from the Hywind project would also be less than those estimated in the Forth and Tay displacement model. For this assessment (Table 7) it is therefore assumed that of the breeding adult birds from the Forth Islands SPA that are displaced by the Hywind project, either 10% will die or 40% will fail to breed successfully (the precautionary values used in the Forth and Tay AA were 50% and 100% respectively due to the closer proximity of those projects to the SPA). This is considered to be highly precautionary considering the distance between Hywind and the SPA, and the size of the Hywind project. The SNCBs advice of September 3 2015 suggested that a similar reduction on effects upon puffin due to distance from the SPA should be adopted for Seagreen Alpha and Seagreen Bravo. However, this appropriate assessment assumes within the common 'currency approach' for puffin the same level of effect at Seagreen Alpha and Bravo as was assumed in the Forth and Tay regional Assessment, and so should be seen as adding further precaution to the assessment.

Table 8: *Displacement/barrier effects on Atlantic puffin at Forth Islands SPA from Hywind in isolation and in combination with the consented Forth and Tay offshore wind farms*

	Hywind		Forth & Tay Regional Assessment	Cumulative Total	SPA Populatio (inds)
Mean Seasonal Max		**138**		**13681**	100564
Proportion displaced	0.6	**83**		**6389**	
Prop SPA	0.64	**53**		**6264**	
Prop non-breeding and/or immature	0.35	**34**		**4072**	
Prop Die	0.1	**3**	2021	**2024**	
Prop fail to breed successfully	0.4	**14**	4043	**4054**	

It is clear from Table 8 that in isolation the Hywind project, with a highly precautionary

estimated effect of an additional 3 dead adults or 14 pairs that fail to breed successfully, will not adversely affect the integrity of the Forth Islands SPA.

The in combination effects from Hywind and the Forth and Tay wind farms are also considered by MSS to be acceptable. Population modelling carried out for puffin by MacArthur Green (Trinder 2014) in relation to the Forth and Tay wind farms demonstrated that magnitudes of change due to displacement do not increase the risk of the population declining during the period of effects to levels that differ meaningfully from baseline conditions.

On the 3rd July 2015 the SNCBs advised that adverse effect on site integrity could not be ruled out for Forth Islands SPA with respect to puffin, due to the in-combination effects with the Forth and Tay offshore wind farms, for which the SNCBs have previously advised that predicted impacts from consented developments exceed levels that would allow a conclusion of no adverse impact on site integrity. Following their consideration of the MSS assessment of the predicted impacts on puffin the SNCBs on the 3rd September maintained their position that adverse effect on site integrity could not be ruled out as in their view the predicted effects exceed the level which they considered acceptable.

The AA for the Forth and Tay concluded no adverse effect on site integrity having considered the different assessment methods used by MSS and the SNCBs. MS-LOT considered that the justification provided by MSS on the use of the common currency for estimating effects and the MacArthur Green model for looking at the population consequences used the best available evidence and the most suitable techniques. The Hywind project is adding only a very small additional effect to that already predicted from the Forth and Tay wind farms. MS-LOT conclude that the Hywind proposal will not adversely affect the site integrity of the Forth Islands SPA with respect to puffin, either alone or in-combination with the recently consented Forth and Tay Offshore Wind Farms.

Marine Mammals

VII. Bottlenose dolphin: Moray Firth SAC

No piling operations will take place as part of the Hywind Development and noise levels are unlikely to exceed injury/disturbance levels for bottlenose dolphin. The SNCBs in their advice dated 3rd July 2015 agreed with the conclusions reached by Hywind that the risk of injury or disturbance to marine mammals is low. They also agreed with the assessments of the risk of entanglement and of corkscrew fatalities.

Within inshore waters, SNH do not agree with the ES conclusion of no LSE on bottlenose dolphins from the Moray Firth SAC. Whilst there are few, if any, bottlenose dolphins observed / likely to be within the offshore wind farm site, the same is not true of the cable route. There is potential for disturbance to bottlenose dolphins, which travel along this coast between the Moray Firth and the East coast as far south as the Forth/Tay estuaries, from a number of sources: vessel noise, geophysical surveys, trenching and rock/mattress placement. However, due to the temporary nature of the activity, and the relatively localised nature of the disturbance (and low risk of injury), SNH advise that there would be no adverse impact on site integrity.

All the offshore wind farms consented thus far by Scottish Ministers have been identified as having LSE on the bottlenose dolphin qualifying feature of the Moray Firth SAC. The only one of these which may overlap time wise with the installation of the Hywind cable is the Beatrice offshore wind farm. A comprehensive cumulative assessment was undertaken in

the Forth and Tay regional assessment which included modelling work by Prof Paul Thompson on the effects of disturbance from the offshore wind farms on the bottlenose dolphin population. The conclusion was that there would be no adverse effect on site integrity of the Moray Firth SAC. MS-LOT consider that the installation of the Hywind cable will not add to the effects predicted on the bottlenose dolphin population in any measurable way. In addition consented port developments and dredging operations in the Moray Firth all have strict licencing conditions to mitigate against impacts on marine mammals.

MS-LOT conclude that the Hywind proposal will not adversely affect the site integrity of the Moray Firth SAC with respect to bottlenose dolphin, either alone or in-combination with the recently consented offshore wind farms in the Forth and Tay and Moray Firth or any port developments or dredging operations in the Moray Firth.

