

From: Gayle Holland  
Marine Scotland Licensing Operations Team  
Marine Scotland  
5<sup>th</sup> March 2014

Minister for Energy, Enterprise and Tourism

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED.**

### **Purpose**

To seek your determination on the Application by Beatrice Offshore Windfarm Limited ("BOWL") ("the Company"), for consent under section 36 of the Electricity Act 1989 ("the Electricity Act") to construct and operate an offshore wind farm with a maximum generating capacity of 750 megawatts ("MW") in the outer Moray Firth, approximately 25 km south east of Wick, Caithness, and for a declaration under section 36A of the Electricity Act to extinguish public rights of navigation so far as they pass through those places within the territorial sea where structures forming part of the offshore wind farm are to be located.

### **Priority**

Routine.

### **Background**

On 23<sup>rd</sup> April 2012 the Company applied for consent to construct and operate the Beatrice Offshore Wind Farm ("the Development"), comprising of up to 277 wind turbine generators ("WTGs") (each with a maximum tip height of 198.4 metres) and associated infrastructure (offshore substation platforms, inter-array cabling, export cables and meteorological masts) in the outer Moray Firth (**ANNEX G – DEVELOPMENT LOCATION**).

The Application submitted was to construct and operate an offshore wind generating station with a maximum generating capacity of up to 1000 MW. The maximum generating capacity has since been reduced during the course of the consideration of the Application to address concerns expressed by consultees. Consent is now sought for an offshore generating station with a maximum generating capacity of up to 750 MW, consisting of:

- not more than 140 three-bladed horizontal axis WTGs each with a maximum blade tip height of up to 198.4 metres and a maximum rated capacity of up to 8MW;
- for each WTG, a substructure (either a monotower or a tubular jacket structure) and foundations (either pin piles, suction piles or gravity bases);
- for each WTG, a transition piece (including access ladders / fences and landing platforms), turbine tower, blades and nacelle; and
- inter array cabling to the connection point on the offshore sub-station platforms.

The Company also applied at this time for a declaration under section 36A to extinguish public rights of navigation so far as they pass through those places within the territorial sea where structures forming part of the offshore wind farm are to be located.

In tandem with the consultation on the section 36 consent application, Marine Scotland Licensing Operations Team (“MS-LOT”) has consulted on a marine licence application (submitted on 23<sup>rd</sup> April 2012) for the Development, concerning the deposit of the associated infrastructure. MS-LOT is satisfied that there are no outstanding issues preventing the granting of this marine licence. MS-LOT will issue this licence in due course.

On 23<sup>rd</sup> April 2012 the Company also submitted, a single marine licence application to license the deposits for the Offshore Transmission Works and export cable to shore at Portgordon. MS-LOT is satisfied that there are no outstanding issues preventing the issue of this marine licence. MS-LOT will issue this licence alongside this consent.

The marine licence application for the wind farm was considered under the Marine (Scotland) Act 2010 and the marine licence application for the Offshore Transmission Works was considered under the Marine and Coastal Access Act 2009 and the Marine (Scotland) Act 2010.

As a result of issues raised during the consultation process, supplementary environmental information was required and this was submitted by the Company on 29<sup>th</sup> May 2013. This Supplementary Environmental Information Statement (“SEIS”) to the application included, but was not limited to, an adjustment to the cable route corridor and a report to inform an Appropriate Assessment (“AA”).

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.

An application for planning permission under the Town and Country Planning (Scotland) Act 1997 regarding the ancillary onshore infrastructure for the Development was submitted by the Company to Moray Council in October 2012 and planning permission in principle was obtained from Moray Council in February 2013.

## 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 section 36 consent and marine licences, 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 477,610 homes. The Company estimate that in Scotland the expenditure made by the Development (and Offshore Transmission Works) could generate Gross Value Added ("GVA") of between £620 million and £1,003 million over its lifetime (including the decommissioning phase). Between £176 million and £356 million of this total GVA could be in Moray, Highland, Aberdeen and Aberdeenshire ("the Study Area"). Background and consultation information for the Development is set out at **ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS**.

### Consultation Summary

Scottish Natural Heritage ("SNH") and the Joint Nature Conservation Committee ("JNCC") raised no objection and are content that the environmental impacts of this Development are within acceptable limits with the implementation of mitigation and monitoring measures. This is reflected in **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**. SNH and JNCC agreed with the conclusions reached in the AA (**ANNEX E – APPROPRIATE ASSESSMENT**) that the Development will not adversely affect site integrity of any of the identified Special Protection Areas ("SPAs") or Special Areas of Conservation ("SACs") assessed to have connectivity with the Development.

During the consultation process, objections were received from, amongst others, the Royal Society for the Protection of Birds Scotland ("RSPB Scotland"), the Defence Infrastructure Organisation ("DIO") (Ministry of Defence), National Air Traffic Services ("NATS"), the Moray Firth Sea Trout Project ("MFSTP") and the Association of Salmon Fishery Boards ("ASFB"). SNH and the JNCC requested further information from the Company before finalising their response.

Further discussion between the Company, the DIO and NATS resulted in both of these organisations withdrawing their objections subject to conditions and / or agreements being put in place to minimise the impact(s) of the Development.

Following the receipt of the SEIS, and further discussion between the Company and the other named consultees above, objections are being maintained from the RSPB Scotland, the ASFB, and the MFSTP. RSPB Scotland has raised several concerns mainly regarding the methodologies used in the assessments and the levels of

predicted impacts on several bird species. In order to minimise the predicted impacts, this Development has been reduced from 1000 MW (up to 277 WTGs) to 750 MW (up to 140 WTGs). Conditions are also being implemented as part of this consent to further minimise the potential impacts of the Development (**ANNEX D – DRAFT DECISION LETTER AND CONDITIONS (Annex 2)**).

An objection was also received from Moray Offshore Renewables Limited (“MORL”) due to the changes made to the cable route detailed in the SEIS.

Objections from members of the public are being maintained.

### **Public Representations**

A total of forty seven (47) representations were received from members of the public during the course of both consultation periods. Of these, forty five (45) are objections and two (2) are in support.

All public representations have been taken into consideration. They are summarised in **ANNEX F – PUBLIC REPRESENTATIONS**.

### **Publicity**

Officials will liaise with Communications once a determination has been made on this application to agree the appropriate means of announcing the decision.

As a potential way of meeting any Freedom of Information requests which may be received, and in order for the determination process to be fully open and transparent, we recommend that this submission is published on the Marine Scotland licensing page of the Scottish Government website, alongside the key documentation relating to the 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 inquiry to be held and to grant consent under section 36 of the Electricity Act 1989 for the 750 MW Beatrice Offshore Wind Farm and issue a declaration under section 36A to extinguish the public rights of navigation in so far as it passes through those places within territorial waters where the structures forming part of the offshore wind farm are to be located.**

**Please note:**

**1) that a marine licence under the Marine (Scotland) Act 2010 for the Beatrice Offshore Wind Farm has been considered alongside this application. It will be determined and a decision issued in due course.**

**2) that a marine licence under the Marine and Coastal Access Act 2009 and Marine (Scotland) Act 2010 for the Offshore Transmission Works and export cable to shore, has been considered alongside this application. It will be determined and a decision issued alongside this consent.**

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**Gayle Holland**, EIA/HRA Compliance Manager,  
Marine Scotland Licensing Operations Team,  
Marine Planning & Policy  
5<sup>th</sup> March 2014

Copy List:	For Action	For Comments	For Information		
			Portfolio Interest	Constit Interest	General Awareness
Cabinet Secretary for Finance, Employment and Sustainable Growth			X		
Cabinet Secretary for Rural Affairs and the Environment			X		
Minister for Environment and Climate Change			X		
Minister for Transport and Veterans					X
Minister for Local Government & Planning					X
Lord Advocate					X
Solicitor General					X

DG Enterprise & Environment  
 Linda Rosborough – Marine Scotland  
 David Palmer – Marine Scotland  
 Jim McKie – Marine Scotland  
 Phil Gilmour – Marine Scotland  
 David Pratt – Marine Scotland  
 Mark Christie – Marine Scotland  
 David Mallon – Marine Scotland  
 Ian Davies – Marine Scotland  
 Nim Kumar – Marine Scotland  
 Colin Troup – LSLA  
 James Shaw – LSLA  
 Keith White – LSLA  
 Mary McAllan – Energy & Climate Change  
 Chris Stark – Energy & Climate Change  
 Simon Coote – Energy & Climate Change  
 Janine Kellett – Energy & Climate Change  
 David Stevenson – Energy & Climate Change  
 Murray Sinclair – SGLD  
 Paul Cackette – SGLD  
 Alan Williams – SGLD  
 Claire Cullen – SGLD  
 Fiona McClean – SGLD  
 Ian Vickerstaff – SGLD  
 Sophie Corbett – Planning  
 Keith Connal – E&RA  
 Iain Malcolm - Freshwater Fisheries  
 Chris Wilcock – Ports and Harbours  
 Mike McElhinney- Ministerial Portfolios  
 Malcolm Fleming - Advisor  
 Communications - Greener  
 Communications – Wealthier and Fairer

## **ANNEX A – REGULATORY REQUIREMENTS: LEGISLATION AND POLICY**

**APPLICATION FOR CONSENT UNDER SECTION 36 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

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### **LEGISLATION**

The Scotland Act 1998, The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) Order 1999 and The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) (No. 2) Order 2006

1. The generation, transmission, distribution and supply of electricity are reserved matters under Schedule 5, Part II, section D1 of the Scotland Act 1998. The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) Order 1999 (“the 1999 Order”) executively devolved section 36 consent functions under the Electricity Act 1989 (as amended) (“the Electricity Act”) (with related Schedules) to the Scottish Ministers. The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) (No. 2) Order 2006 revoked the transfer of section 36 consent functions as provided under the 1999 Order and then, one day later, re-transferred those functions, as amended by the Energy Act 2004, to the Scottish Ministers in respect of Scotland and the territorial waters adjacent to Scotland and extended those consent functions to a defined part of the Renewable Energy Zone beyond Scottish territorial waters (as set out in the Renewable Energy Zone (Designation of Area) (Scottish Ministers) Order 2005.

### **The Electricity Act 1989**

2. Any proposal to construct, extend or operate a generating station situated in the territorial sea (out to 12 nautical miles from the shore), with a generation capacity in excess of 1 megawatt requires consent under section 36 of the Electricity Act. This substituted reduced capacity is implemented through the Electricity Act 1989 (Requirement of Consent for Offshore Generating Stations) (Scotland) Order 2002. A consent under section 36 may include such conditions (including conditions as to the ownership or operation of the station) as appear to the Scottish Ministers to be appropriate. The consent shall continue in force for such period as may be specified in or determined by or under the consent.
3. Paragraph 3 of Schedule 9 to the Electricity Act places a duty on licence holders or persons authorised by an exemption to generate, distribute, supply



or participate in the transmission of electricity when formulating “relevant proposals” within the meaning of paragraph 1 of Schedule 9 to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Such persons are statutorily obliged to do what they reasonably can to mitigate any effect which the proposals would have on these features.

4. Paragraph 3 of Schedule 9 to the Electricity Act also provides that the Scottish Ministers must have regard to the desirability of preserving natural beauty etc. and the extent to which the person by whom the proposals were formulated has complied with their duty to mitigate the effects of the proposals. When exercising any relevant functions a licence holder, a person authorised by an exemption to generate or supply electricity and the Scottish Ministers must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.
5. Under section 36A of the Electricity Act, Scottish Ministers have the power to make a declaration, on application by an applicant when making an application for consent under section 36 of the Electricity Act, which extinguishes public rights of navigation which pass through the place where a generating station will be established; or suspend rights of navigation for a specified period of time; or restrict rights of navigation or make them subject to conditions. The power to extinguish public rights of navigation extends only to renewable generating stations situated in territorial waters.
6. Under section 36B of the Electricity Act the Scottish Ministers may not grant a consent in relation to any particular offshore generating station activities if they consider that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the carrying on of those activities or is likely to result from their having been carried on. The Scottish Ministers, when determining whether to give consent for any particular offshore generating activities and considering the conditions to be included in such consent, must have regard to the extent and nature of any obstruction of, or danger to navigation which, without amounting to interference with the use of such sea lanes, is likely to be caused by the carrying on of the activities, or is likely to result from their having been carried on. In determining this issue the Scottish Ministers must have regard to the likely overall effect (both while being carried on and subsequently) of the activities in question and such other offshore generating activities which are either already subject to section 36 consent or are activities for which it appears likely that such consents will be granted.
7. Under Schedule 8 to the Electricity Act and the Electricity (Applications for Consent) Regulations 1990 (as amended), notice of applications for section 36 consent must be published by the applicant in one or more local newspapers, in one or more national newspapers, and in the Edinburgh Gazette to allow representations to be made to the application. Under Schedule 8 to the Electricity Act, the Scottish Ministers must serve notice of any application for consent upon any relevant Planning Authority.

8. Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant planning authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances before determining whether to give their consent the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.
9. The location and extent of the proposed development to which the Application relates (being wholly offshore) means that the Development is not within the area of any local Planning Authority. The Marine Scotland Licensing Operations Team ("MS-LOT"), on behalf of the Scottish Ministers, did however, consult with the Planning Authorities most local to the Development. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be held. The nearest local planning authorities did not object to the Application. If they had objected to the Application, and even then if they did not withdraw their objections, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.
10. The Scottish Ministers are however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held in respect of the Application. Paragraph 3(2) of Schedule 8 provides that if the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the application.
11. You can be satisfied that all the necessary tests set out within the Electricity Act when assessing the application and all procedural requirements have been complied with. The Company, at the time of submitting the Application, was not a licence holder or a person authorised by an exemption to generate, distribute, supply or participate in the transmission of electricity when formulating "relevant proposals" within the meaning of paragraph 3 of Schedule 9 to the Electricity Act. The Company obtained a generation licence during the period whilst the Scottish Ministers were determining the Application for consent. The Minister and his officials have, from the date of the Application for consent, approached matters on the basis that the same Schedule 9, paragraph 3(1) obligations as applied to licence holders and the specified exemption holders should also be applied to the Company.

#### Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

12. 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 Environmental Impact Assessment ("EIA") to be undertaken. The Company identified the proposed Development as one requiring an Environmental Statement ("ES") in terms of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended) ("the 2000 Regulations").

13. The proposal for the Development has been publicised, to include making the ES available to the public, in terms of the 2000 Regulations. An ES has been produced and the applicable procedures regarding publicity and consultation all as laid down in those regulations have been followed.
14. In compliance with those Regulations, consultation has taken place with Scottish Natural Heritage ("SNH"), Joint Nature Conservation Committee ("JNCC"), the Scottish Environmental Protection Agency ("SEPA"), the Planning Authorities most local to the development, and such other persons likely to be concerned by the proposed Development by reason of their specific environmental responsibilities on the terms of the ES and the Supplementary Environmental Information Statement ("SEIS") in accordance with the regulatory requirements.
15. Under the 2000 Regulations, the Scottish Ministers are required to obtain the advice of the SEPA on matters relating to the protection of the water environment. This advice was received on 28<sup>th</sup> May 2012.
16. MS-LOT has also consulted a wide range of relevant organisations, including colleagues within the Scottish Government on the Application, on the ES and as a result of the issues raised during the initial consultation, upon the required SEIS in accordance with the regulatory requirements.
17. MS-LOT considers that you can be satisfied that the regulatory requirements have been met. MS-LOT has taken into consideration the environmental information, including the ES and SEIS, the responses received from the statutory consultative bodies and the representations and objections received.

#### 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"), and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended) ("the 2007 Regulations"). As the Development is to be sited in Scottish Territorial Waters (within 12 nautical miles of the shore) it is the 1994 Regulations which are applicable in respect of this application for section 36 consent. The 2007 Regulations do, however, apply to those parts of the associated transmission works which lie outside Scottish Territorial Waters.
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.

Under the 1994 Regulations this is provided by regulation 48 and under the 2007 Regulations this is provided by regulation 25. 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 proposal is likely to have a significant effect on a protected site, then an AA must be carried out.