Consideration of draft designations

Scottish Ministers are currently considering advice received from the SNCBs on sites suitable for designation as SPAs and SACs, these sites are currently given "draft" status (dSPAs and dSACs). Once Ministers have agreed the case for the draft designations to be the subject of a public consultation, the proposals will be given the status of 'pSPA and pSAC' and will receive policy protection from that point forward until a decision on classification of the sites are made. This policy protection for proposed sites is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the National Marine Plan for Scotland (paragraph 4.45).

Regulation 27(1) of the Offshore Marine Conservation (natural Habitats, &c.) Regulations 2007 requires that:

"Where, before the date on which a site becomes a European offshore marine site, a competent authority has decided to undertake, or has given any consent, permission or other authorisation for, a plan or project to which regulation 25(1) would apply if it were to be considered at that date, the authority must as soon as reasonably practicable after that date review its decision, or as the case may be, consent, permission or other authorisation."

Therefore if these sites become designated and LSE is identified then it will be necessary to complete a further AA and depending on the findings of the AA, either affirm, modify or revoke the consent.

In their email of 3rd September 2015 the SNCBs advised that there was the potential for connectivity of the Hywind project with:

- Forth Bay Complex dSPA with respect to gannet, puffin and manx shearwater;
- Ythan Estuary dSPA (for the cable route) with respect to sandwich tern; and
- Moray Firth dSAC (for the cable route) with respect to harbour porpoise.

The SNCBs advised that they will not be in a position to provide further advice on potential impacts from the Hywind Development on the draft designations until the draft conservation objectives have been finalised following the consultation.

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Conclusions

Having determined that the Hywind Development will not have a negative effect on the constitutive elements of the sites concerned, on having regard to the reasons for which the sites were designated and their associated conservation objectives, MS-LOT concludes that the proposed development will not, on its own or in combination with other developments already licensed (including the Forth and Tay offshore wind farms) adversely affect the integrity of the Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA, Forth Islands SPA or Moray Firth SAC (where each SPA or SAC is taken as a whole), subject to the compliance of conditions.

Following MSS advice, MS-LOT consider that the most up to date and best scientific evidence available has been used in reaching the conclusion that any decision to approve the Hywind Development will not adversely affect the integrity of the sites concerned and are satisfied that no reasonable scientific doubt remains.

3d. Conditions required.

The conditions below relate to natura concerns as well as covering interests. The conditions here are written in their complete form and so may also refer to non-natura interests. Where reference is made to other conditions these are numbered as per the condition numbers which will be used in the marine licence if the licence is to be granted.

1). Project Environmental Monitoring Programme ("PEMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, to submit a PEMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the Joint Nature Conservation Committee ("JNCC"), the Scottish Natural Heritage ("SNH"), Marine Scotland Science ("MSS"), the Dee District Salmon Fishery Board ("DeeDSFB") and any other ecological advisors or organisations as required at the discretion of the Licensing Authority. The PEMP must be in accordance with the Application as it relates to environmental monitoring.

The PEMP must set out measures by which the Licensee must monitor the environmental

impacts of the Works. Monitoring is required throughout the lifespan of the Works where this is deemed necessary by the Licensing Authority. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

Monitoring must be done in such a way as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Works. Monitoring may also serve the purpose of verifying key predictions in the Application. Additional monitoring may be required in the event that further potential adverse environmental effects are identified for which no predictions were made in the Application.

The Licensing Authority may agree that monitoring may be reduced or cease before the end of the lifespan of the Works.

The PEMP must cover, but not be limited to the following matters:

a) Pre-construction, construction (if considered appropriate by the Licensing Authority) and post-construction monitoring surveys as relevant in terms of the Application and any subsequent surveys for:

    1. birds;
    2. non-native species;
    3. diadromous fish;
    4. benthic communities; and
    5. seabed scour and local sediment deposition.

b) The participation by the Licensee in a National Strategic Bird Monitoring Framework ("NSBMF") and surveys to be carried out in relation to regional and / or strategic bird monitoring which may include but not necessarily limited to:

    1. the avoidance behaviour of breeding seabirds around turbines;
    2. flight height distributions of seabirds at wind farm sites;
    3. displacement of auk species from wind farm sites; and
    4. effects on survival and productivity at relevant breeding colonies.

All initial methodologies for the above monitoring must be approved, in writing, by the Licensing Authority and, where appropriate, in consultation with the Forth and Tay Regional Advisory Group ("FTRAG"), referred to in condition 3.2.1.4 of this licence. Any pre-consent surveys carried out by the Licensee to address any of the above species may be used in part to discharge this condition subject to the written approval by the Scottish Ministers.

The PEMP is a live document and must be regularly reviewed by the Licensing Authority, at timescales to be determined by the Licensing Authority, in consultation with the FTRAG to identify the appropriateness of on-going monitoring. Following such reviews, the Licensing Authority may, in consultation with the FTRAG, require the Licensee to amend the PEMP and submit such an amended PEMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation with FTRAG and any other ecological, or such other advisors as may be required at the discretion of the Licensing Authority. The PEMP, as amended from time to time, must be fully implemented by the Licensee at all times.

The Licensee must submit written reports and associated raw data of such monitoring surveys to the Licensing Authority at timescales to be determined by the Licensing Authority in consultation with the FTRAG. Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Licensing Authority, or by such other party appointed at their discretion.

Reason: To ensure that appropriate and effective monitoring of the impacts of the development is undertaken

2). Environmental Management Plan ("EMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit an EMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, Aberdeenshire Council ("AC") and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The EMP must set out a mechanism for the approval process for all proposed updates to the EMP. This must include, but not be limited to, a programme for the consideration of the consultation on, and any subsequent grant of approval of the proposed updated EMP, to be agreed in writing between the Licensee and the Licensing Authority.

The EMP must provide the over-arching framework for on-site environmental management during the phases of the Works as follows:

a) all construction as required to be undertaken before the Final Commissioning of the Works; and
b) the operational lifespan of the Works from the Final Commissioning of the Works until the cessation of electricity transmission (environmental management during decommissioning is addressed by condition 3.2.2.3).

The EMP must be in accordance with the Application as it relates to environmental management measures. The EMP must set out the roles, responsibilities and chain of command of any Licensee personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the Works. It must address, but not be limited to, the following over-arching requirements for environmental management:

g) mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the Application and pre-consent and pre-construction surveys, and include the relevant parts of the Construction Method Statement ("CMS");
h) a completed Written Scheme of Investigation ("WSI") approved by Historic Scotland;
i) pollution prevention measures and contingency plans;
j) management measures to prevent the introduction of marine non-native marine species;
k) measures to minimise, recycle, reuse and dispose of waste streams; and
l) the methods for responding to environmental incidents and the reporting mechanisms that will be used to provide the Licensing Authority and relevant stakeholders (including, but not limited to, the JNCC, SNH, SEPA, Maritime and Coastguard Agency ("MCA") and the Northern Lighthouse Board ("NLB")) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The Licensee must, no later than 3 months prior to the Final Commissioning of the Works, submit an updated EMP, in writing, to cover the operation and maintenance activities for the Works to the Licensing Authority for their written approval. Such approval may be given only following consultation with the JNCC, SNH, SEPA, AC and any such other advisors or

organisations as may be required at the discretion of the Licensing Authority. The EMP must be regularly reviewed by the Licensee and the FTRAG (refer to condition 3.2.1.4) over the lifespan of the Works, and be kept up to date (in relation to the likes of construction methods and operations of the Works in terms of up to date working practices) by the Licensee in consultation with the FTRAG.

The EMP must be informed, so far as is reasonably practicable, by the baseline surveys undertaken as part of the Application and the PEMP.

Reason: To mitigate the impacts on the Natura interests during construction and operation.

3). Forth and Tay Regional Advisory Group ("FTRAG")

The Licensee must participate in the FTRAG established by the Licensing Authority for the purpose of advising the Licensing Authority on research, monitoring and mitigation programmes for, but not limited to, non-native species, ornithology, marine mammals and commercial fish species. Should a Scottish Strategic Marine Environment Group ("SSMEG") be established (refer to condition 3.2.1.5), the responsibilities and obligations being delivered by the FTRAG will be subsumed by the SSMEG at a timescale to be determined by the Licensing Authority.

Reason: To ensure effective environmental monitoring and mitigation is undertaken at a regional scale

4). Scottish Strategic Marine Environment Group ("SSMEG")

The Licensee must participate in any SSMEG established by the Licensing Authority for the purposes of advising the Licensing Authority on research, monitoring and mitigation programmes for, but not limited to, non-native species, ornithology, marine mammals and commercial fish species.

Reason: To ensure effective environmental monitoring and mitigation is undertaken at a national scale

5.) National Research and Monitoring Strategy for Diadromous Fish ("NRMSD")

The Licensee must, to the satisfaction of the Scottish Ministers, participate in the monitoring requirements as laid out in the NRMSD so far as they apply at a local level. The extent and nature of the Licensee's participation is to be agreed by the Scottish Ministers in consultation with the FTRAG.

Reason: To ensure effective monitoring of the effects on migratory fish at a local level.

6). Construction Programme ("CoP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CoP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The CoP must set out:

a) the proposed date for Commencement of the Works;
b) the proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;
c) the proposed timings and sequencing of construction work for all elements of the Works infrastructure;
d) contingency planning for poor weather or other unforeseen delays; and
e) the scheduled date for Final Commissioning of the Works.

The Licensee must, prior to the Commencement of the Works, provide a copy of the final CoP, and any subsequent revisions as agreed by the Licensing Authority, to BP Exploration Operating Company Limited ("BP"), Defence Geographic Centre ("DGC") and the Ministry of Defence ("MOD").

Reason: To confirm the timing and programming of construction.

7). Construction Method Statement ("CMS")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CMS, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CMS must set out the construction procedures and good working practices for constructing the Works. The CMS must also include details of the roles and responsibilities, chain of command and contact details of company personnel, any contractors or sub-contractors involved during the construction of the Works. The CMS must be in accordance with the construction methods assessed in the Application and must include details of how the construction related mitigation steps proposed in the Application are to be delivered.

The Works must, at all times, be constructed in accordance with the approved CMS (as updated and amended from time to time by the Licensee). The CMS must, so far as is reasonably practicable, be consistent with the Development Specification and Layout Plan ("DSLP") the EMP, the Vessel Management Plan ("VMP"), the Navigational Safety Plan ("NSP"), the Cable Plan ("CaP") and the Lighting and Marking Plan ("LMP").

Reason: To ensure the appropriate construction management of the development, taking into account mitigation measures to protect Natura interests

8). Vessel Management Plan ("VMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a VMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, MCA, NLB, CAA, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority.

The VMP must include, but not be limited to, the following details:

a) the number, types and specification of vessels required;
b) working practices to minimise disturbance to auk species during July / August;
c) how vessel management will be coordinated, particularly during construction but also during operation;

d) location of working port(s), how often vessels will be required to transit between port(s) and the Site and indicative vessel transit corridors proposed to be used; and
e) any required aviation lighting fitted to turbines during tow to site.