20. The AA which has been undertaken has considered the combined effects of the Development and the Moray Offshore Renewables wind farms. This is because the Moray Offshore Renewables wind farms, the applications for which were submitted to the Scottish Ministers in August 2012, is proposed to be sited immediately adjacent to the Development.
21. SNH, the JNCC, the Association of Salmon Fishery Boards (“ASFB”), Whale and Dolphin Conservation (“WDC”) and the Royal Society for the Protection of Birds Scotland (“RSPB Scotland”) in particular flagged up issues in relation to the Habitats Directive and the Wild Birds Directive. This is because the Development has the potential to have an impact on a number of sites designated as Special Protection Areas (“SPAs”) under the Wild Birds Directive and Special Areas of Conservation (“SACs”) under the Habitats Directive. In SNH and the JNCC’s view, the Development is likely to have a significant effect on the qualifying interests of certain SPA and SAC sites; therefore an AA would be required.
22. In line with advice from SNH and the JNCC, 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 site integrity of any of the identified European protected sites which were assessed as having connectivity with the Development. Conditions can also be imposed on any grant of consent ensuring that the sites are protected from damage. SNH and the JNCC were consulted on the AA and agreed with all of the conclusions that have been reached (at **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

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 nautical miles) to the Scottish Ministers. The 2009 Act transferred certain functions in issuing consent under section 36 of the Electricity Act from the Secretary of State to the Marine Management Organisation (“MMO”). The MMO does not exercise such functions in Scottish waters or in the Scottish part of the renewable energy zone, as that is where the Scottish Ministers perform such functions.
24. Where applications for both a marine licence under the 2009 Act and consent under section 36 of the Electricity Act are made then, in those cases where they

are the determining authority, the Scottish Ministers may issue a note to the applicant stating that both applications will be subject to the same administrative procedure. Where that is the case then that will ensure that the two related applications may be considered at the same time.

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

#### Marine (Scotland) Act 2010

26. The Marine (Scotland) Act 2010 ("the 2010 Act") regulates activities in the territorial sea adjacent to Scotland in terms of marine environment issues. Subject to exemptions specified in subordinate legislation, under Part 4 of the 2010 Act, licensable marine activities may only be carried out in accordance with a marine licence granted by the Scottish Ministers.
27. Under Part 2 of the 2010 Act, the Scottish Ministers have general duties to carry out their functions in a way best calculated to achieve the sustainable development, including the protection and, where appropriate, the enhancement of the health of the area. The Scottish Ministers, when exercising any function that affects the Scottish marine area under the 2010 Act, the Climate Change (Scotland) Act 2009, or any other enactment, must act in a way best calculated to mitigate, and adapt to climate change.

#### Climate Change (Scotland) Act 2009

28. 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 (as amended), 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 (as amended) annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.
29. The Company estimates that, once the Development is fully constructed and operational, there could be a saving of 1,734,480 tonnes of CO<sub>2</sub> per year when compared to the average CO<sub>2</sub> release from gas and coal fired electricity generation. MS-LOT estimates that the Development could provide renewable electricity for up to 477,610 homes. This is approximately 20% of all the homes in Scotland (2012 estimate of 2.39 million Scotland households by gro-scotland.gov.uk).
30. You can be satisfied that in assessing the Application you have acted in accordance with your general duties.

## **MARINE AND TERRESTRIAL POLICY**

### **Marine Policy**

#### **The UK Marine Policy Statement 2011**

31. 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 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.
32. 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.
33. Chapter 3, paragraphs 3.3.1 to 3.3.6, 3.3.16 to 3.3.19 and 3.3.22 to 3.3.30 of the Statement are relevant and have been considered by MS-LOT as part of the assessment of the Application.
34. Existing terrestrial planning regimes generally extend to mean low water spring tides. The marine plan area boundaries extend up to the level of mean high water spring tides. The UK Marine Policy 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.
35. MS-LOT has had full regard to the Statement when assessing the Application and therefore considers that the Development accords with the Statement.

#### **Blue seas – Green Energy: A Sectorial Marine Plan for Offshore Wind Energy in Scottish Territorial Waters, 2011**

36. The Scottish Government has used a marine planning approach to develop Blue Seas Green Energy – A Sectorial Marine Plan for Offshore Wind in Scottish Territorial Waters (“the Plan”).

37. The Plan represents the Scottish Government's vision for the delivery of energy from offshore wind resources within Scottish Territorial Waters (0 to 12 nautical miles). The Plan contains proposals for offshore wind development at the regional level up to 2020 and beyond. It seeks to maximise the benefits for Scotland, its communities and people, and recognises the need for public acceptability in the development of offshore wind. It aims to strike a balance between economic, social and environmental needs and also recognises that there are national and regional challenges to overcome to facilitate development.
38. The draft Plan contained 10 short term (up to 2020) and 30 medium term (up to 2030) options including Beatrice as a short term site in the North East region. The sites were selected by developers and The Crown Estate Commissioners ("CEC") and awarded Exclusivity Agreements. The Scottish Ministers decided that 6 short term sites and 25 medium term areas of search should be progressed within this Plan.
39. The Scottish Ministers further decided that 3 short term sites in the West and South-West regions were unsuitable for the development of offshore wind and should not be progressed as part of the Plan. These short term sites were considered unsuitable because of the presence of a wide range of constraints on a number of receptors (including communities, shipping, fishing, biodiversity, recreation, defence, economic impact, cultural heritage, seascapes and landscapes).
40. The main findings for the North East (Moray Firth) Offshore Wind Plan region was that this region has favourable conditions and significant potential for the development of offshore wind both within Scottish Territorial Waters and beyond into Scottish Offshore Waters (12 to 200 nautical miles). The significant strategic issues to be resolved, according to the Plan, related to fishing and the environment. Other key issues to be addressed for the region included shipping and navigation, biodiversity, aviation and radar and defence activities. Evidence at this stage suggested that issues could be addressed through appropriate mitigation measures at the project level.
41. The Beatrice short term site within Scottish Territorial Waters was seen to be suitable for development by 2020 (as well as a large Round 3 offshore wind development site just outside Scottish Territorial Waters adjacent to Beatrice). The cumulative impacts of these developments were identified as requiring further consideration.
42. The Plan recommended that the Beatrice short term option should be taken forward to the licensing stage. A key finding was that there is significant potential for this development in the short term and it appears to be publicly and environmentally acceptable. Another key finding was that the North East region relates closely to areas where there is significant potential for economic investment and employment.
43. Overall the Plan seeks to deliver Scottish Ministers' policies for green energy, thereby helping to meet carbon reduction targets. The Plan underpins the

promotion of economic development and competitiveness for Scotland and has been built using environmental and socio-economic assessments and consultation, both public and sectoral, as marine plan making tools.

44. The outcomes of Strategic Environmental Assessment (“SEA”), HRA, Socio-economic Assessment and Consultation Analysis informed the final Plan.
45. The Scottish Ministers consider that the Development accords with the Plan.

#### Draft National Marine Plan

46. A draft National Marine Plan, developed under the 2010 Act and the 2009 Act was subject to consultation which closed in November 2013. Marine Scotland Planning & Policy are now considering the responses and undertaking a consultation analysis exercise. When formally adopted, the Scottish Ministers must take authorisation and enforcement decisions which affect the marine environment in accordance with the Plan.
47. The draft National Marine Plan sets an objective to promote the sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations. It also contains specific policies relating to the mitigation of impacts on habitats and species; and in relation to treatment of cables.
48. The Scottish Ministers require, should it be deemed appropriate and proportionate, that consideration is given to undertaking a Scenario Mapping exercise. Such an exercise, should it be required, would allow the local community to understand the range of possible implications of the development.
49. Given the timing of the statutory consultation of the draft National Marine Plan, and the finalisation of the consideration of all material issues connected with this Development, MS-LOT has not been able to undertake a scenario mapping exercise as per the Plan’s planning policy ‘Renewables 10’. Whilst there is currently no formal mechanism for requiring scenario mapping in the Moray Firth, MS-LOT is satisfied that the full range of possible implications for the community has been outlined within the Company’s ES and that these benefits have been thoroughly considered as part of this recommendation.

#### Other Marine Policy

50. The Development, will contribute significantly to Scotland’s renewable energy targets 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 and the National Renewables Infrastructure Plan. Scotland has considerable potential for offshore renewable energy developments. Estimates indicate that Scotland has up to 25% of Europe’s offshore wind potential (Scotland’s Renewable Resource 2001). Offshore wind is seen as an integral element in Scotland’s contribution towards action on climate change. The large scale development of offshore wind also represents one of the biggest opportunities for sustainable economic growth



in Scotland for a generation. Scotland's ports and harbours present viable locations to service the associated construction and maintenance activities for offshore renewable energy. In addition, Scottish research institutions provide a base of academic excellence for delivering technological advancements and technology transfer and are also well placed to benefit from the creation of this new industry around Scotland.

51. Published in September 2010 the 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.

### **Terrestrial Policy**

52. MS-LOT has had regard to the terms of relevant terrestrial planning policy documents and Plans when assessing this Application for the purpose of ensuring consistency in approach.

### **Scottish Planning Policy**

53. Scottish Planning Policy ("SPP") sets out the Scottish Government's planning policy on renewable energy development. Whilst it makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, it states that these are likely to include impacts on landscapes and the historic environment, ecology (including birds, mammals and fish), biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. It also makes clear that the scope for the development to contribute to national or local economic development should be a material consideration when considering an application.
54. You can be satisfied that these matters have been addressed in full both within the Application, the ES, the SEIS and within the responses received to the consultations by the closest onshore Planning Authorities, SEPA, SNH, the JNCC and other relevant bodies.

### **National Planning Framework 2**

55. Scotland's National Planning Framework 2 ("NPF2") sets out strategic development priorities to support the Scottish Government's central purpose, namely sustainable economic growth. Relevant paragraphs to the Application are paragraphs 65, 144, 145, 146, 147, and 216. NPF2 provides strong support for the development of renewable energy projects to meet ambitious targets in place to generate the equivalent of 100% of our gross annual electricity consumption from renewable sources and to establish Scotland as a leading location for the development of renewable offshore wind sector.

### National Planning Framework 3

56. Scotland's National Planning Framework 3 ("NPF3") is the national spatial plan for delivering the Scottish Government's Economic Strategy. The Main Issues Report sets out the ambition for Scotland to be a low carbon country, and emphasises the role of planning in enabling development of renewable energy onshore and offshore. NPF3 includes a proposal for national development to support onshore infrastructure for offshore renewable energy, as well as wider electricity grid enhancements. NPF3 also supports development and investment in sites identified in the National Renewables Infrastructure Plan.
57. The Main Issues Report was published for consultation in April 2013 and the Proposed NPF3 was laid in the Scottish parliament on 14<sup>th</sup> January 2014. This will be subject to sixty day Parliamentary scrutiny ending on 22<sup>nd</sup> March 2014. The Scottish Government expect to publish the finalised NPF3 in June 2014.

### Highland Renewable Energy Strategy and Planning Guidelines, May 2006

58. The Highland Renewable Energy Strategy and Planning Guidelines ("HRESPG") supplement the existing policies of The Highland Council and aims to provide guidance and direction for Planning Authority decisions and developers plans.
59. The Strategy notes that the optimal area for prospective offshore wind development is considered to be the outer Moray Firth and that offshore wind is viewed as an important potential renewable energy technology for the Highland region. The key aspects of a renewables vision for the Highland region involves setting a balance between social, economic and environmental interests whilst utilising the high calibre energy resources available in the region. The vision also recognises the need for cleaner forms of energy within the existing energy network to help reduce CO<sub>2</sub> emissions.
60. Within the Strategy, Strategic Topic E12 (within the Action Plan to implement objectives) states that The Highland Council will prioritise the few offshore wind areas for commercial development that have energy and grid potential with a medium term aim of 1 gigawatt ("GW") capacity by 2020 and long term aim of 2 GW capacity by 2050 in the Moray Firth.

### The Highland – wide Local Development Plan, April 2012

61. The purpose of the Highland – Wide Local Development Plan ('HwLDP') is to set out a balanced strategy to support the growth of all communities across the Highlands ensuring that development is directed to places with sufficient existing or planned infrastructure and facilities it support sustainable development. Relevant policies within this plan can be applied to the Development.

62. The Vision chapter of the HwLDP makes a commitment to ensuring that the development of renewable energy resources are managed effectively including guidance on where harnessing renewable sources is appropriate or not. There is also a commitment to provide new opportunities to encourage economic development and create new employment across the Highland area focusing on key sectors including renewable energy whilst at the same time improving the strategic infrastructure necessary to allow the economy to grow in the long term.

#### The Moray Structure Plan, April 2007

63. The Moray Structure Plan ("MSP 2007") sets out the strategic framework for the way in which Moray Council intend to develop the region over the next 15 to 20 years. The central pillar of the development strategy is to promote economic growth whilst safeguarding and enhancing the natural and built environment, and promoting overall sustainability. Promoting the sensitive development of renewable energy (Policy 2) has been identified as a key strategic issue which the MSP 2007 must address.
64. The Development offers an opportunity for the region to contribute towards renewable energy targets, tackle the effects of climate change, increase energy security and contribute to the local and regional economies of Moray.

#### The Moray Local Plan, November 2008

65. The Moray Local Plan ("MLP") interprets the strategic direction provided by the MSP 2007 into detailed policies and proposals for use in the determining of planning policies. The MLP states that Moray has a wealth of natural resources including opportunities for renewable energy, particularly wind energy. The MLP provides framework to optimise the benefits of these natural resources to the area.

#### Moray Economic Strategy, October 2012

66. The recently published Moray Economic Strategy ("MES"), produced by the Moray Community Planning Partnership provides the long term economic diversification strategy for the area. The MES recognises that the engineering and fabrication base which at the moment mainly services the oil, gas, and distillation industries lends itself to development and diversification into the renewable energy supply chains. The MES recognises the potential offered by renewable energy as well as the opportunity for infrastructure in the Moray region to support the development of a world leading and diversified renewable energy sector. Buckie Harbour is specifically identified as having the potential to act as an operations and maintenance base to service the offshore wind farms proposed for the Moray Firth.

#### Summary

67. MS-LOT considers the policies as outlined above are broadly supportive of the Development.

## **MATERIAL CONSIDERATIONS**

68. 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 consent under section 36 of the Electricity Act:
69. MS-LOT are content that the material considerations have been addressed in the Application, the ES, the SEIS and within the responses received to the consultations by the closest onshore Planning Authorities, SEPA, SNH, the JNCC and other relevant bodies. The material considerations have been addressed in **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**.

## **PUBLIC LOCAL INQUIRY (“PLI”)**

70. In terms of paragraph 2(2) of Schedule 8 to the Electricity Act, if the relevant Planning Authority made a valid objection and did not withdraw it, you must convene a PLI, which must be confined to so much of the application as it relates to land within the area of the authority whom the objection was made (except in so far as you direct otherwise) before you may determine the application, the objection and the report of the inquiry.
71. None of the Planning Authorities consulted on the application, the Highland Council or Moray Council, raised any objection to the Development.
72. Even if the Council(s) had objected, and did not withdraw their objection, a PLI is not a statutory requirement in this case due to the fact that the Development to which the application for section 36 consent relates falls out with the Councils’ jurisdiction. Paragraph 7A of Schedule 8 to the Act provides that paragraph 2(2) of the Schedule does not apply in cases like this where no part of the place to which the application relates is within the area of the local planning authority.
73. Paragraph 3(2) of Schedule 8 to the Electricity Act provides that where objections or copies of objections have been sent to the Scottish Ministers in pursuance of the Electricity (Applications for Consent) Regulations 1990 in those cases where a PLI must not be convened by them in terms of paragraph 2(2) of Schedule 8 (i.e. those cases where the Planning Authority either has not objected or objected and withdrawn their objection or where the “relevant planning authority” is the Scottish Ministers on account of the fact that all of the development being located at sea), then the Scottish Ministers “shall consider those objections together with all other material considerations” with a view to determining whether a PLI should be held with respect to the application and, if they think it appropriate to do so, they shall cause a PLI to be held.

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

74. Before you can make a decision on the Application for section 36 consent you must determine whether it is appropriate to cause a PLI to be held. 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’ CONSIDERATIONS**. 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 Application for section 36 consent.

## **DECISION ON THE APPLICATION FOR SECTION 36 CONSENT**

75. If, having considered the Application, the ES, the SEIS, 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 section 36 consent to the Development having regard to the considerations in **Annex B**.

**Gayle Holland**, EIA/HRA Compliance Manager,  
Marine Scotland Licensing Operations Team,  
Marine Planning & Policy  
5<sup>th</sup> March 2014

## **ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS’ CONSIDERATIONS**

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED.**

### **BACKGROUND INFORMATION**

The following applications have been made to the Scottish Ministers for:

- i. A consent under section 36 of the Electricity Act 1989 (as amended) (“the Electricity Act”) by Beatrice Offshore Windfarm Limited (Company Number SC350248) and having its registered office at Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ for the Beatrice Offshore Wind Farm in the Outer Moray Firth;
- ii. A declaration under section 36A of the Electricity Act by Beatrice Offshore Windfarm Limited to extinguish public rights of navigation so far as they pass through those places within the Scottish marine area where structures forming part of the Beatrice Offshore Wind Farm and Offshore Transmission Works are to be located;
- iii. A marine licence to be considered under the Marine (Scotland) Act 2010 (“the 2010 Act”) by Beatrice Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Beatrice Offshore Wind Farm;
- iv. A marine licence to be considered under the 2010 Act and the Marine and Coastal Access Act 2009 (as amended) (“the 2009 Act”) by Beatrice Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Offshore Transmission Works within the Scottish marine area and the Scottish Offshore Region.
- v. A consent under section 36 of the Electricity Act by Telford Offshore Windfarm Limited (Company Number 07386810) and having its registered office at First Floor, 14/18 City Road, Cardiff, South Glamorgan, CF24 3DL for the construction and operation of Telford Offshore Wind Farm in the Outer Moray Firth;
- vi. A consent under section 36 of the Electricity Act by Stevenson Offshore Windfarm Limited (Company Number 07386838) and having its registered

office at First Floor, 14/18 City Road, Cardiff, South Glamorgan, CF24 3DL for the construction and operation of Stevenson Offshore Wind Farm in the Outer Moray Firth;

- vii. A consent under section 36 of the Electricity Act by MacColl Offshore Windfarm Limited (Company Number 07386891) and having its registered office at First Floor, 14/18 City Road, Cardiff, South Glamorgan, CF24 3DL for the construction and operation of MacColl Offshore Wind Farm in the Outer Moray Firth;
- viii. A marine licence to be considered under the 2009 Act by Telford Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Telford Offshore Wind Farm;
- ix. A marine licence to be considered under the 2009 Act by Stevenson Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Stevenson Offshore Wind Farm;
- x. A marine licence to be considered under the 2009 Act by MacColl Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the MacColl Offshore Wind Farm; and
- xi. A marine licence to be considered under the 2010 Act and the 2009 Act by Moray Offshore Renewables Limited ("MORL") to deposit any substance or object and to construct, alter or improve any works in relation to the Offshore Transmission Works within the Scottish marine area and Scottish Offshore Region.

Applications v to xi are listed here for your information as they have been considered in combination with the applications i to iv to undertake an Appropriate Assessment ("AA") as part of the Habitats Regulations Appraisal ("HRA") .

## **THE APPLICATION**

I refer to the application at i above made by the Company, received on 23<sup>rd</sup> April 2012, for consent under section 36 of the Electricity Act for the construction and operation of the Development in the Outer Moray Firth (“the Application”) (Figure 1, and also at **ANNEX G – DEVELOPMENT LOCATION**).

The Application submitted was to construct and operate an offshore wind generating station with a maximum generating capacity of up to 1000 megawatts (“MW”). The maximum generating capacity has since been reduced during the course of the consideration of the Application to address concerns expressed by consultees. Consent is now sought for an offshore generating station with a maximum generating capacity of up to 750 MW, consisting of up to 140 wind turbine generators (“WTGs”)

At this time, the Company also applied for a declaration under section 36A of the Electricity Act (application ii) to extinguish public rights of navigation so far as they pass through those places within the Scottish marine area (essentially the territorial sea adjacent to Scotland) where structures (but not, for the avoidance of doubt the areas of sea between those structures) forming part of the offshore wind farm and offshore transmission works are to be located.

In tandem with the consultation on application i, Marine Scotland Licensing Operations Team (“MS-LOT”) has consulted on a marine licence application (received on 23<sup>rd</sup> April 2012) for the Development (application iii).

In tandem with the consultation on applications i and iii, MS-LOT has consulted on a marine licence application (received on 23<sup>rd</sup> April 2012) for the Offshore Transmission Works and export cable to shore at Portgordon (application iv).



## **Project Description**

An offshore wind turbine generating station located as shown in Figure 1 and at **Annex G – DEVELOPMENT LOCATION** to this consent, with a gross electrical output capacity of up to 750 MW comprising:

- not more than 140 three-bladed horizontal axis wind turbines each with a maximum blade tip height of up to 198.4 metres and a maximum rated capacity of up to 8 MW;
- for each wind turbine generator, a substructure (either a monotower or a tubular jacket structure) and foundations (either pin piles, suction piles or gravity bases);
- for each wind turbine generator, a transition piece (including access ladders / fences and landing platforms), turbine tower, blades and nacelle; and
- inter array cabling to the connection point on the offshore sub-station platforms

and, except to the extent modified by the foregoing, all as specified in the application letter and the project description contained in the accompanying Environmental Statement (“ES”) (section 7 of the ES as supplemented by section 4 of the Supplementary Environmental Information Statement (“SEIS”)) but subject always to the conditions specified in **Annex D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2** of this consent.

A condition has been attached to the consent (condition 5) at **Annex D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2** which restricts the number and parameters of the WTGs. This is to provide that the Development may only be constructed in excess of specified parameters subject to the approval of the Scottish Ministers where the Company has demonstrated to the satisfaction of the Scottish Ministers that the predicted impact of the Development would not exceed a certain level.

## **Location of Development**

The wind farm site is located approximately 25 km south south-east of Wick, Caithness (Figure 1). The wind farm boundary is, at its closest point to land, 13.5 km from the Caithness coastline. The total lease area is approximately 131.5 km<sup>2</sup> and sits at the north westernmost point of the Smith Bank in the Moray Firth. The two existing Beatrice demonstrator turbines are located approximately 11 km to the south west of the wind farm site. The existing unmanned Jacky oil platform is located adjacent to the south west of the site and the existing Beatrice A, B and C oil platforms are located approximately 5, 10 and 14 km south west of the site, respectively. The Moray Firth Round 3 Zone (the MORL site) is positioned along the eastern boundary of the Development site.

The Marine Renewable Energy and the Natural Heritage: an Overview and Policy Statement (Scottish Natural Heritage (“SNH”), 2004) and Matching Renewable Electricity Generation and Demand (Scottish Government, 2006) indicated the Moray Firth Area was favoured for development of large scale offshore wind farms. In 2008

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

- Existing development, construction and operational experience on the Smith Bank in deep water;
- A favourable wind regime, as identified from five years of wind data from meteorological masts at the Durrans Mains onshore wind farm and two years of LIDAR wind data from the Beatrice A platform;
- An existing 1,000 MW Grid Connection Agreement held since 2006;
- Perceived low seascape, landscape and visual sensitivity – based on findings of the SNH (2006) assessment of sensitivity and capacity of the Scottish seascape in relation to wind farms (low to medium sensitivity, moderate to high capacity for development); and
- Perceived low environmental constraints – due to the lack of designated sites and rare or protected species recorded in close proximity to the wind farm site.

In February 2009 The Crown Estate (“TCE”) announced an Exclusivity Agreement with The Company. The suitability of the site was further affirmed in May 2010 with the Scottish Government’s publication of the Strategic Environmental Assessment (“SEA”) in the Draft Plan for Offshore Wind Energy in Scotland which confirmed that all ten Scottish Territorial Waters 2009 lease round sites could be developed between 2010 and 2020 if “appropriate mitigation is implemented to avoid, minimise and offset significant environmental impacts”.

In March 2011 ‘Blue Seas – Green Energy, A Sectoral Marine Plan for Offshore Wind Energy in Scottish Territorial Waters’ was published by Marine Scotland. Of the original ten sites proposed by TCE in Scottish Territorial Waters, the ‘Blue Seas – Green Energy’ publication endorsed six of the original ten proposals as suitable sites for development. The six selected sites included the Beatrice site as a short-term site (for development by 2020) The Plan recommended the Development option should be taken forward to the licensing stage. A key finding of the Plan was that there is significant potential for this Development in the short term and it appears to be publically and environmentally acceptable. Another key finding was that the north east area relates closely to areas where there is significant potential for economic investment and employment.

Officials recommend that the location of the Development is appropriate having regard to its many advantages.

### **Landscape and Visual Impacts**

SNH, the Scottish Ministers statutory advisers on visual impacts on designated landscape features, and the Joint Nature Conservation Committee (“JNCC”) were consulted and neither objected on landscape and visual grounds.

SNH and the JNCC stated that the key landscape, seascape and visual impacts of the Development, together with the MORL proposal to develop another three offshore wind farms adjacent to the Development site, will occur along a 39 km stretch of the Caithness coast from Noss Head to Dunbeath. Here at its closest the

Development is 13.5 km from shore with the MORL proposal being 22 km from shore. The Development and the MORL proposal are likely to be perceived as one single wind farm lying offshore, parallel to the coast. They will form a prominent new feature (some 19 km in length) on the skyline of the open sea from the Caithness Coast. The visual impacts are primarily caused by the Development, rather than MORL due to the closer proximity to shore. SNH and the JNCC recommended that landscape consultants continue to be involved post-consent to work with the project and engineering teams to scope and finalise the wind farm design.

SNH and JNCC advised that where a viewpoint/ location has a panoramic and expansive context, the offshore development may well appear ‘incidental’ on the horizon. However landscape and visual effects will be adverse at specific viewpoints and locations, especially elevated cliff tops and landmarks. This will be the case at key viewpoints such as Wick, Sarclet, Whaligoe Steps, Lybster Harbour, Dunbeath Castle and from stretches of the A9. Due to lighting requirements, the wind farms will change the night-time character of seas and skies in this area where there is currently limited light pollution. SNH and the JNCC advised that impacts on the Moray and Aberdeenshire coastline would be negligible. SNH and the JNCC recommended that the final turbine layout should be agreed with Scottish Ministers and that visualisations for this final layout should be produced for statutory consultees and public information.

Conditions requiring the submission of a Development Specification and Layout Plan, Design Statement and a Lighting and Marking Plan have been included in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

Both Moray Council and The Highland Council were consulted on landscape and visual grounds. Moray Council did not raise any concerns regarding the visual impact of the proposed Development whilst The Highland Council raised some concerns regarding the visual impact of the Development as they considered the WTGs had not been represented at the correct scale in the visualisations. However, their concerns were not sufficient to cause them to object to the Development.

### **Marine Mammal Impacts**

SNH, the JNCC and the Whale and Dolphin Conservation (“WDC”) advised that a key concern was the potential impacts from pile driving during construction. Two species, harbour seal from the Dornoch Firth and Morrich More Special Area of Conservation (“SAC”), and bottlenose dolphin from the Moray Firth SAC (Figure 1.) were considered in the AA. The Company presented population modelling for both these species and SNH, the JNCC and Marine Scotland Science (“MSS”) were satisfied that this used the best scientific approach currently available. The models predicted some impacts during construction but no long term effects and the AA concluded that the Development will not adversely affect site integrity of either SAC above, subject to conditions recommended from the AA (**ANNEX E – APPROPRIATE ASSESSMENT**) being included in **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2** (condition numbers: 11,12,15,16,27,29 & 30). SNH and the JNCC agreed with this conclusion.

Impacts on other cetacean species including harbour porpoise and minke whale were also considered by the Company. For all cetacean species which may potentially occur in the Moray Firth, SNH, the JNCC and MSS agreed with the conclusions reached in the ES that disturbance arising from the Development in combination with the MORL proposal would not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range. A European Protected Species (“EPS”) licence will be required prior to construction because construction works are likely to cause disturbance to cetaceans. A Marine Mammal Monitoring Plan (“MMMP”) is required as part of the Project Environmental Monitoring Programme (“PEMP”) condition of this consent (see **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**) and WDC have welcomed the opportunity to be consulted on the MMMP. Details on marine mammal impacts are discussed further in **ANNEX E – APPROPRIATE ASSESSMENT**.

### **Ornithological Impacts**

The potential impacts of the Development on bird species were considered in detail by the Company, MS-LOT and advisors during the assessment of the Application. The Royal Society for the Protection of Birds Scotland (“RSPB Scotland”), SNH and the JNCC expressed concerns about the potential impact of the Development, on its own and in combination with the MORL proposal, on several bird species using the Moray Firth. The species of most concern were great black backed gull, herring gull, gannet, puffin, razorbill and guillemot. Concerns over great black backed gull, herring gull and gannet were mainly in relation to collision risk with the WTGs during operation whereas concerns over the auk species (puffin, razorbill and guillemot) were in relation to displacement of these species from the wind farm sites.

Of the species above all except gannet were considered in the AA as gannet is not a qualifying feature of the nearby Troup, Pennan and Lion’s Head Special Protected Area (“SPA”). However as part of the Gamrie and Pennan Coast Site of Special Scientific Interest (“SSSI”), the gannet colony at Troup Head is a notified feature and therefore requires careful consideration. SNH and the JNCC advised that the colony at Troup Head has been expanding and concluded that the Development in combination with MORL would not have a significant adverse impact on the SSSI gannet population.

When considering whether impacts are acceptable one must have an estimate of the level of predicted impact and the level of acceptable change that a population can withstand in order to make decisions on site integrity for an SPA. The common currency approach was developed iteratively, as part of the assessment process to inform the AA for those species at sites where initial assessment of Worst Case Scenarios (“WCS”) indicated a concern. The common currency approach is used to assess the magnitude of effects where a range of potential values could influence the outcome of the assessment. This approach involved MORL and the Company, the JNCC, SNH, and MSS agreeing the parameters which were most appropriate when predicting the levels of impact that MORL and the Development were likely to have on bird populations. The common currency allowed numbers to be generated for collision and displacement effects for each species of concern giving a cumulative impact from the MORL and BOWL developments. The approach informed changes from WCS to scenarios with lesser effects.

MSS, the JNCC and SNH used different assessment methods when providing advice on the level of acceptable change. The JNCC and SNH used a method called Potential Biological Removal (“PBR”) whereas MSS applied the Acceptable Biological Change (“ABC”) tool to the Population Viability Analysis (“PVA”) models developed by MORL and the Company, as MSS believed that this method used the best available evidence (full details of these methods are provided in **Appendix 1 – Technical Bird Appendix**). There was initially some uncertainty over whether predicted impacts were acceptable for great black-backed gull and puffin from the East Caithness Cliffs SPA (see **Appendix 1 – Technical Bird Appendix** for details), however although different assessment methods were used, the JNCC, SNH and MSS all finally advised that the Development and the MORL proposal will not adversely affect site integrity of the SPAs of concern (East Caithness Cliffs SPA, North Caithness Cliffs SPA and Hoy SPA). The AA undertaken (see **ANNEX E – APPROPRIATE ASSESSMENT**) concluded the Development and the MORL proposal will not adversely affect site integrity of these three SPAs.

Some background information on the East Caithness Cliffs SPA and on the population trends of puffin and great black backed gull (the two species where greatest concerns have been raised) is provided below:

#### East Caithness Cliffs SPA

The East Caithness Cliffs SPA is located on the east coast of Caithness in northern Scotland (Figure 1.). The site comprises most of the sea-cliff areas between Wick and Helmsdale. The cliffs are formed from Old Red Sandstone and are generally between 30-60 m high, rising to 150 m at Berriedale. Cliff ledges, stacks and geos provide ideal nesting sites for internationally important populations of seabirds, especially gulls and auks. The seabirds nesting on the East Caithness Cliffs feed outside the SPA in inshore waters as well as further away. The cliffs overlook the Moray Firth, an area that provides rich feeding areas for fish-eating seabirds. The site qualifies as an SPA:

- under Article 4.1 of the Wild Birds Directive by supporting populations of European importance species listed in Annex I of that Directive - peregrine falcon;
- under Article 4.2 of the Wild Birds Directive by supporting populations of European importance of the following migratory species – guillemot, herring gull, kittiwake, razorbill and shag; and
- assemblage qualification under Article 4.2 of the Wild Birds Directive by regularly supporting at least 20,000 seabirds (during the breeding season the area regularly supports 300,000 individual seabirds including: puffin, great black-backed gull, cormorant, fulmar, razorbill, guillemot, kittiwake, herring gull, shag.