The confirmed individual vessel details must be notified to the Licensing Authority in writing no later than 14 days prior to the Commencement of the Works, and thereafter, any changes to the details supplied must be notified to the Licensing Authority, as soon as practicable, prior to any such change being implemented in the construction or operation of the Works.

The VMP must, so far as is reasonably practicable, be consistent with the CMS, the DSLP the EMP, the PEMP, the Navigational Safety Plan ("NSP"), and the Lighting and Marking Plan ("LMP").

Reason: To mitigate disturbance to birds

9). Operation and Maintenance Programme ("OMP")

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit an OMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The OMP must set out the procedures and good working practices for the operations and maintenance of the WTG, substructures, and cable network of the Works. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

The OMP must, so far as is reasonably practicable, be consistent with the EMP, the PEMP, the VMP, the NSP, the CaP and the LMP.

Reason: To safeguard Natura interests during operation of the offshore generating station.

10). Cable Plan (CaP)

The Licensee must, no later than 6 months, or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a CaP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, AC, MSS, MCA, and the SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CaP must be in accordance with the Application.

The CaP must include but not be limited to the following:

a) details of the location and cable laying techniques for the export cable and inter-array cable;
b) the results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
c) a pre-construction survey for Annex 1 habitat and priority marine features to inform cable micro-siting and installation methods in consultation with the Licensing Authority and their advisors;
d) technical specification of all cables, including a desk based assessment of attenuation of electromagnetic field strengths and shielding;
e) a burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures must be provided;
f) methodologies for surveys of the cables through the operational life of the Works

where mechanical protection of cables laid on the sea bed is deployed. Suitable mitigation should be put in place where hazards have been identified caused by cable burial or protection, i.e., over trawling;

g) methodologies for inter array cable inspection with measures to address and report to the Licensing Authority any exposure of any cables; and
h) ensure that the new pipeline which is to be laid for the Carbon Capture Project from Peterhead power station to the existing gas pipeline that runs from the Goldeneye platform to St. Fergus is taken into consideration.

Reason: *To ensure Natura issues are considered for the location and construction of the cables.*

10). Environmental Clerk of Works ("ECoW")

Prior to the Commencement of the Works, and for the duration of the Works, the Licensee must at its own expense, and with the approval of the Licensing Authority in consultation with the JNCC and SNH, appoint an independent ECoW. The ECoW must be appointed in time to review and approve the final draft version of the first plan or programme submitted under this consent to the Licensing Authority for approval, until the Final Commissioning of the Works.

The Licensee will provide a detailed ECoW Scope of Works for consideration and approval by the Licensing Authority. The Scope of Works will set out, as a minimum:

v. Roles and Responsibilities;
vi. Resourcing;
vii. Reporting Mechanisms; and
viii. Post Construction Monitoring.

The responsibilities of the ECoW must include, but not be limited to:

a) quality assurance of final draft version of all plans and programmes required under this licence;
b) provide advice to the Licensee on compliance with licence conditions, including the conditions relating to the CMS, the EMP, the PEMP, the OMP, the CaP and the VMP;
c) monitor compliance with the CMS, the EMP, the PEMP, the OMP, the CaP and the VMP; permits, legislation and guidance associated with this licence;
d) report back to the Licensing Authority who will respond to instances of non-compliance, in consultation with relevant stakeholders;
e) provide reports on point c) above to the Licensing Authority at timescales to be determined by the Licensing Authority; and
f) inducting site personnel on the Site / the Works environmental policy and procedures.

The ECoW role may be carried out by a party appointed by the Licensee or a third party to carry out an equivalent role pursuant to other consents or licences granted in relation to the Works and subject to the written approval of the Licensing Authority.

Reason: To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken

Name of assessor	Jared Wilson
Date	22nd October 2015
Name of approver	Gayle Holland
Date	27th October 2015

Appendix 1: MSS Summary of "Three dimensional tracking of a wide-ranging marine predator: flight heights and vulnerability to offshore wind farms" by Ian R Cleasby[1,2], Ewan D Wakefield[1,3], Stuart Bearhop[2], Thomas W Bodey[2], Stephen C Votier[4] & Keith C Hamer[1]

[1]School of Biology, University of Leeds, UK

[2]Centre of Ecology and Conservation, University of Exeter Cornwall Campus, UK

[3]RSPB Centre for Conservation Science, UK and Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow, UK

[4]Environment & Sustainability Institute, University of Exeter, Cornwall Campus, UK

MSS 07.10.15

1. This paper was published in the Journal of Applied Ecology on September 28 2015.
2. The study tagged gannets at the Bass Rock during mid-June to mid-August between 2010 and 2012.
3. In total 55 birds were tagged with GPS loggers, with some birds tagged in multiple years, giving a total of 107 tagging events.
4. Barometric pressure altimeters were deployed on a total of 16 birds during 2011 and 2012 to collect flight height data during foraging and commuting behaviour. Eleven of these birds foraged within or transited through either the Mainstream or Inch Cape wind farm sites.
5. GPS data from tagged birds were used to distinguish foraging, commuting and resting behaviours, and produce at sea usage maps.
6. Gannet density estimates were produced for two recently consented wind farms in the Forth and Tay (Mainstream and Inch Cape but named "A" and "B" in the paper).
7. Flight height distributions were produced for gannet based on the altimeter data, with flight heights during commuting flights lower than those during foraging (when gannets plunge dive).
8. Flight height data were used to estimate the number of gannet collisions during the April-September breeding season at the Mainstream and Inch Cape sites. Wind turbine parameters used in the paper were taken from Band 2012 and are not the consented wind turbine generator specifications .
9. Collision estimates were calculated for Mainstream and Inch Cape assuming the consented number of turbines, and cumulative totals of collisions presented.
10. Comparison was made of the number of collisions estimated using the flight height data from the Cleasby paper and the previously published flight height estimates (Cook et al, 2012 and Johnston et al, 2014).
11. The estimated gannet collisions using flight height data from this study were 6 to 12 times higher than those estimated from previously existing flight height data (Cook et al, 2012 and Johnston et al, 2014).
12. The authors indicate that the aim of the paper is to "investigate the importance of accurate flight height assessments" and not to "predict potential cumulative impact".
13. The authors recommend that a minimum air gap between sea surface and turbine blade tip of 30 m be set for areas where a high risk of collisions exists.
14. The authors recommend that GPS and barometric pressure data be used to produce spatially specific information on behaviour and flight heights to inform collision risk modelling.