Puffin - The UK population of puffin is approximately 600,000 ‘pairs’, representing 10% of the biogeographic and world populations. At time of designation the East Caithness Cliffs SPA was estimated to support 1750 pairs or 0.03% of the UK population. During the assessment process for the MORL and BOWL applications, uncertainties about the population sizes at the time of designation, and subsequent trends, of this SPA arose. The most recent counts indicate that the population currently comprises approximately 274 pairs. When considering this figure with the

estimate at designation it was initially considered that the population had declined substantially, however it is now believed that the population is fairly stable as the estimate at time of designation is believed to be incorrect. Due to these uncertainties the JNCC and SNH considered the East Caithness Cliffs SPA population together with the North Caithness Cliffs SPA population to inform their final advice on puffin.

Great black-backed gull - The UK population of great black-backed gull is approximately 17,000 pairs which is 16% of the biogeographic population or 10% of the world population. At time of designation the East Caithness Cliffs SPA supported 800 pairs or 0.5% of the UK population. The most recent counts indicate that the population currently comprises approximately 150 pairs. Large species of gulls (including great black-backed gull) experienced a period of rapid population growth and range expansion in the North Atlantic from the late 19th to the later part of the 20th Century. This was likely due to release from persecution and increased availability of fish discards and landfill refuse. Improvements in the management of these wastes are one of the most likely causes for the decline in populations of large gull species in Scotland since the 1980's, mirroring similar declines over much of their range. Between operation Seafarer (1969-70) and the Seabird Colony Register (1985-88) the UK population declined by 7%, with a further 4% decline by Seabird 2000 (1998-2002). In Scotland, the population declined by 4% between 1969-70 and 1985-88, and a further 4% by 1998-2002. In Scotland the decline appears to have continued since 1999 but data from Caithness suggests that the population has been stable in more recent years.

### **Habitats Regulations Appraisal**

Owing to the view of SNH and the JNCC that the Development is likely to have a significant effect on the qualifying interests of a number of SPAs and SACs, MS-LOT, on behalf of the Scottish Ministers, as the competent authority, was required to carry out an AA. Having carried out the AA (considering all the advice received from SNH, the JNCC and MSS) it can be ascertained with sufficient confidence that the Development, subject to appropriate conditions being included within the consent, will not adversely affect site integrity of any of the identified SPAs and SACs assessed to have connectivity with the Development. SNH and the JNCC agreed with all conclusions reached in the AA. A full explanation of the ornithology issues and justification for decisions regarding site integrity is provided in **Appendix 1 – Technical Bird Annex** and **ANNEX E – APPROPRIATE ASSESSMENT**.

SNH, the JNCC and MSS recommended that certain conditions be included on any consent which would allow this 750 MW Development to be implemented. These conditions have been included in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

### **Summary**

MS-LOT has undertaken a full and thorough consultation with relevant stakeholders and members of the public and are of the opinion that there are no considerations which would prevent consent being granted to the Development in its current location subject to the imposition of conditions (subject to the Minister's approval). The Application has been considered fully and carefully, as have its accompanying

documents and all relevant responses from consultees. Third party representations received have also been considered.

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 section 36 consent and 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.

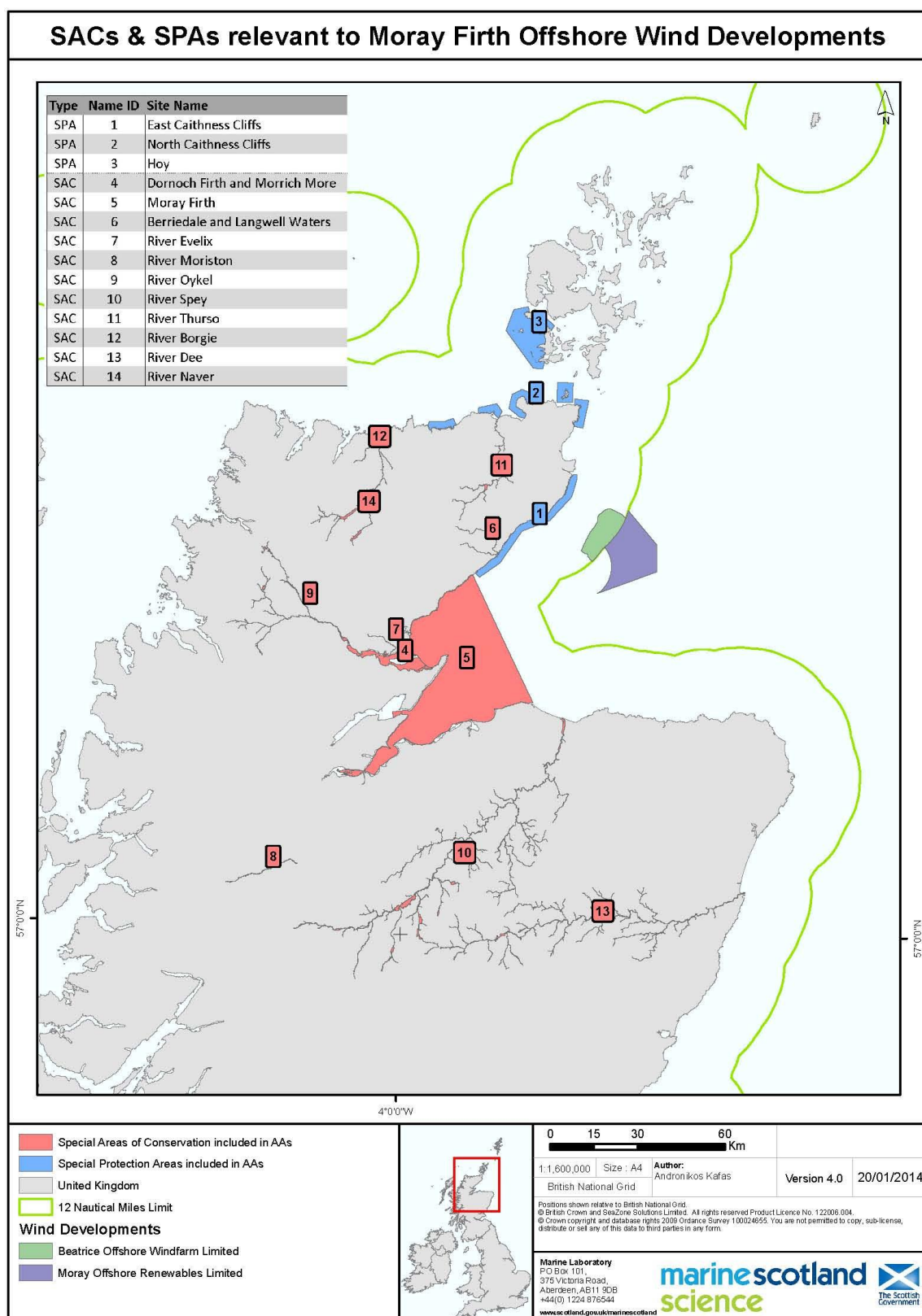


Figure 1. Location of the BOWL and MORL wind farm developments in the Moray Firth and the relevant SPAs and SACs.



## **CONSULTATION EXERCISE**

### **Consultation on the Application, Environmental Statement and Supplementary Environmental Information Statement**

Under Schedule 8 to the Electricity Act, and Regulations made under that Act (Electricity (Applications for Consent) Regulations 1990 (“the 1990 Regulations”)), the Scottish Ministers are required to consult any relevant Planning Authority (although as the Development in respect to which this Application for section 36 relates is wholly offshore the closest planning authority is not a ‘relevant Planning Authority’ under the Electricity Act). In addition, to comply with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (“the EIA Regulations”), there is a requirement to consult SNH, the Scottish Environment Protection Agency (“SEPA”) and any other person likely to be concerned by the proposed Development by reason of their specific environmental responsibilities. As the JNCC are the statutory conservation body for the offshore area (outwith 12 nautical miles) they have also been consulted as part of the cable route for the Development lies out with 12 nautical miles.

In complying with the EIA Regulations, the Company identified the proposed Development as an EIA development and hence one which would require an ES. This ES should describe the environmental impacts and the proposed mitigation measures associated with the Development.

MS-LOT consulted a wide range of relevant organisations including colleagues within the Scottish Government on the Application and ES, and as a result of issues raised, the required Supplementary Environmental Information Statement (“SEIS”). In accordance with the statutory requirements, as part of the overall consultation, MS-LOT sought the advice of SNH, the JNCC, SEPA and the Planning Authorities most local to the Development.

Due to a revision in the proposed cable route to shore, and further work being required for ornithology and bottlenose dolphin population modelling to inform impact assessments (including HRA), further information was requested from the Company. The SEIS was received by MS-LOT on 29<sup>th</sup> May 2013 and public notices placed in all publications where the original application was advertised to notify any interested parties. MS-LOT consulted on the SEIS with all the organisations invited to comment on the original Application and ES.

#### **Statutory Consultees**

**Moray Councils (“MC”)** Planning & Regulatory Services Committee considered the Development and stated that they did not object to the Development.

**The Highland Council (“THC”)** did not object to the Development however, in their response, a number of points were raised for inclusion either as conditions or further consideration. This included, but is not limited to, information on visuals of the proposed Development as well as a TV and radio reception mitigation plan.

During the scoping phase of the Development, THC had requested that visualisations be submitted to The Highland Council standards (which differs from the SNH standards) as set out in Highland Council guidance: “Visualisation Standards for Wind Energy Development”. These visualisations were omitted from the original Application, however were later provided to THC. Upon review, THC did not consider that the visuals presented followed the guidance and therefore requested that they be redone. The Company revised the visuals as requested and presented these to the THC. Although the THC did not object to the Development they did not feel that issues over the visuals had been fully resolved as in their opinion the Company WTGs are not of the scale that one would expect given that the Development is closer to shore than the Moray Offshore Windfarm development. Their concerns however were not sufficient to cause them to object to the Development. THC requested that it be consulted and its opinion be taken into account when designing the final layout and lighting requirements of the wind farm, alone and in combination with the neighbouring wind farms. As the wind farm is located out with the remit of THC, the final layout and lighting scheme of the WTGs will be provided for information purposes only prior to Commencement of the Development. Conditions covering this request (Design Statement and Lighting and Marking Plan) are included in this consent at **ANNEX D – DECISION LETTER AND CONDITIONS, Annex 2.**

THC recommended conditions that should be considered and attached to any consent should consent be granted to the Development. The suggested conditions concerned Gross Value Added (“GVA”) in terms of potential employment gain to the Highlands, engagement with Highland’s renewable energy supply chain, maximising socio-economic returns from the Development, the potential for a turbine manufacturer to locate in the Highlands and a visitor centre within Caithness. These are matters that cannot be provided for within conditions to be attached to a section 36 consent. Where appropriate, enforceable conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS, Annex 2.**

THC requested that a fishing industry liaison group be established to help address the concerns of the industry. The Moray Firth Commercial Fisheries Working Group has since been set up and has met to begin discussions on issues, concerns and mitigation measures. A condition relating to continued membership of this group is included in this consent at **ANNEX D – DECISION LETTER AND CONDITIONS, Annex 2.**

**Scottish Natural Heritage (“SNH”) and the Joint Nature Conservation Committee (“JNCC”)**, statutory consultees, provided a joint interim response to the Application on 19<sup>th</sup> July 2012 stating that further information was required in order to assess the impacts on many of the receptors. SNH and the JNCC highlighted the need for further discussion on impact assessments and HRA for key bird species from a number of SPAs as the Development is located within the foraging range of a number of SPA breeding seabird colonies (e.g. the mean-max foraging range of a puffin is 105.4 km (Thaxter *et al.* 2012)) thus establishing connectivity. This advice was followed up by a series of meetings with the Company to determine what information was required. Following the Company’s submission of the SEIS in May 2013, SNH and the JNCC provided their formal advice on 8<sup>th</sup> July 2013.

SNH and the JNCC advised that the Development is likely to have a significant effect on the qualifying interests of a number of SACs and SPAs. SNH and the JNCC advised MS-LOT to carry out an AA in view of the conservation objectives for these sites.

SNH and the JNCC undertook their own appraisal of the Development and concluded that the EIA and HRA have shown that some SPA seabird species are the key natural heritage interest which will constrain the Development in combination with the MORL proposal. Impacts on birds including collision risk and displacement will occur over the operational lifespan of the wind farm. SNH and the JNCC highlighted great black-backed gull as being of particular concern, followed by herring gull and three auk species (puffin, guillemot and razorbill). SNH and the JNCC used a method called PBR in their appraisal to determine whether levels of impact would be acceptable under the Habitats Regulations.

SNH and the JNCC advised that the **Development:**

- **would** give rise an adverse effect on site integrity at the East Caithness Cliffs SPA in respect of great black-backed gull both alone and in combination with the MORL proposal;
- **could** give rise to an adverse effect on site integrity at the East Caithness Cliffs SPA in respect of herring gull both alone and in combination with the MORL proposal;
- **could** give rise to an adverse effect on site integrity at the East Caithness Cliffs SPA in respect of puffin in combination with the MORL proposal;
- **could** give rise to an adverse effect on site integrity at the North Caithness Cliffs SPA in respect of puffin in combination with the MORL proposal;
- **could** give rise to an adverse effect on site integrity at the East Caithness Cliffs SPA in respect of guillemot in combination with the MORL proposal;
- **could** give rise to an adverse effect on site integrity at the East Caithness Cliffs SPA in respect of razorbill in combination with the MORL proposal.

In addition to the SPA species bulleted above, SNH and the JNCC advised that neither collision nor displacement (as a consequence of both the Development and the MORL proposal) would have a significant adverse effect on the gannet population of the Gamrie and Pennan Coast SSSI.

Following the advice on the SPA bird species likely to be affected, a series of meetings were held with the JNCC and SNH, MSS and both BOWL and MORL to resolve “common currency” issues to support a more reliable cumulative impact assessment and comparison between the two development proposals. Following these discussions SNH provided updated ornithology advice on 29<sup>th</sup> October 2013 to MS-LOT. SNH and the JNCC concluded the following for the cumulative assessment based on the Company’s Most Likely Scenario (“MLS”) of 140 WTGs and MORL’s WCS of 339 WTGs:

- no adverse effect on site integrity at East Caithness Cliffs SPA for great black-backed gull, if cumulative collision risk mortality is no greater than 6 birds per annum;
- no adverse effect on site integrity at East Caithness Cliffs SPA for herring gull;

- no adverse effect on site integrity at East Caithness Cliffs SPA for Puffin, if cumulative displacement amounts to no more than 24 pairs per annum;
- no adverse effect on site integrity for puffin at North Caithness Cliffs SPA;
- no adverse effect on site integrity for guillemot at East Caithness Cliffs SPA; and
- no adverse effect on site integrity for razorbill at East Caithness Cliffs SPA.

This advice was reviewed by MSS and their comments communicated to MS-LOT on 31<sup>st</sup> October 2013. Clarification was sought on the great black-backed gull threshold of 6 birds during a teleconference on the 21<sup>st</sup> November 2013 between SNH, the JNCC, MSS and MS-LOT. SNH and the JNCC confirmed that the figure of 6 great black-backed gull stipulated in the advice actually refers to breeding adult birds. SNH and the JNCC confirmed that the numbers of collisions predicted by the cumulative common currency would not result in an adverse effect on site integrity for great black-backed gull at East Caithness Cliffs SPA.

During the determination process for the BOWL and MORL applications, uncertainties about the population sizes of puffin at the time of designation, and subsequent trends, from the East Caithness Cliffs and North Caithness Cliffs SPAs arose. This resulted in the JNCC and SNH providing updated advice on puffin on the 17th January 2014. Due to the uncertainties over the population estimates, this advice was given on the combined populations of these two SPAs. SNH and the JNCC advised that there would be a cumulative total of 199 additional puffin mortalities from the two Moray Firth developments (28 from BOWL and 171 from MORL). In order to assess these impacts SNH and the JNCC used the PBR method to calculate revised limits of acceptable change for a joint SPA population of 7345 pairs of puffin – the total number of puffin at East and North Caithness Cliffs SPAs recorded during the Seabird 2000 survey. SNH and the JNCC advised that the current population trends are uncertain, so they used a range of  $f$  values from 0.3 – 0.5, making the precautionary assumption that overall trends are stable or declining. Using the PBR method, the limit of acceptable change for the overall population across both SPAs, falls within a range of 212 – 354 puffin mortalities. SNH and the JNCC conclude that the predicted level of puffin mortality across the BOWL and MORL wind farm sites is within limits of acceptable change and will not result in any long-term impacts on the viability of the puffin population across the East and North Caithness SPAs, therefore there would be no adverse effect on site integrity in respect of either the East or the North Caithness Cliffs SPAs. SNH and the JNCC also advised that this combined assessment addresses the requirements for HRA of this qualifying interest at both SPA sites.

With regards to marine mammals SNH and the JNCC concluded that they were satisfied with the assessment methods presented in the ES and SEIS and the conclusion reached, that there would be no long-term effects from underwater noise disturbance on the bottlenose dolphin population from the Moray Firth SAC or the harbour seal population from the Dornoch Firth and Morrich More SAC, thus no adverse effect on site integrity of either SAC. SNH and the JNCC advised that it has not been established whether there is a link between the use of ducted propellers and the corkscrew injuries which have been recorded in seal species over the last couple of years. Research in this regard has been commissioned by Marine Scotland and SNH and is currently being undertaken by the Sea Mammal Research Unit

("SMRU"). A condition requiring a Vessel Management Plan ("VMP") is included in this consent at **ANNEX D – DECISION LETTER AND CONDITIONS, Annex 2**. The VMP will consider measures to mitigate potential corkscrew injuries to seals, and SNH and the JNCC will be consulted on this plan.

With regards to Atlantic salmon, freshwater pearl mussel and sea lamprey SNH and the JNCC concluded that the Development would not result in any adverse effect on site integrity for any of the freshwater SACs considered to have connectivity with the Development.

With regards to habitat interests SNH and the JNCC concluded that the Development would not result in any adverse effect on site integrity of the Moray Firth SAC, although this would require further consideration should a further marine licence application be made for the dredging and disposal of sediment in connection with gravity bases, if used.

The AA carried out by MS-LOT concluded that the Development and the MORL proposal will not adversely affect site integrity of any of the freshwater SACs, the Dornoch Firth and Morrich More SAC or the Moray Firth SAC. SNH and JNCC agreed with these conclusions reached in the AA.

SNH and the JNCC advised that a EPS licence would be required due to the potential for disturbance to cetacean species. An EPS licence(s) will be applied for when the final wind farm layout, design and foundation options have been confirmed.

A key concern of SNH and the JNCC in respect of marine fish, relates to underwater noise impacts from pile-driving of the WTG foundations during construction on cod and herring. It is recommended that during pile driving events, a reduction in the blow force used to hammer in the pile, could mitigate noise impacts during peak spawning periods for these species. SNH and the JNCC also recommended pre and post construction monitoring of sandeels be carried out.

Benthic surveys by the Company identified a potential Priority Marine Feature ("PMF") (SS.SCS.ICS.MoeVen), SNH and the JNCC advised that this is a deep water version of the PMF biotope found in shallower waters. Further consideration of this biotope should be given through consideration in the Construction Method Statement ("CMS") of siting of WTGs.

For visual impacts, SNH advised that the key landscape, seascape and visual impacts of the Development in combination with MORL will occur in a core area along a 39 km stretch of the Caithness coast from Noss Head in the North, to Dunbeath in the South. Here at its closest the Development is 13.5 km from shore with the MORL proposal being 22 km from shore. SNH suggested that the BOWL and MORL proposal are likely to be perceived as a single wind farm lying offshore, parallel to the coast. The wind farms will form a prominent new feature (some 19 km in length) on the skyline of the open sea. The visual impacts are primarily caused by the Development, rather than the MORL wind farms due to its closer proximity to shore. The impacts on the Moray and Aberdeenshire coastline were considered to be negligible.

SNH and the JNCC requested that conditions be attached to any consent to mitigate their concerns. Where appropriate, enforceable conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

The **Scottish Environment Protection Agency (“SEPA”)**, a statutory consultee, stated that it did not object to the Development provided that certain conditions were applied as follows:

- a site specific Environmental Management Plan (“EMP”) must be submitted for the written approval of the determining authority (in consultation with SEPA) (and other agencies such as SNH as appropriate) and all work shall be carried out in accordance with the approved plan.

SEPA advised that the Development would not be likely to result in the downgrade in any water bodies. However given that the accidental introduction of Marine Non-Native Species (“MNNS”) has been highlighted as a risk for water body degradation, SEPA recommended that controls should be included in development planning and marine licensing for MNNS in line with Water Framework Directive and Marine Strategy Framework Directive objectives, and European Union Biodiversity Strategy targets. 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 asked that the measures to minimise the risk of introducing MNNS into the area be included in the EMP.

SEPA also requested that a condition is attached to any consent requiring the preparation of a monitoring and mitigation scheme for potential impacts on the adjacent coastline. This request, together with the request for an EMP, will be captured under a wider condition for environmental monitoring and mitigation as reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

#### Non Statutory Consultees

The **Association of Salmon Fishery Boards (“ASFB”)** objects to the Development due to there being insufficient information to make an adequate assessment of the potential negative effects on salmonids. The concerns raised included the impacts from noise during construction, Electro Magnetic Fields (“EMF”) from cabling, impacts on prey species and aggregation effects of the turbines resulting in aggregations of predators. The ASFB recognises that these information gaps can only reasonably be filled by large scale strategic research and have requested the inclusion of a formal mitigation agreement on any consent.

SNH and the JNCC have concluded that the Development would not result in any adverse effect on site integrity of any freshwater SACs considered to have connectivity with the Development. SNH and the JNCC state in their advice that they considered other SACs, but only gave their assessment on those SACs where there may be connectivity with the Development. MS-LOT also concludes, after carrying out an AA, that the Development will not adversely affect site integrity of any freshwater SAC designated for Atlantic salmon, freshwater pearl mussel and sea lamprey considered to have connectivity with the Development.

MS-LOT recognises that current scientific knowledge could be improved to better understand the migratory movements and behaviour of salmonids at sea and any interaction they have with renewable energy devices. In anticipation of this, MSS prepared a report “The Scope of Research Requirements for Atlantic Salmon, Sea Trout and European Eel in the Context of Offshore Renewables” (Malcolm et al, 2013). From this scoping report MSS has identified the need for, and commenced the preparation of a national strategy plan to address the research and monitoring requirements for diadromous fish in the context of possible interaction with the emerging marine renewable energy industry. In taking this process forward, two meetings were arranged with relevant stakeholder groups to identify their perspectives on research priorities. Proposals included: the development and analysis of Scotland’s national fish counter datasets and network, collation of datasets on salmon smolt populations in Scotland (to assess migration run times) and particle tracking model development, to name a few. Some of the above proposals such as the expansion of the fish counter network are already progressing as funding has been secured for the scoping stage.

The ASFB have met with the Company and recognise the willingness of the Company to contribute to, and participate in strategic monitoring and potentially build mitigation options into the wind farm construction schedule.

The ASFB suggest that renewable developments be conditioned to provide that such developers participate in a national strategy at a local level, or by agreement, part fund larger projects. As conditioned in this consent, the yet to be formed “Moray Firth Regional Advisory Group” (“MFRAG”) will have a function in advising the Scottish Ministers on the suitability of any monitoring proposal for Atlantic salmon, sea trout and/or European eel that the Company must undertake, however the Scottish Ministers will have final approval over any recommendations from the MFRAG. The requirement for the Company to contribute at a local level (the Moray Firth) to a monitoring strategy being developed from “The Scope of Research Requirements for Atlantic Salmon, Sea Trout and European Eel in the Context of Offshore Renewables” is captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

**Bond Offshore Helicopters** did not object to the Development and had no comments to make.

**Bristows Helicopters Limited** did not object to the Development, however advised that views should be sought from the Beatrice Oil Field platform owner/ operators Ithaca Energy, Wood Group and Talisman Energy with regard to any commercial impacts of the Development or any impacts on platform safety or any other impacts. This was done and their response is detailed further below.

**British Telecom (“BT”)** did not object as it concluded the Development should not cause interference to its current and presently planned radio networks.

The **Chamber of Shipping (“CoS”)** did not object to the Development and acknowledged that the proposed wind farm site is in an area with relatively low levels of commercial shipping activity and that the main concentrations of traffic on the Pentland Firth route are some 4-5 nautical miles from the site boundary. The CoS

agreed that the impacts on commercial shipping are likely to be relatively low, however raised some concerns over the cumulative impacts of the BOWL and MORL wind farm developments on navigation. The CoS advised that the turbines being aligned in straight lines would be an important mitigation measure. They also raised concerns about the possibility of the anchor interaction with both cable route options, particularly in the Spey Bay area and requested that navigational stakeholders should be consulted on the planned Burial Protection Index (“BPI”) assessment. The CoS also stated that a full rationale for the possible application for 50m operational safety zones should have been provided in the ES. These safety zones will need to be applied for through Department of Energy and Climate Change (“DECC”).

The Company responded to the CoS on the points raised above, giving a commitment to working collaboratively with MORL to support the effective management of cumulative impacts to navigational safety. The Company also advised that further assessment of operational safety zones would be carried out. If safety zones are not justified the Navigational Risk Assessment (“NRA”) will be updated to assess any changes in risk as a result of their removal.

The requirement for a BPI assessment will be captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

The **Civil Aviation Authority (“CAA”)** did not object to the Development; however the CAA highlighted relevant policy statements and guidance relating to standards for lighting of offshore WTGs which the Company should adhere to. The CAA advised that there is a requirement to mark tall objects on aeronautical charts and this can be achieved by informing the UK Hydrographic Office (“UKHO”) of the latitude, longitude and height of the WTGs. This should be done in advance of construction to enable the charts and databases to be updated in sufficient time to make aviators aware of the presence of a new obstacle. A condition capturing this requirement is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

The **Crown Estate (“TCE”)** did not object to the Development and had no comments to make.

The **Defence Infrastructure Organisation (“DIO”) (Ministry of Defence)** initially objected to the Development citing concerns with the Air Traffic Control (“ATC”) radar at RAF Lossiemouth. The DIO stated that wind turbines have been shown to have detrimental effects on ATC and Range Control radars. These effects include the desensitisation of radar in the vicinity of the turbines and the creation of “false” aircraft returns which air traffic controllers must treat as real. Following discussions with, and further consideration of the mitigation proposals submitted by the Company to the DIO, the DIO confirmed that they were prepared to withdraw their objection subject to conditions being attached on any consent. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.** The DIO removed their objection.



The **Health and Safety Executive (“HSE”)** did not object to the Development and had no comments to make.

**Historic Scotland (“HS”)** did not object to the Development and considered that there will be no significant adverse effects on marine or terrestrial assets within their statutory remit. HS are content with the assessment of potential effects on marine archaeology and with the proposed mitigation strategy in relation to identified sites which have archaeological potential.

HS have recommended a condition for inclusion on any consent requiring the implementation of the Protocol for Archaeological Discoveries (Offshore Renewables Projects). This will be captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

The **Inshore Fisheries Group (“IFG”)** did not object to the Development but raised some concerns about a lack of detail in some assessments. The IFG were concerned that there was no evidence regarding impacts on fisheries including squid, scallops, langoustines, lemon sole, plaice and hake. The IFG also considered that there was a lack of information on the potential impacts of piling on spawning and breeding grounds particularly for squid. MSS have advised that cod, herring and sandeels will require specific monitoring; species which are caught incidentally during these surveys will also be recorded. Conditions requiring surveys for cod, herring and sandeels will be captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

**Ithaca Energy (responding on behalf of Ithaca, Talisman and Wood Group PSN)** initially raised some concerns regarding the Development, however after meeting with the Company no objection was raised by Ithaca Energy subject to conditions being attached to the consent. These conditions relate to the positioning of cables or structures within certain distances of infrastructure of interest to Ithaca Energy. These will be captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

One of the proposed conditions has led to the Company altering the cable route to shore, details of this are provided in the SEIS. A condition relating to the positioning of the cable route is to be included in the transmission infrastructure marine licence.

The **Joint Radio Company Limited (“JRCL”)** did not object to the Development.

**Marine Scotland Science (“MSS”)** did not object to the Development, however requested further clarification of assessments carried out in the ES for certain receptors in order to provide advice on the potential impacts that may arise from the Development on each receptor. Discussion between the Company and MSS allowed advice to be given as detailed:

Ornithology - MSS have been involved in several meetings with the Company, MORL, SNH and the JNCC to resolve “common currency” issues to enable a more reliable cumulative impact assessment and comparison between the Development and MORL proposal. Following these meetings, MSS provided advice having considered the final advice from SNH and the JNCC. MSS noted that SNH and the

JNCC had based their advice predominantly on the use of PBR and advised that this method did not use the best available evidence for establishing acceptable levels of change.

MSS applied the ABC tool to the population model outputs provided by MORL and BOWL to estimate acceptable levels of change. PBR was used to “sense check” calculated thresholds.

MSS recognise that no method for assessing the significance of predicted effects is without its issues, however advised that the population model outputs with the precautionary application of the ABC tool (alongside sense checking against PBR) provides the best available information for undertaking the assessment.

MSS provided advice to MS-LOT on 31<sup>st</sup> October 2013 having considered the advice provided by SNH and the JNCC on 29<sup>th</sup> October 2013. MSS advice is detailed below:

- Greater black-backed gull at East Caithness Cliffs SPA - no adverse effect on site integrity if cumulative mortality is approximately 10 birds of all ages per annum. The application of the ABC tool gave a threshold of 15 to 20, therefore 10 is precautionary (to align more closely with figure of 6 advised by the JNCC and SNH - see **Appendix 1 – Technical Bird Appendix** below for a full explanation of these figures and details of the issue regarding breeding birds and birds of all ages);
- Herring gull at East Caithness Cliffs SPA – agree with the JNCC and SNH that there will be no adverse effect on site integrity;
- Guillemot at East Caithness Cliffs SPA – agree with the JNCC and SNH that there will be no adverse effect on site integrity;
- Razorbill at East Caithness Cliffs SPA - agree with the JNCC and SNH that there will be no adverse effect on site integrity;
- Puffin at East Caithness Cliffs SPA, no adverse effect on site integrity. MSS do not agree with the assessment method used by the JNCC and SNH and consider that the displacement effects were overestimated and highly precautionary.; and
- Puffin at North Caithness Cliffs SPA – agree with SNH and JNCC that there will be no adverse effect on site integrity.

Following the uncertainties over the population estimates cited for puffin from the East and North Caithness Cliffs SPAs MSS completed a further assessment of the potential impacts, again applying the ABC tool to the population model outputs. MSS advised that there would be no adverse effect on site integrity of the East and North Caithness Cliffs SPAs with respects to puffin if they were considered independently or together.

A full explanation of the ornithology issues and justification for decisions regarding site integrity is provided in **Appendix 1 – Technical Bird Annex** and **ANNEX E – APPROPRIATE ASSESSMENT**.

*Marine Mammals* - For bottlenose dolphin, MSS advised that the most appropriate reference population to assess impacts against is the Coastal East Scotland (“CES”)

with a population of between 162 and 253 (median 195) animals. MSS advised that noise propagation modelling indicates that bottlenose dolphins may receive noise levels sufficient to cause disturbance in some areas of their range, and therefore an EPS licence will be required for bottlenose dolphins. However, evidence from the PVA modelling indicates that there will be no impact on the favourable conservation status of the population. MSS also provided advice for the Moray Firth wind farms in combination with the Moray Firth port developments (Nigg, Ardersier and Invergordon) and advised that these developments in combination would not result in an adverse effect on the integrity of the Moray Firth SAC.