MSS comments on "Three dimensional tracking of a wide-ranging marine predator: flight heights and vulnerability to offshore wind farms" by Cleasby et al, 2015.

In order to better understand how the collision estimates presented in Cleasby et al had been calculated (and ignoring the issues raised above), on September 15th MSS requested additional information from the correspondence author Keith Hamer (Leeds University), and a similar request to Keith Hamer cc'ing Ian Cleasby (Exeter University) and Ewan Wakefield (RSPB) was made on September 29th. The information requested was provided on October 6th 2015. Taking in to consideration the Cleasby paper and the additional information subsequently provided by the authors, a number of issues remain:

I. The paper attempts to provide a proof of concept of the technologies and methods deployed, compare flight heights across different behaviours, produce flight height distributions, and then undertake a comparison of collision risk model outputs. This is extremely ambitious for one paper, and the level of detail on each of these aspects is therefore limited.
II. The level of detail presented in the paper is substantially less than would be expected from information presented as part of a licence application, or to inform an appropriate assessment.
III. 107 GPS tagging events occurred over 3 years, this involved only 55 individuals. Bootstrapping i.e. running the model repeatedly with different subsets of the data removed, could be used to assess the influence of individual birds on the results obtained, and produce confidence intervals that could be compared with those produced by the Generalized Additive Mixed Models ("GAMMs").
IV. The sample sizes used in the study for flight height estimation were small (16 birds with altimeters, 11 of which entered the wind farms under consideration), and individual gannets have been shown to exhibit consistency in foraging behaviour across years, suggesting that a representative sample of the Bass Rock gannet population of 150,000 birds may not have been achieved. As with the GPS data, bootstrapping may have helped identify the influence of individuals on results obtained.
V. What were the sexes of the tagged birds, and what influence could this have on the conclusion reached by the study considering the sexes have been shown to exhibit different behaviours? This may be particularly relevant considering the small sample sizes involved.
VI. The flight height data are repeated samples over time from the sample of birds and are highly likely to be temporally correlated, but this does not appear to have been addressed in the paper. Not accounting for this correlation is likely to result in confidence values being produced that are too narrow i.e. an increased chance of false significant results being obtained. If this is the case, the validity of the conclusions reached in the paper are uncertain.
VII. Flight height and wind farm usage data collected from gannets tagged during mid-June to mid-August has been extrapolated out across the entire April to September breeding season. Gannet foraging behaviour is known to change during the breeding season (as demonstrated by the at sea survey abundance estimates presented in the wind farm environmental statements

and as also acknowledged in the discussion section of the manuscript), and therefore the validity of this extrapolation is unclear. Based on at sea surveys, Gannet densities are greatest during the mid-summer period, and so the approach taken by the authors will result in an overestimate of gannet abundance, and therefore collisions.

VIII. The flight height distributions presented in the paper are the sum of all measurements within individual height bands and do not appear to account for the fact that they will be temporally correlated. This has the potential to significantly affect the flight height distribution and therefore resultant collision rate.

IX. Flight height distributions are not presented in the paper in a format that allows them to be examined or compared with existing flight height data. Presentation of flight height distributions in the same format as Johnston et al 2014 for all flights, foraging flights and commuting flights (alongside confidence intervals) would allow the data to be assessed more thoroughly. This would also allow validation of the CRM outputs presented in the paper to be undertaken.

X. It was only possible to replicate the collision estimates presented in the paper following provision of additional information by the authors, highlighting the lack of information presented and resultant lack of clarity.

XI. A single flight height distribution using data pooled from the two wind farm locations has been used in the CRMs due to the limited number of height measurements available (962 height measurements, from 11 individuals). This limited sample size became apparent on the provision of additional information from the authors. It underlines the need to account for individual effects on the results obtained, and also the preliminary, proof of concept nature of the work. It would be most helpful to get a clearer breakdown of the sample sizes obtained from the various technologies and sampling regimes, how many foraging vs commuting bouts were registered for each, how many estimates of barometric pressure at 0m above the level (P0) were obtained for each GPS resolution, etc.

XII. As the data were pooled across the two wind farms, it is unclear why data from out with the wind farm locations were not also included.

XIII. An accompanying uncertainty map should be provide with Figure 6 of the paper as without this the GAMM outputs cannot be properly interpreted.

XIV. The authors suggest a disparity between flight height distributions obtained during this study and those found previously e.g. Johnston et al 2014. Putting to one side the issues raised above, in order to determine whether such a difference does exist, the flight height distributions plus associated uncertainties should be compared, rather than single values compared.