For harbour porpoise, MSS advised that the appropriate management unit for harbour porpoise is the North Sea. This area is estimated to contain 227,298 animals, with 95% confidence intervals ranging from 176,360 to 292,948 animals. Evidence from studies of harbour porpoise responses to seismic surveys in the Moray Firth suggests that animals were displaced by noise effects within 10 km, however return with a few hours. Based on the information provided in the ES, MSS advised that the Development in combination with MORL will not have a significant adverse effect on the North Sea, or Moray Firth harbour porpoise population.

For minke whale, MSS advised that the management area for minke whale is British and Irish waters. This area is estimated to contain 23,163 animals, with 95% confidence intervals ranging from 13,772 to 38,958. MSS advised that disturbance from piling will not affect the favourable conservation status of the minke whale population. However, disturbance of individual animals is likely to occur, both inside and outside of Scottish Territorial Waters, from both the Development and MORL, necessitating the requirement for an EPS licence.

For harbour (common) seal, MSS advised that the population effects were assessed through a seal assessment framework and were presented in the ES. The results demonstrated that for both the Development alone, and in combination with MORL, there would be an effect on the population of harbour seals within the Moray Firth seal management area during the construction period, but that this population would recover following the end of construction. Advice from SNH and the JNCC on this basis stated that there would be no adverse effect on site integrity of the Dornoch Firth and Morrich More SAC.

For grey seal, MSS advised that they are in agreement with the conclusions reached in the ES that the numbers of grey seals that may be affected by the Development do not pose a risk to their population status.

MSS expect the JNCC piling guidelines to be followed and would look to develop strategies that would minimise the impacts of disturbance to all marine mammal species. MSS have also requested that monitoring be carried out to validate predictions made in the ES regarding levels of disturbance and the effect of the Development on populations of marine mammals. MSS are aware that the Company and MORL have been consulting with the University of Aberdeen on a Marine Mammal Monitoring Plan ("MMMP") that would address this, and would also provide useful evidence to inform future rounds of wind farm development. Conditions detailing required mitigation and monitoring for marine mammals are reflected in the

draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

Commercial Fish - MSS raised concerns over the cumulative impacts on the scallop fishery and also on the impacts on vessels under 15 m which would be more limited to the grounds they are able to access. The Company identified only one small vessel fishing scallops in the Development site. MSS recommended the implementation of a 'Fisheries Working Group' to address the concerns of the fishing industry. The 'Moray Firth Offshore Wind Developers Group - Commercial Fisheries Working Group' ("MFOWDG-CFWG") has since been established and met for the first time on the 18<sup>th</sup> April 2013. Mitigating the construction, operational and decommissioning impacts of the Development, in combination with the adjacent MORL proposal, was identified as the key aim for the MFOWDG-CFWG. A condition for the Company to continue its involvement in the MFOWDG-CFWG is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.** MSS welcome the commitment by the Company for continued engagement with the fishing industry and participation in the MFOWDG-CFWG within the Moray Firth area. MSS recommend a 1m minimum cable burial depth where possible; cable protection and over trawl surveys post installation. These requirements will be captured in the Cable Plan, which is a condition of consent, and is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

Marine Fish - MSS requested that the Company conduct a post consent/pre-construction sandeel survey to ascertain the distribution of sandeels across their site and provide additional baseline information. This would then be used in conjunction with a post-construction survey to validate the ES assessments of low impact to sandeels. MSS advised that the Company should carry out a pre-construction cod survey to build an improved knowledge base of spawning sites within the Moray Firth. Post construction cod surveys are also required. Herring surveys will be required during August-October prior to construction and will help to refine mitigation measures to reduce impacts on the Orkney/Shetland stock. Should the proposed mitigation not be suitable MSS advised that there should be a piling restriction of up to 16 days which should be determined following analysis of the survey data. The survey requirements are captured in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

Migratory Fish - MSS stated that there is uncertainty over migratory routes, limited information on behavioural responses to noise and a lack of robust monitoring of wind farm construction activities, and therefore it should be recognised that any assessment of likely impact will be highly uncertain. MSS stated that operational noise is one of the greatest concerns to migratory fish as it is a long term impact and could affect migratory routes and behaviour. MSS welcomed the burial of cables to reduce potential impacts from EMF and suggested that construction outside peak migration periods for smolts should be considered. The fact that the export cable will be directionally drilled to 800 m from shore was recognised a mitigation which would provide additional protection at the landfall area close to the mouth of the River Spey. The requirement for this would be captured in marine licence conditions for the transmission infrastructure. MSS advised that rivers from further afield on the Scottish east coast should be given HRA consideration in addition to those identified

by SNH. MS-LOT consider that completing an AA on the SAC rivers where SNH identified likely significant effect (which were those closest to the Development) is sufficient to ensure compliance with the Habitats Regulations.

MSS recommends that the main priorities at this stage regarding diadromous fish are to develop plans for monitoring diadromous fish in the vicinity of the Development and to ensure that suitable mitigation measures can be applied proportionately to any impacts detected during monitoring. The evolution of the 'Scottish Atlantic Salmon, Sea Trout and European Eel Monitoring Strategy' is currently on-going with the aim of trying to address the many unknowns surrounding the life patterns of diadromous fish. A condition has been set at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**, for the Company to commit to participation in the monitoring strategy at a local level (the Moray Firth).

Aquaculture - MSS advised that there are no aquaculture sites within the proposed boundaries of the Development site.

Physical and Coastal Processes - MSS welcomed the useful and rigorous technical appendices and advised that cumulative effects had been properly considered. MSS raised some questions over bathymetry data and scour which the Company responded to.

Gravity Base Option - MSS raised some concerns about the design envelope approach and the difficulties of assessing impacts for the different scenarios. Questions were raised as to how realistic some of the options presented were, particularly concerning the use of gravity bases. It has since been agreed with the Company that if gravity bases are to be used this will require a further marine licence application for the dredging and disposal of the sediment associated with this option.

**Marine Scotland Compliance (“MSC”)** is content with the Development as long as there is continued consultation with fisheries interests. This will be achieved through the MFOWDG-CFWG which has been established by the Company together with MORL, MSS, Scottish Fishermen’s Federation (“SFF”) and local fishermen to monitor the interaction between the Development and the fishing industry in the area.

The **Maritime & Coastguard Agency (“MCA”)** raised no objection to the Development subject to conditions being attached to any consent. In their initial response the MCA requested the submission of the bathymetry data to support the Navigational Risk Assessment (“NRA”). This was provided by the Company. The MCA also commented that the ES used out of date references to Emergency Tug Vessels (“ETVs”) and misquoted the intended use of the Coastguard Agreement on Salvage and Towage (“CAST”) services. The Company responded that the references used were correct at the time of writing and would be updated in the Emergency Response Plans. The MCA were content with this response. The condition requiring a detailed Emergency Response Plan is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

The **Moray Firth Partnership (“MFP”)** did not object to the Development. They had been informally notified of concerns from their members including potential effects on wildlife, visual impacts and tourism impacts but stated that they were satisfied that these concerns would be adequately reflected in the response from their members or other organisations.

**Moray Firth Sea Trout Project (“MFSTP”)** objected to the Development due to significant concerns about the potential impacts of subsea noise, EMF, loss of habitat, disturbance of prey and potential aggregation of predators. The MFSTP also noted that it is not well understood how sea trout use the Development site and that little confidence can be placed in the assessments carried out by the Company in the ES. Following the submission of the SEIS, and a meeting with the Company the MFSTP welcomed the further detail and clarity provided, however they maintained their objection until further detail is provided on the following:

1. The joint salmonid monitoring strategy;
2. The potential of mitigation to be built into the construction strategy to minimise the effect of piling noise;
3. That all transmission cables will be buried to 1m depth and where this is not possible appropriate shielding will be used; and
4. That an appropriate sandeel survey will be completed before construction and used to inform appropriate mitigation where necessary.

The MFSTP has welcomed the monitoring strategy for diadromous fish being developed in conjunction with Marine Scotland and the commitment by the Company to undertake a sandeel survey prior to construction as well as the commitment to bury the transmission cables to 1m wherever possible or, where this is not possible, shielding of the cables, using an alternative method, will be undertaken.

Points 1-4 above are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

**Moray Offshore Renewables Limited (“MORL”)**, who have submitted applications (see Background Information applications v to xi above) to the Scottish Ministers in August 2012 for three separate offshore wind farms in the Moray Firth, immediately adjacent to the Development, initially opposed the proposed route for the export cable from the Development as it transited the MORL Western Development Area (“WDA”). MORL argued this would reduce the maximum generating capacity that could be achieved within the WDA and could also lead to health and safety issues as well as delays in construction work.

TCE, as the owners of the seabed and being responsible for the lease agreements, informed MS-LOT that the MORL WDA, where the Company export cable is proposed to transit, does not yet have an agreement for lease therefore MORL do not have significant development rights for this area. Following the submission of the SEIS and the change to the export cable route MORL objected to the Development as the new cable route is believed to be even more prejudicial than that which was originally proposed. The change to the route was to allow a sufficient distance between the cable route and the Jacky platform.

TCE has advised that both parties have been given the opportunity to reach mutual agreement. In the event of failure to agree, there will come a point where TCE will determine a solution to accommodate the requirements. This will be a balanced and fair process with both parties making written submissions. In these circumstances the decision of TCE will be final and binding.

**National Air Traffic Services (“NATS”)** initially objected to the Development on the grounds of conflict with safeguarding criteria due to predicted impact on radar systems at Alanshill. Further discussions between the Company and NATS lead to an agreement whereby the objection from NATS could be removed subject to conditions being attached on any consent. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

**Northern Lighthouse Board (“NLB”)** did not object to the Development however they were unable to specify final marking and lighting requirements as the final layout and number of turbines, as well as other infrastructure such as sub stations and meteorological masts has not yet been confirmed. Lighting and marking requirements will be given by the NLB once the final designs for the wind farm have been submitted by the Company. Conditions requiring the Company to submit final plans on layout (Development Specification and Layout Plan), lighting (Lighting and Marking Plan) and navigational safety (Navigational Safety Plan) for approval are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

The **Royal Society for the Protection of Birds Scotland (“RSPB Scotland”)** initially objected to the Development and maintained their objection after being consulted on the SEIS due to a lack of confidence in the robustness of the methodologies used in the ornithology assessment and uncertainty in their outputs. In addition RSPB Scotland stated that it remains apparent that a number of seabirds will be significantly impacted by the Development and the MORL proposal, and that although the scale of these impacts is yet to be defined and agreed there is the potential for adverse impacts on site integrity of SPAs in the region. The Company and MSS have engaged with the RSPB to keep them informed of the assessment methods being used to estimate the levels of impact and also the levels of acceptable change for the protected European sites of concern.

RSPB Scotland highlighted that recent colony counts (undertaken by SNH in 2013) should be considered in the assessment; however this data has not yet been made publicly available. RSPB Scotland have also raised concerns regarding the use of the extended Band (2012) model for the estimation of the collision risk and the use of the 98% avoidance rate in the assessments. Recent correspondence from RSPB Scotland has highlighted their issues with the way in which the acceptable levels of change to the populations have been estimated by MSS, the JNCC and SNH, and they have stated that neither of the tools (PBR or ABC) are suitable for the purpose for which they have been applied. RSPB Scotland have offered no alternative means for assessing the levels of acceptable change, however have suggested a reduction in scale to a total of 1000 MW for the Moray Firth region (the Development and MORL proposals combined) in order to ensure that impacts are within acceptable limits.

RSPB Scotland maintain that the Development on its own and in combination with MORL would be likely to have an adverse impact on the integrity of the East Caithness Cliffs SPA, and that the proposed BOWL development and MORL proposal would be likely to result in unacceptable harm to a range of seabird species, most notably great black-backed gull, herring gull, gannet, kittiwake and puffin. RSPB Scotland have also criticised the high degree of precision in the estimation of predicted impacts and setting of thresholds, due to the inherent uncertainty of the assessment process that is compounded by a lack of understanding and empirical data on the biological and behavioural ecology of seabirds and seabird populations. As a result, the robustness of the conclusions is questionable and adequate precaution should be taken. MS-LOT and MSS fully recognise this uncertainty however feel that the assessment process has used the best available evidence. The assessment has also been highly precautionary as detailed in the **Appendix 1 – Technical Bird Annex** below and in **ANNEX E – APPROPRIATE ASSESSMENT**.

RSPB Scotland whilst not removing their objection, have been involved in talks with Marine Scotland relating to the acceptable capacity of development. Discussions have also been on-going to develop a National Strategic Bird Monitoring Framework (“NSBMF”). This NSBMF will be conditioned on all offshore wind farms consented by Marine Scotland in the future. Based on this framework, a condition relating to the local monitoring appropriate to the Development is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

The **Royal Yachting Association Scotland (“RYAS”)** stated that they had no objection to the Development and welcomed the minimum turbine spacing of 600 metres as well as the minimum rotor clearance of 25.4 metres above Lowest Astronomical Tide (“LAT”). The RYAS requested the location of the Development be provided for inclusion in the Clyde Cruising Club ‘Sailing Directions and Anchorages’.

**The Scallop Association (“SA”)** was consulted but no response was received directly from the organisation on the Development. However, the SA was included in the Scottish Fisherman’s Federation response in the list of organisations it represents (see Scottish Fisherman’s Federation below).

**Scottish Canoe Association (“SCA”)** did not object to the Development.

The **Scottish Fishermen’s Federation (“SFF”)** did not object to the Development however concerns were raised regarding the impacts which they believe will be major on individual fishing businesses. The SFF stated that they would like to find practical mechanisms to achieve reasonable co-existence with the offshore renewables industry. The SFF said that the Development would primarily affect scallop dredging but would also interfere with the seine net haddock fishery, squid fishery, nephrops fishery and herring spawning grounds. The Company has indicated a desire to work with the fishing industry by drawing up an engagement strategy which also includes a Fisheries Working Group. This has been welcomed by the SFF and the MFOWDG-CFWG has now been set up. A condition to ensure the Company continues its membership of the MFOWDG-CFWG and its commitment to



the mitigation strategy is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

**Surfers Against Sewage (“SAS”)** did not object to the Development however raised some concerns about the effects on coastal processes, waves and the potential for short term limited access to the beach where the cable landfall work was being undertaken. The Company liaised with SAS who confirmed that concerns have been satisfactorily addressed through modelling; however SAS requested that these models be validated with real world wave data measured against a robust baseline dataset. As the modelling showed predicted effects on the wave resource to be not significant, and MSS raised no concerns in this respect, this has not been included in the consent conditions.

**Transport Scotland**, through their term consultants **JMP Consultants Limited**, did not object to the Development stating that the Development would not have any significant environmental impact on the trunk road network or its adjacent sensitive receptors.

**Transport Scotland (Ports & Harbours)** did not object to the Development and had no comments to make.

The **University of Aberdeen** did not submit a response to the consultation due to their involvement in the preparation of the ES.

**Whale and Dolphin Conservation (“WDC”)** expressed concern at the possible negative effects on cetaceans and seals citing, in particular, impacts from pile driving and displacement effects. WDC also raised concerns over the impacts on marine wildlife watching boat operators and pointed out that the WDC Dolphin Centre is located in Spey Bay, close to where the cable for the Development will come ashore.

WDC stated that they would object to the Development unless certain conditions were imposed on the consent:

- That an effective impact monitoring strategy is developed for the range of species that can reasonably be impacted;
- That the monitoring strategy is appropriate to consider cumulative impacts including, but not limited to, the MORL proposal;
- Collected data are made available to government, and all stakeholders, and that an adaptive approach is applied where development is halted should significant impacts be observed; and
- Quarterly monitoring of business impacts (for example, local marine wildlife watching boat operators, cetacean researchers (Cetacean Rescue and Research Unit (“CRRU”)) and visitor centres such as the WDC Dolphin Centre) should be required.

In responding to the SEIS, WDC stated that there remains considerable scientific uncertainty surrounding the impacts of pile driving on all marine mammal species and requested involvement in the development of a MMMP. WDC suggested that noise reduction techniques should be considered more fully. Concerns were also raised with regards to the cumulative impacts of proposed developments along the

wider east coast as bottlenose dolphin, harbour porpoise and minke whale all travel throughout the range of the Aberdeen Bay and Firth of Forth developments.