XV. A key component of the flight height estimation method is using the correct P0 value but there seems to be no assessment of the sensitivities of the flight height estimates to the assumptions being made in the estimation of P0 values.

XVI. For high resolution GPS data (1/s), it is unclear whether waiting until 5 seconds after the flight period began will lead to underestimates of P0, and therefore overestimates of flight heights. The discarding of pressure estimates 3 seconds following a dive event, in addition to the 5 seconds above, suggest that a bird may have been in flight for 8 seconds when the P0 value is taken. It is therefore unclear whether the assumption made by the authors that “at

this point the bird would still be flying at low altitude" is valid, and the potential for this to result in systematic overestimates in flight height appears to remain.

XVII. The r=0.58 value indicates a much lower level of correlation than may be expected from two technologies that are estimating a fixed parameter (bird height). A more robust comparison of the variation in altimeter flight heights from GPS and altimeter loggers would provide reassurance that height estimate accuracy was consistent over space and time.

XVIII. Only limited information is provided on the measurement/ estimation of flight heights and potential sources of error. The project focus was a proof of concept for the technologies but little information on validation is provided, and no assessment of the sensitivities of the results to the uncertainties or potential errors are provided.

XIX. A range of mitigation measures are used by Scottish Government to reduce the potential negative effects from offshore wind farms on seabirds. This includes raising the air gap to reduce collision risk. The 22 m minimum air gap referred to in the paper refers to that used to mitigate against potential impacts on recreational vessels (yachts), and the air gaps for three of the recently consented Forth and Tay wind farms is greater than this (Neart na Gaoithe 30.5m from lowest astronomical tide ("LAT") (which is equivalent to approximately 25.5m from highest astronomical tide ("HAT")) and Seagreen Alpha and Bravo 29.8-42.7m from LAT (which is equivalent to approximately 24.8 and 37.7m from HAT).

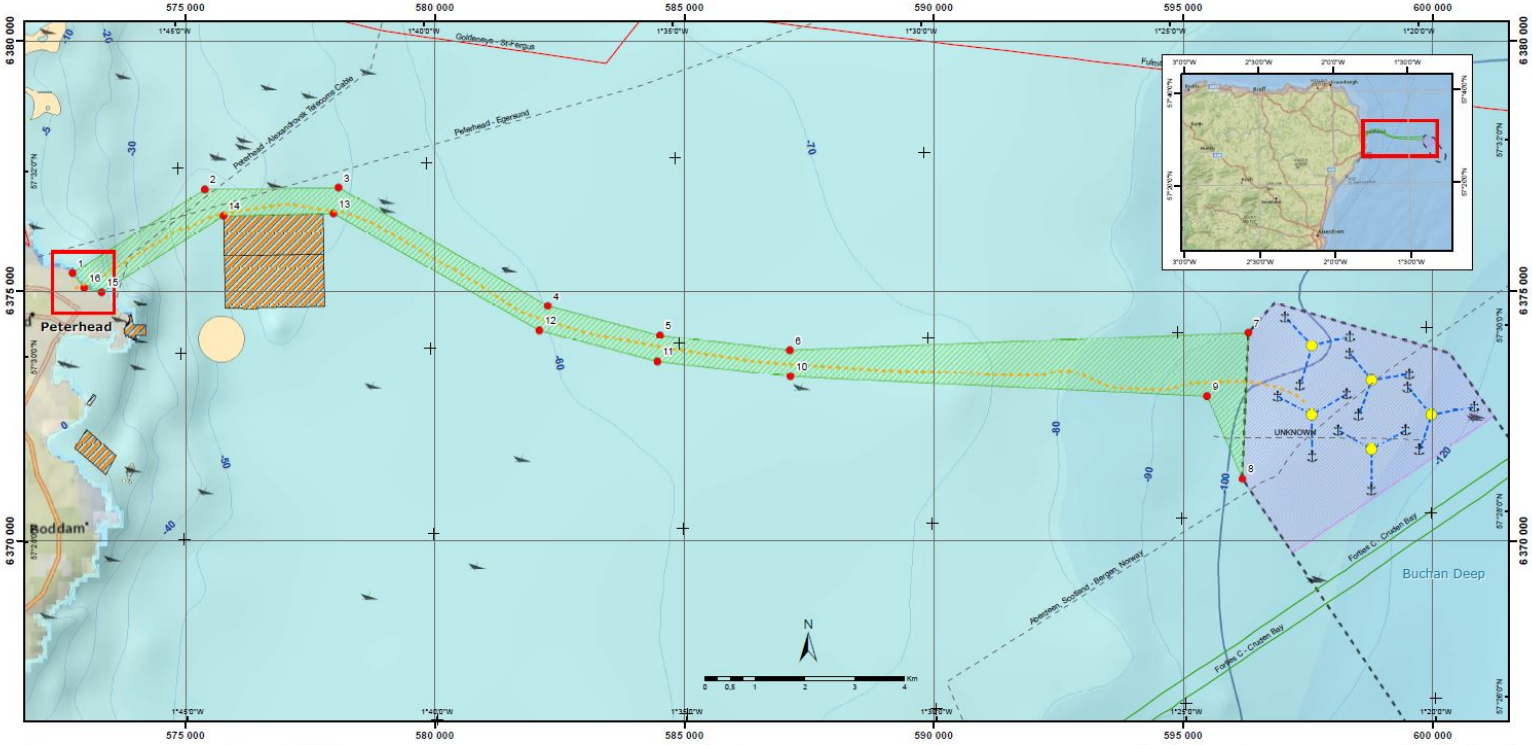
XX. The project and subsequent paper should be seen as an important step in the development of methods for increasing our understanding of gannet foraging behaviour and risk of collision with wind turbines. However, due to limitations inherent to such 'proof of concept' projects it would be premature to base decisions on the outputs from this 'paper.