A number of the recommendations made by WDC, such as the undertaking of monitoring, have been incorporated into conditions on the consent. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**. MS-LOT has informed WDC that they will be consulted on the MMMP, and the WDC have welcomed involvement in the MMMP. The suggestion of business impact monitoring however, cannot be carried forward into a condition as Marine Scotland do not consider that any impacts to businesses could be attributed to the Development.

**CHC Helicopters, the Cromarty Firth Port Authority, Highlands and Islands Airports Limited, the Marine Safety Forum, PA Resources, the Scallop Association, the Scottish Fishermen’s Organisation (“SFO”) and the Scottish Wildlife Trust (“SWT”)** were consulted but no responses were received.

### Public Representations

Two (2) representations in support of the Development were received from members of the public. A total of forty five (45) representations objecting to the Development were received.

Representations in support of the Development cited support for the increase of renewable projects in combating climate change and belief that the Development offers an opportunity to develop the economy and offer employment opportunities in the area.

Representations objecting to the Development raised concerns about the impacts on marine wildlife (including birds), fishing industry, navigation, aviation and tourism. Negative visual impact and wind energy being unreliable and highly subsidised were also cited as reasons for objecting in a number of representations received, as well as being non-compliant with the Aarhus Convention, and a potential contributor to the blue carbon effect.

### *The efficiency of wind energy and high subsidies*

A number of respondents to the Application commented on a range of issues relating to the efficiency of wind energy. MS-LOT consider that although the output of wind farms is variable, and cannot be relied on as a constant source of power, the electricity generated by wind is a necessary component of a balanced energy mix which is large enough to match Scotland’s demand. Power supplied from wind farms reduces the need for power from other sources and helps reduce fossil fuel consumption.

With regards to high subsidies, support schemes play an important role in the development of renewable electricity schemes, particularly for more immature technologies. Increased deployment of offshore wind turbines is anticipated to result in declining costs, as the industry learns more about the technical issues that arise in challenging conditions. Alongside this, a number of other factors will also impact the future costs, including steel prices, exchange rates, labour and vessel costs.

The challenge laid down to industry as part of the Offshore Wind Cost Reduction Task Force is to reduce the levelised cost of offshore wind to £100 per megawatt hour. This is clearly ambitious and will require developers to work in collaboration and consider innovative technology and working practices. Test and demonstration facilities will also continue to be crucial to the development of the industry and in particular in pursuing the cost reduction agenda.

MS-LOT consider they have sufficient information regarding the efficiency of wind energy and high subsidies, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Visual impacts of the Development

Adverse visual impact of the Development in its proposed location was raised in the outstanding objections to the Development. The Company in its ES indicates that the Development would have visual impacts that range from negligible to major depending upon where the viewer is situated. SNH, the Scottish Ministers' statutory nature conservation advisers who advise on, amongst other matters, visual impacts on designated landscape features, advised that key landscape, seascape and visual impacts of the Development together with the MORL proposal will occur along a 39km stretch of the Caithness coast from Noss Head to Dunbeath. Here at its closest the Development is 13.5km from the shore with the MORL proposal being 22km from the shore. The two developments are likely to be perceived as a single windfarm lying offshore, parallel to the coast. They will form a prominent new feature (some 19km in length) on the skyline of the open sea. The visual impacts are primarily caused by the Development, rather than MORL due to its closer proximity to shore.

SNH advised that where a viewpoint/location has a panoramic and expansive context, the offshore development may well appear 'incidental' on the horizon. However landscape and visual effects will be adverse at specific viewpoints and locations, especially elevated cliff tops and landmarks. This will be the case at key viewpoints such as Wick, Sarclet, Whaligoe Steps, Lybster Harbour, Dunbeath Castle and from stretches of the A9. Due to lighting requirements, the wind farms will change the night-time character of seas and skies in this area where there is currently limited light pollution. SNH advised that impacts on the Moray and Aberdeenshire coastline would be negligible. SNH recommended that the final turbine layout should be agreed with MS-LOT and that visualisations for this final layout should be produced for statutory consultees and public information. MS-LOT agrees that visualisations for final wind farm layout and design would be a necessary to inform the public. A condition requiring the submission of a Design Statement forms part of this consent at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

The Highland Council raised some concerns over the visual impact of the Development as they considered that the turbines had not been represented at the correct scale in the visualisations. Their concerns were not sufficient however to cause them to object to the Development.

The Company's ES includes a number of visual photomontages that give an indication of the likely visual impacts. Although these are not definitive, the visualisation material acts as a tool to help inform the decision-making process.

MS-LOT consider they have sufficient information regarding the potential visual impacts of the Development, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate these impacts.

#### Impact upon the tourism industry

Concerns have been raised by respondents to the Application regarding the development's potential impact upon tourism, particularly relating to the dolphin watching in the Moray Firth.

In this respect, MS-LOT notes that attitudes of tourists towards wind farms have been assessed in many studies. The results of stated preference studies have found that generally the majority of tourists were positive towards wind farms. Omnibus Research, commissioned by Visit Scotland in 2011, found that 80% of the survey respondents stated that a wind farm would not affect their decision to visit an area. The attitudes of recreational users have been researched to a lesser extent. Landry, Allen, Cherry & Whitehead's 2012 study into the impact of wind farms on coastal recreational demand found that offshore wind farms overall had little impact on recreational visits by residents. However, there are individual differences within the data which, averaged out, show an overall limited impact. Whilst some residents said they would take fewer trips to the beach if there was a wind farm within view, others indicated that they would actually take more trips.

MS-LOT consider they have sufficient information regarding the potential impacts of the Development upon the tourism industry, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Impact on shipping, aviation and DIO

Representations received raised concerns that the Development might present a hazard to vessels navigating in the Moray Firth, and have impacts on aviation and cause problems for national defence. MS-LOT considers that the information provided to them by, amongst others, the MCA and NLB, NATS and DIO provides them with sufficient information on which to make a decision in this matter. NATS and DIO initially raised objections against the Development on the basis of the Development's impact upon air traffic services and DIO radar. Following discussions between the Company and these organisations objections were removed subject to conditions being placed on the consent at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2.**

MS-LOT consider they have sufficient information regarding the potential hazards of the Development to shipping, aviation and the DIO, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Impact on marine wildlife, including birds

The impact on marine mammals, birds, benthic ecology and other marine life, as well as Natura concerns, was raised in the outstanding objections to the Development. The Company in the ES and SEIS assessed the potential impact of the Development on fauna and MS-LOT consulted various nature conservation bodies including SNH, the JNCC, the RSPB and WDC on these documents. Only the RSPB Scotland has maintained their objection. SNH, the JNCC and WDC did not object so long as the consent was made subject to specified conditions. Such conditions have been included in this consent to ensure that impacts on wildlife are acceptable at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**. MSS have reviewed the ES, SEIS and the conditions and consider that the conditions attached to the consent will allow impacts on marine wildlife to be within acceptable limits.

MS-LOT recognises that there is an outstanding objection from RSPB Scotland due to the potential impacts on several seabird species (most notably great black-backed gull, herring gull, gannet, kittiwake and puffin). MSS, SNH and the JNCC however are in agreement that predicted impacts are within acceptable levels for all species in terms of both the EIA Regulations and the Habitats Regulations. An AA completed by MS-LOT, concluded that the Development will not adversely affect site integrity of any SAC or SPA considered to have connectivity with the Development. Conditions to mitigate and monitor the effects on marine wildlife are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

One representation stated that it is an offence to disturb or kill cetaceans. The Company will be required to apply for a EPS licence prior to construction.

MS-LOT consider they have sufficient information regarding the potential impacts of the Development on marine wildlife, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Impact on Atlantic salmon and sea trout

Objections relating to potential effects on Atlantic salmon and sea trout were received through the public consultation exercise, the ASFB and MFSTP also maintained their objections. The Company in the ES and SEIS recognised the uncertainties around the assessments of these species. The ASFB and MFSTP also recognise these uncertainties and believe they can only be overcome through strategic research. A strategy is being developed by Marine Scotland to address monitoring requirements for Atlantic salmon and sea trout at a national level. The Company has engaged with MS-LOT, MSS, the ASFB and the MFSTP to address this issue. A condition for the Company to engage at a local level (the Moray Firth) to the strategic salmon and trout monitoring strategy is reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**.

MS-LOT consider that sufficient steps, including the development of national strategic monitoring, are being taken to address the uncertainties regarding the potential effects of the Development on Atlantic salmon and sea trout, to reach a

conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Impact on commercial fishing

The SFF and the Moray Firth Inshore Fishery Group (“MFIFG”) had concerns over impacts on fishing and this was also raised by some members of the public in their objections. The Company in the ES and SEIS assessed the loss of fishing grounds as minor with the wind farm area being of relatively low importance compared with other areas in the Moray Firth.

The Company have engaged with the SFF, and in conjunction with neighbouring wind farm developers, has formed the MFOWDG-CFWG. The MFOWDG-CFWG has been established to facilitate on-going dialogue throughout the pre-construction, construction and operational phases of the Development. The MFOWDG-CFWG has representation for all commercial fishing interests in the area and provides a forum to discuss any issues and potential mitigation in relation to the wind farm developments in the Moray Firth. Conditions for the Company to continue in the MFOWDG-CFWG and mitigate hazards to fishing are reflected in the draft decision letter and consent attached at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS, Annex 2**. Notices to Mariners and notices placed through the Kingfisher Fortnightly Bulletins will be conditioned in the marine licences.

MS-LOT consider they have sufficient information regarding the potential impacts of the Development on commercial fisheries, and that a mechanism is now in place to facilitate communication, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

#### Cumulative impacts in the Moray Firth

The cumulative effects of concern were not specified by the objectors within their representations, but for offshore wind farms, MS-LOT has conducted and assessed cumulative impacts on all receptors, (including but not limited to; visual, marine life, birds, commercial fisheries and shipping and navigation) of the Development alone, and in combination with the MORL proposal, which lies adjacent. These assessments show that the Development in combination with the MORL proposal will not give rise to any unacceptable impacts.

There will be limited cumulative impact of onshore and offshore wind farm development on settlements in the core area (Noss Head, Wick to Dunbeath). Cumulative effects will arise at Sarclet and Lybster from the Burn of Whilk wind farm (consented) together with the offshore proposals, and at Dunbeath, the operational Buolfruch wind farm will also give rise to cumulative effects. These cumulative effects are however not considered by MS-LOT to be significant.

MS-LOT consider they have sufficient information regarding the cumulative presence of wind farm developments in the Moray Firth, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

### Transmission cable route

Following the submission of the SEIS and the change to the cable route, MORL objected to the Development as the new cable route is even more prejudicial than that which was originally proposed. The Crown Estate (“TCE”) has advised that both parties have been given the opportunity to reach mutual agreement. In the event of failure to agree, there will come a point where TCE will determine a solution to accommodate the requirements. This will be carried out in a balanced and fair process with both parties making written submissions. In these circumstances the decision of TCE will be final and binding.

MS-LOT consider this is a matter for TCE, and advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

### Failure to meet the requirements of the Aarhus convention

Concerns were raised that, in August 2013, the United Nations Economic Commission Europe (“UNECE”) declared that the UK government's National Renewable Energy Action Plan (“NREAP”) violated the laws that transpose the Aarhus Convention into the UK legal framework. In particular, it was stated that the public had not been given full access to information on the impacts on people and the environment, nor had been given decision-making powers over their approval.

The Aarhus Convention is an international convention which protects the rights of individuals in relation to environmental matters in gaining access to information, public participation in decision-making, and access to justice. The UK is a signatory to the Convention, as is the EU.

On the single accusation relating to the UK Government – public participation in the Renewables Roadmap – the UK Government was found to be in breach of the Convention, as it had not conducted a Strategic Environmental Assessment (“SEA”) or other public consultation. However, on the four accusations for which the Scottish Government had lead responsibility, including public participation in the preparation of plans, programmes and policies in Scotland, and public participation in relation to the section 36 consent of a wind farm proposal, the Scottish Government's position was upheld. The ruling confirmed that Scotland is in compliance with this international obligation.

MS-LOT considers that proper assessments have been undertaken for the Development and proper opportunity was afforded for consultation with stakeholders and members of the public, in compliance with the Public Participation Directive, to reach a conclusion on the matter. MS-LOT is committed to applying strict environmental assessment procedures. MS-LOT, therefore, advises the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

### Blue Carbon Effect

Some concerns were raised through the public consultation on the blue carbon effect. MSS have advised that sea bed mobilisation has the potential to increase rates of organic matter degradation. It does this by increasing the exposure of organic carbon incorporated into the sediments to dissolved oxygen. Compared to other processes for oxidising organic matter in the marine environment, exposure to

dissolved oxygen is the most efficient. Sea bed mobilisation arising from the installation of offshore turbines has to be set in the context of on-going mobilisation events resulting from human activities. There are many activities undertaken in the marine environment that result in sea bed mobilisation including demersal trawling for fish and sea bed dredging to ensure safe navigational access in and out UK ports and harbours. These activities can occur on a much larger spatial scale than the installation of offshore renewable turbines. Also sea bed mobilisation will take place as a result natural process particularly during storm events.

MS-LOT consider that they have sufficient information regarding the blue carbon effect, to reach a conclusion on the matter, and therefore advise the Scottish Ministers that it is appropriate not to cause a public inquiry to be held to further investigate this.

### Summary

MS-LOT has fully and carefully considered the Application and accompanying documents and all relevant responses from Consultees, as well as all the third party representations that have been received, with a view to determining whether a public inquiry should be held with respect to the Application. MS-LOT, therefore, consider that there are no significant issues which have not been adequately considered in the ES, the SEIS and in consultation responses from the closest onshore Planning Authorities, SEPA, the JNCC, SNH and other relevant bodies, together with all other objections and third party representations. MS-LOT, therefore, considers it has sufficient information to recommend to the Scottish Ministers that they are able to make an informed decision on the Application without the need for a Public Inquiry.

### **CALLS FOR A PUBLIC LOCAL INQUIRY (“PLI”)**

There is no presumption in law in favour of PLIs being held regarding applications for section 36 consent under the Electricity Act. The circumstances of the case are such that there is no statutory requirement under Schedule 8 to the Electricity Act for the Scottish Ministers to cause one to be held. The decision to hold a PLI in this case is entirely at the discretion of the Scottish Ministers; such discretion must always be exercised in accordance with the general principles of public law.

Under paragraph 3(2) of Schedule 8 to the Act the Scottish Ministers must be persuaded that it is appropriate for them to hold an inquiry (either in addition to or instead of any other hearing or opportunity of stating objections to the application).

### **Consideration**

When considering whether to cause a PLI to be held the Scottish Ministers may have regard to whether–

1. they have been provided with sufficient information to enable them to weigh up all of the conflicting issues and, without a public inquiry, whether they can properly weigh any such issues;



2. those parties with a right to make representations have been afforded the opportunity to do so; and
3. they have sufficient information available to them on which to take their decision such that a public inquiry would not provide any further factual evidence which would cause them to change their view on the application.

The Scottish Ministers can draw upon information contained within –

1. the Environmental Statement;
2. the Supplementary Environmental Information Statement;
3. the representations from the Company;
4. the representations from consultees;
5. the representations made from members of the public; and
6. the Appropriate Assessment.

In all the circumstances, as outlined, the Scottish Ministers can be satisfied that they have sufficient information 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 main conflicting issue concerns the assessments of the impacts of the Development in combination with MORL on bird populations. These issues have been fully addressed in **ANNEX E – APPROPRIATE ASSESSMENT** and in **Appendix 1 – Technical Bird Annex** below. RSPB Scotland maintain their objection as explained above, however SNH, the JNCC and MSS are in agreement with the conclusions of the AA carried out by MS-LOT, that predicted impacts on birds are within acceptable limits and that the Development in combination with the MORL proposal will not adversely affect site integrity of any SPA considered to have connectivity with these developments.