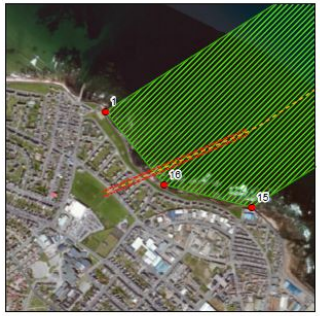
XXI. To maximise the usefulness and relevance of future DECC SEA studies, MSS recommend that project steering groups are established, and more comprehensive reports are produced that are able to more thoroughly explore the relevant issues. This does not mean that peer reviewed publications that focus on particular components of the work should not also be key deliverables.

XXII. DECC have extended the gannet tagging project beyond 2014. MSS agree that the work has the potential to help inform advice and assessments in the future and would strongly recommend that the studies be continued, and additional strategic studies be undertaken e.g. the MS project "How High do Birds Fly?", monitoring of adult survival and productivity at Bass Rock, etc. The Scottish Offshore Renewables Research framework ("SpORRAn") will assist the identification of research priorities within Scotland.

XXIII. The authors' recommendation is to gather similar data for potentially sensitive species (gannet, kittiwake, large gulls) and colonies. Whilst there are relatively few (reasonably accessible) gannet colonies in Scotland, there are a large number of relevant (and less accessible) colonies for other potentially sensitive species. How the extended timescales required to gather sufficient data match with those of the potential developers wishing to submit licence applications is unclear. A strategic approach to data collection and analysis would be required.

ANNEX F – DEVELOPMENT LOCATION





Coordinates for Proposed AFL Export Route Corridor

Datum: WGS84
Projection: UTM zone 30N

Point ID	Easting	Northing	LON	LAT
1	572 521	6 375 486	1° 47' 21,676" W	57° 30' 58,010" N
2	575 383	6 377 035	1° 44' 27,989" W	57° 31' 46,394" N
3	578 065	6 377 069	1° 41' 46,777" W	57° 31' 45,870" N
4	582 265	6 374 701	1° 37' 37,201" W	57° 30' 26,625" N
5	584 512	6 374 113	1° 35' 23,000" W	57° 30' 06,142" N
6	587 116	6 373 810	1° 32' 47,009" W	57° 29' 54,561" N
7	596 311	6 374 165	1° 23' 34,389" W	57° 29' 59,351" N
8	596 191	6 371 243	1° 23' 45,722" W	57° 28' 24,992" N
9	595 484	6 372 898	1° 24' 25,813" W	57° 29' 19,022" N
10	587 131	6 373 294	1° 32' 46,741" W	57° 29' 37,895" N
11	584 459	6 373 590	1° 35' 26,829" W	57° 29' 49,285" N
12	582 091	6 374 214	1° 37' 48,246" W	57° 30' 11,020" N
13	577 965	6 376 549	1° 41' 53,360" W	57° 31' 29,135" N
14	575 757	6 376 507	1° 44' 06,104" W	57° 31' 29,123" N
15	573 320	6 374 969	1° 46' 34,246" W	57° 30' 40,824" N
16	572 874	6 375 162	1° 47' 00,802" W	57° 30' 47,330" N

Legend

- Inactive cable
- Planned WTG Mooring Anchors
- Planned WTG Locations
- Planned WTG Mooring Lines
- Planned Export Cable
- AFL_Export_Cable_Route_Points_wgs84utm30n
- Proposed AFL Export Cable Route Corridor
- AFL - Pilot Park Area
- Planned Turbine Deployment Area
- Wrecks
- Foul Ground
- Dumping Grounds

Pipelines, Operating, Global (IHS)

- Gas
- Oil
- Unknown

rev.	date	status	prepared	verified	approved
02	17.10.2014	ISSUED FOR INFORMATION	HEHAGN		AVF
01	14.10.2014	ISSUED FOR INFORMATION	HEHAGN		AVF

project name: **Hywind Scotland**

produced by: Org.: TPD TEX SMT MMG MGI

drawing title: Proposed AFL Export Cable Route Corridor

coordinate reference system: Datum: WGS84, Projection: UTM zone 30N

country/area: Scotland / Buchan Deep

produced for: LENR

1:75 000	A3	drawing no. Hywind_2_Scotland_AFL_Export_Route_Corridor	01
	scale at size		rev.

CAUTION
Data in this map are compiled from a variety of sources, thus varying accuracy levels may be found. This can cause discrepancies in the relative locations of features.

Statoil

ANNEX G – DEFINITIONS AND GLOSSARY OF TERMS

“AA” means Appropriate Assessment

“AfL” means Agreement for Lease

“AIS” means Automatic Identification System

“ALARP” means As Low As Reasonably Practicable

“ANO” means The Air Navigation Order 2009

“AtoN” means Aids to Navigation

“bbl” means Barrel

“BDMPS” means Biologically Defined Minimum Population Scales

“CEH” means Centre for Ecology and Hydrography

“CPA” means Coastal Protection Act 1949

“CPS” means counterfactual of population size

“CRM” means Collision Risk Model

“Development” means the proposed Hywind Scotland Pilot Park.

“dSAC” means draft Special Areas of Conservation

“dSPA” means draft Special Protection Areas

“EIA” means Environmental Impact Assessment

“EMF” means Electromagnetic Fields

“EPS” means European Protected Species

“ERCoP” means Emergency Response Co-operation Plan

“ES” means Environmental Statement

“ESAS” means the European Seabirds At Sea

“FEPA” means Food and Environmental Protection Act 1985

“FPS” means Forties Pipeline System

“FTE” means full-time equivalent

“GAMMs” means Generalized Additive Mixed Models

“GVA” means Gross value added

“GWh” Gigawatt hour

“HAT” means highest astronomical tide

“HDD” means Horizontal Directional Drilling

“HRA” means Habitats Regulations Appraisal

“ICZM” means Integrated Coastal Zone Management

“IFR” means Instrument Flight Rules

“LAT” means lowest astronomical tide

“LSE” means Likely Significant Effect

“MHWS” means Mean High Water Spring tides

“MLWS” means Mean Low Water Spring tides

“MMSI” means Maritime Mobile Service Identity

“MNNS” means Marine Non-Native Species

“MSi” means Marine Scotland Interactive

“MSL” means Mean Sea Level

“MW” means Megawatt

“nm” means nautical miles

“NPF3” means National Planning Framework 3

“NRA” means Navigational Risk Assessment

“O&M” means Operation and Maintenance

“PAD” means Protocol for Archaeological Discoveries

“PEMP” means Project Environmental Management Plan

“PMF” means Priority Marine Feature

“pSAC” means Proposed Special Area of Conservation

“pSPA” mean Proposed Special Protected Area

“PVA” means Population Viability Analysis

“RRH” means Remote Radar Head

“SAC” means Special Area of Conservation

“SD” means standard deviations

“SDME” means Spatial Data Management Environment

“SLVIA” means Seascape and Landscape Visual Impact Assessment

“SNCBs” means Statutory Nature Conservation Bodies

“SNHi” means the Scottish Natural Heritage Interactive

“SPA” means Special Protected Area

“SpORRAn” means the Scottish Offshore Renewables Research framework

“SPP” means Scottish Planning Policy

“SPS” means Significant Peripheral Structures

“SSSI” means Site of Special Scientific Interest

“the 2007 Regulations” means the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

“the 2009 Act” means Marine and Coastal Access Act 2009 (as amended).

“the 2010 Act” means Marine (Scotland) Act 2010.

“the Habitats Directive” means Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and wild fauna and flora (as amended).

“The Statement” means The UK Marine Policy Statement 2011.

“the Wild Birds Directive” means Council Directive 79/409/EEC of 2nd April 1979 on the conservation of wild birds, as amended and as codified by Directive 2009/147/EC of the

European Parliament and of the Council of 30th November 2009.

“UK” means the United Kingdom

“UKHO” means United Kingdom Hydrographic Office

“UXO” means Unexploded Ordnance

“VFR” means Visual Flight Rules

“VMP” means Vessel Management Plan

“WFD” means Water Framework Directive

“WSI” means Written Scheme of Investigation

“WTG” means Wind Turbine Generator

Organisations

“AC” means Aberdeenshire Council

“AIA” means Aberdeen International Airport

“ATC” means Air Traffic Control

“BH” means Bristow Helicopters

“BOWL” means Beatrice Offshore Windfarm Limited

“BP” means BP Exploration Operating Company Limited

“BTO” means British Trust for Ornithology

“CAA” means Civil Aviation Authority

“CoS” means Chamber of Shipping

“DeeDSFB” means Dee District Salmon Fishery Board

“DECC” means Department of Energy & Climate Change

“EOWDC” means European Offshore Wind Deployment Centre

“EU” means the European Union

“FLOWW” means Fishing Liaison with Offshore Wind and Wet Renewables Group

“HMCG” means Her Majesty's Coastguard

“HS” means Historic Scotland

“HSE” means Health & Safety Executive

“HSPP” means Hywind Scotland Pilot Park

“IALA” means International Association of Lighthouse Authorities

“ICOL” means Inch Cape Offshore Limited

“IPIECA” International Petroleum Industry Environmental Conservation Association

“JNCC” means Joint Nature Conservation Committee

“JRC” means Joint Radio Company Limited

“MCA” means Maritime and Coastguard Agency

“MMO” means the Marine Management Organisation

“MOD” Ministry of Defence

“MORL” Moray Offshore Renewables Limited

“MS” means Marine Scotland

“MSFD” means the Marine Strategy Framework Directive

“MS-LOT” means Marine Scotland Licensing Operations Team

“MSS” means Marine Scotland Science

“NATS” means National Air traffic Services

“NERL” means National Air traffic Services (enRoute) pic

“NLB” means Northern Lighthouse Board

“NLF” means NorthLink Ferries

“NnGOWL” means Neart na Gaoithe Offshore Wind Limited

“OGA” means Oil and Gas Authority

“OGP” means Association of Oil and Gas Producers

“OREI” means Offshore Renewable Energy Installations

“RSPB Scotland” means Royal Society for the Protection of Birds Scotland

“RYA” means Royal Yachting Association

“SAWEL” means Seagreen Alpha Offshore Wind Farm Limited

“SBWEL” means Seagreen Bravo Offshore Wind Farm Limited

“SEPA” means Scottish Environment Protection Agency

“SFF” means Scottish Fishermen’s Federation

“SNH” means Scottish Natural Heritage

“SSF” means Scottish Surfers Federation

“SWT” means Scottish Wildlife Trust

“TCE” means The Crown Estate

“TS” means Transport Scotland

“UKHO” means United Kingdom Hydrographic Office

“WDC” means the Whale and Dolphin Conservation