Although different methods have been used in formulating this advice the conclusions are the same and calling a PLI is unlikely to result in additional factual information coming forward. It has been recognised in the AA that there is some uncertainty regarding the thresholds and predicted effects, however the AA has taken a precautionary approach where predicted effects are considered to be overestimated and identified thresholds considered to be underestimated. This gives MS-LOT greater certainty in coming to conclusions on the assessment of site integrity.

It is clear that all interested parties (statutory consultees, consultees and other persons) have had more than sufficient opportunity to make representations upon the Application. Representations have been accepted, and have continued to be accepted, by MS-LOT even following the expiry of the statutory consultation period. All such representations have been taken into account for the purposes of making a decision regarding the causing of a PLI to be held.

In light of the terms of the various documents that have been provided to MS-LOT, taken together with all the other information on the subject that is publicly available, any inquiry would not be likely to provide any factual information to assist the Scottish Ministers to resolve the issues of risk and planning judgment raised by the application.

On the evidence that is before MS-LOT it is considered sufficient to reach a decision that a PLI would not provide further factual evidence which would require the Scottish Ministers to take a different view on the substantive issues on the application for consent under section 36. As such, MS-LOT concludes that Scottish Ministers possess sufficient information upon the Development in order to determine the Application.

### **Environmental Benefits and Carbon Payback**

The Development will act as a major contributor for reducing the amount of CO<sub>2</sub> released in the atmosphere and hence help meet targets forming part of Scotland's commitments on climate change action to reduce greenhouse gases. The Company estimates that once the Development is fully constructed and operational, there could be a saving of approximately 1,734,480 tonnes of CO<sub>2</sub> per year when compared to electricity generation from a combination of fossil fuels. The operational phase of the Development has the potential to also displace gases other than CO<sub>2</sub>, such as those associated with acid rain (sulphur dioxide ("SO<sub>2</sub>")) and oxides of nitrogen ("NO<sub>x</sub>")).

If consented, the Development could result in an increase in the amount of renewable energy produced in Scotland and is consistent with the Government's policy on the promotion of renewable energy. MS-LOT has estimated that the electricity generated by the Development would provide energy equivalent to the needs of approximately 477,610 homes.

### **Economic Benefits**

Scottish Planning Policy ("SPP") advises that economic benefits are material issues which must be taken into account as part of the determination process.

SPP also confirms the Scottish Ministers aim 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 planning system has a key role in supporting this aim and the Scottish Ministers should consider material details of how the Development can contribute to local or national economic development priorities as stated in SPP.

The Company estimate the total gross cost of the wind farm construction to be £3 billion excluding VAT and Operational Expenditure ("OPEX"), and £200 million excluding VAT and OPEX for the transmission infrastructure. In Scotland the expenditure made by the proposed development could generate Gross Value Added ("GVA") of between £620 million and £1,003 million over its lifetime, including benefits generated through the supply chain. Between £176 million and £356 million of this total GVA could be in the Study Area (Moray, Highland, Aberdeen and Aberdeenshire).

It has been estimated that this activity could support between 9,300 and 15,300 job-years' worth of employment in Scotland across the whole lifetime of the project. The Development could support 1,294 – 2,187 jobs in Scotland at its peak during

construction; during the operations phase this would fall to 141 - 252 jobs. Between 2,900 and 6,100 of the total job-years created could be in the Study Area.

The above estimates are based on 2 scenarios:

1. Low case - where the total value of contracts that have been delivered, or are expected to be delivered, from within each geography, assumes the current supply chain
2. High case - the total value of contracts that could be secured by firms based in Scotland (and the Study Area) with a stronger supply chain.

The proportions of expenditure, particularly under the high case, are subject to a high degree of uncertainty. However, the Company have assessed the low case and the high case as the realistic parameters within which the value of contracts will fall. The overall proportion of the budget the Company anticipates spending in Scotland is 30% under the low case and 50% under the high case, with variation across the different project phases.

At this stage, many development and procurement decisions are still to be made. Changes in the anticipated expenditure or procurement patterns from those anticipated during the assessment will change the associated estimates of employment and GVA. The effect on employment through the supply chain depends critically on the design, construction and operation decisions that are yet to be taken, and on the extent to which Scottish companies are able to secure contracts. The figures also assume that the full proposal of 750 MW is developed.

The Highlands and Islands Enterprise ("HIE") Operating Plan 2011-14 (2011) sets out the high level vision of a successful renewable sector with substantial sectoral development, with significant and sustainable economic and community benefits accruing to the Highlands and Islands.

The recently published Moray Economic Strategy (Moray Community Planning Partnership, 2011-2015) provides the long term economic diversification strategy for the area. This is in light of the fact that the demography and economy has been heavily influenced by the presence of the two air bases, RAF Kinloss and RAF Lossiemouth. The Strategy recognises that the engineering and fabrication base which at the moment mainly services the oil, gas, and distillation industries lends itself to development and diversification into the renewable energy supply chains.

**Gayle Holland**

Marine Scotland Licensing Operations Team

Marine Planning and Policy

5<sup>th</sup> March 2014

## **Appendix 1 – Technical Bird Appendix**

RSPB Scotland, SNH, the JNCC and MSS expressed concerns about the potential impact of the Development, on its own and in combination with the MORL proposal, on several bird species that use the Moray Firth. The species of most concern were great black-backed gull, herring gull, gannet, puffin, razorbill and guillemot. Concerns over great black-backed gull, herring gull and gannet were mainly in relation to collision risk with the WTGs during operation whereas concerns over the auk species (puffin, razorbill and guillemot) were in relation to displacement of these species from the wind farm site.

Of the species above, all except gannet were considered in the AA, as gannet is not a qualifying feature of the nearby SPA; Troup, Pennan and Lion's Head SPA. However as part of the Gamrie and Pennan Coast SSSI, the gannet colony at Troup Head is a notified feature and therefore requires careful consideration. SNH and the JNCC advised that the colony at Troup Head has been expanding and concluded that the Development in combination with MORL would not have a significant adverse impact on the SSSI gannet population.

SNH and the JNCC advised (email of 1<sup>st</sup> February 2014) that they have no outstanding concerns regarding potential collision risk presented by the Moray Firth wind farms, to migrating wildfowl, waders and other non-seabird species. This advice has been informed by the available outputs from the Marine Scotland funded research project ["Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds"](#) undertaken by Wildfowl & Wetlands Trust (Consulting) Limited ("WWT") and MacArthur Green Ltd. This project presents a strategic assessment of potential collision risk to migrating wildfowl, waders and other non-seabird species from all current offshore wind farm proposals in Scotland and Robin Rigg, in operation. The modelling confirms that the risk presented by this Development would not be significant at the scale of individual projects, nor cumulatively, to any of these migratory bird populations. MSS have advised that they agree with this advice.

For species of HRA concern the potential effects identified occur outside the SPAs therefore the relevant conservation objective is to "ensure the population of the species as a viable component of the site". In order to do this the assessments for relevant species involved: 1.) Estimation of the level of predicted effect, and 2.) Setting a precautionary level of acceptable change to a population given the statutory requirements.

### **1.) Estimation of the level of predicted effect**

**a.) Collision Risk** - Both MORL and BOWL presented Collision Risk Models ("CRMs") in their ESs, and in the case of MORL in their Additional Ornithology Information, and in the case of BOWL in their Supplementary Environmental Information Statement ("SEIS"). Options 1 and 2 of the 'basic' Band (2012) model were presented along with Option 3, the extended version of the model. The basic model assumes a uniform distribution of flight heights between lowest and highest levels of the rotors. The extended model assumes that both the density of flying birds and collision risk vary across the rotor swept height. Option 3 uses flight height

distributions modelled from a pooled dataset collected from a large number of sites by a range of surveyors (Cook et al 2012). SNH and the JNCC noted some concerns over this dataset as it is solely derived from boat-based survey data and there could be associated observer error. This potential issue exists with all data collected during boat based surveys including the data collected at the proposed development sites. RSPB Scotland also raised concerns about the use of the extended Band model (Option 3) due to assumptions implicit in the model.

The Renewables Scientific Advice Group (“RSAG” – represented by SNH and the JNCC, with attendance from MSS when required) met on 28<sup>th</sup> June 2013, and considered the use of the outputs from Option 3 in the Moray assessments appropriate. Comparison of outputs from Options 1 and 2 was undertaken to identify whether substantial differences in values and therefore flight heights between the site data and the pooled data in Cook et al 2012 existed. There were no reasons to suspect that site specific drivers would cause flight heights to differ to the sites included in Cook et al 2012, and it was accepted that pooling robustness was likely to result in the data modelled by Cook et al being more robust to errors (but not systematic bias) in flight height estimation. Any systematic bias in flight height estimates either from the site specific data or that used by Cook et al would be carried through the CRM calculations, regardless of the Option used.

At the RSAG meeting on the 28<sup>th</sup> June 2013 it was agreed that the most appropriate avoidance rate for use with the extended Band model was 98%. Both MORL and BOWL had previously provided arguments for increasing the avoidance rate for use with the standard Band model (i.e. Options 1 and 2). Conversely, RSPB Scotland has suggested that the avoidance rate should be decreased for the extended Band model. This is due to the need to undertake separate calculations for the ‘basic’ and ‘extended’ Band models in order to provide appropriate avoidance rates. SNH, the JNCC and MSS considered that existing offshore avoidance rates are default, and not based upon observed or derived collision rates. The Cook *et al* dataset constituted best available evidence and consequently should be used for assessment purposes. It was concluded that continued use of 98% as a default rate was justified. It is the view of RSPB Scotland that Option 1 of the Band (2012) model should have been used in the assessment or if Option 3 was used then an avoidance rate of 95% should have been applied.

**b.) Displacement** – It is recognised that increased activity in a sea area, or the establishment of structures such as wind farms, have the potential to displace birds. However there is limited understanding of any resulting effects on the birds displaced, for example how to quantify the increased energetic demands on the adult, through additional flight around a wind farm or to alternative foraging locations, or decreased nest attendance and provisioning of chicks and how these may affect either adult survival or productivity. As such the assumptions used for assessment are currently highly precautionary: the mean maximum abundance estimate of all birds are used to estimate numbers displaced, it is assumed that each displaced bird represents a separate pair and it is assumed that 100% of displaced birds will fail to breed successfully.

## **2.) Setting a precautionary level of acceptable change**

Acceptable and precautionary effect thresholds were calculated using a.) Potential Biological Removal ("PBR"), and b.) Acceptable Biological Change ("ABC").

These two methods are considered to be precautionary and in compliance with the statutory requirements in that they allow assessments on the maintenance of the populations as viable components of protected sites (the primary conservation objective under consideration) to be carried out, enabling conclusions on site integrity to be reached.

A common feature of PBR and ABC is that they establish baselines for the assessment that are future points in time. Consequently assessments in relation to the statutory requirements are based on modelled scenarios. A number of the populations assessed have declined over recent time. Seabird population sizes and trends are thought to be principally regulated by food supply. There is considerable uncertainty over the range of factors that contribute to variations in food availability over time; however several of the factors are thought to operate over large spatial scales (e.g. climate change). The underlying drivers of population change are not considered to be a consequence of activities that require cumulative assessment under the terms of the Habitats Regulations. MS-LOT considers that assessments that are set against a temporal baseline that is in the future do meet the requirements of the Habitats Directive and the Wild Birds Directive. It is also considered to be reasonable for assessments based upon sustainable management principles to allow for some limited effects. Consequently a risk based approach set against future objectives has been developed and applied.

**a.) PBR** – SNH and the JNCC principally provided advice based upon the PBR model. The PBR equation is based on a simple form of population modelling, which was first formulated for marine mammals (Wade 1998) to estimate allowable bycatch. PBR requires the setting of a recovery factor (f), the value of which is a conservation management decision. PBR calculates the number of additional mortalities that can be sustained annually by a population, accepting the assumptions and goals of the method. Whilst MSS understand that PBR is being considered for use in offshore projects in England, they are not aware of it having been used to date to support the conclusions of AAs.

**b.) ABC** - MSS principally used the outputs of the density independent population models provided by MORL and BOWL, by applying the ABC tool. SNH and the JNCC advised that parameterisation of population models is limited to the demographic data available. In most cases these data sets have either been collected at colonies remote from the Moray region, or at a much broader scale (e.g. national), and during earlier periods. The inputs are therefore neither spatially nor temporally specific to the colonies under consideration, and this influences the confidence we can place in the predictive power of these models. MSS advised that the PVA models provided the best available evidence for estimating acceptable levels of change as they incorporate more of the available demographic information, are explicit in their inclusion of the uncertainty surrounding the demographic rates used, and produce outputs that allow the likelihood of population change in the presence and absence of wind farms to be employed in the decision making

process. The ABC tool follows the equation  $ABC = P + (1-fP/3)$ , where P is the probability of the conservation objective in the absence of any proposed wind farm based on the population model forecasts. An outline of the ABC tool is attached in **APPENDIX 3 of ANNEX E – APPROPRIATE ASSESSMENT**.

The main differences between the PBR and ABC are summarised below:

1. The timescales are different. PBR's goals are based upon a greater recovery period after the effect than is used with the MORL and BOWL population models. PBR goals assume that the population will recover to at least maximum net productivity level over a period of up to 100 years at a logistic growth rate of 0.5. MORL and BOWL population model outputs are for the 25 year period of effect and assume no recovery period.
2. The PBR model structure assumes regulation by density dependence whereas the MORL and BOWL PVAs assumed density independence. The MORL and BOWL population models used the best available evidence on population size and demographic rates. SNH and the JNCC advised that recent population declines of some populations may not have been reflected in the PVA outputs that indicated an increasing population. For example the great black-backed gull population is thought to have declined from 800 pairs cited in the Standard Data Form at time of SPA designation to 175 pairs in 1999. *Ad hoc* monitoring data collected since 2002 in the Caithness coast (Robin Sellers *pers comm.*) suggests that the population is largely stable but the models assume growth. MSS recommended use of the ABC tool took account of this. A 'forced' probability (fP) of 0.78 was used, i.e. applying ABC in a more precautionary manner using the International Panel on Climate Change ("IPCC") likelihood bands.
3. The intended purpose of the PBR model is to inform annual adaptive management which is not practical in this case. The MORL and BOWL models have been developed to address the specific effects associated with this assessment.
4. PBR is not intended for establishing acceptable limits to changes in productivity. In order to use the PBR calculation where the effect of displaced birds is assumed to be upon productivity, SNH and the JNCC have adopted an additional step which converts changes in productivity to an assumed equivalent change in adult mortality. This conversion rate has been taken from a different population model to the PBR model, with different underlying assumptions about population dynamics, and then applied to the estimates of adults displaced by the wind farms. Using the PBR's model to calculate the conversion rate would be likely to give different values to those used in this assessment. Wade (1998) suggests further simulations with the PBR's population model may inform calculation of a PBR where effects are highly selective. MSS are not aware that the statistical issues associated with attempting to apply a conversion rate from adult survival to productivity using PBR have been explored.

MSS recommend that reliance upon PBR is limited to those scenarios where it constitutes the best available evidence, and this is unlikely to include scenarios where bespoke population models are available.

RSPB Scotland raised concerns about the use of PBR and ABC in estimating levels of acceptable change. The main criticism of the ABC tool was that it had not been peer reviewed. MSS are currently considering the available options for reviewing the ABC tool and including RSPB Scotland in the discussions. MSS are aware of the approach being applied to AAs under the Habitats Regulations for offshore wind farm casework previously: by the Department of Energy and Climate Change (“DECC”) in relation to sandwich terns in The Wash, based upon advice provided by the JNCC and Natural England (“NE”). The RSAG minutes of 28<sup>th</sup> June 2013 noted that the ABC approach was worthy of further consideration and should be progressed with the potential to take it forward to SNH’s Scientific Advisory Committee.

RSPB Scotland did not suggest an alternative means of calculating acceptable levels of population change.

### **Summary of ornithology advice provided considering the estimates of the predicted impacts and the acceptable levels of change**

In the advice provided by SNH and the JNCC on 8<sup>th</sup> July 2013 several bird species were identified as being of concern in relation to the Habitats Regulations. PBR was used to conclude that the Development:

- **would** give rise an adverse effect on site integrity at the East Caithness Cliffs (“ECC”) SPA in respect of great black-backed gull both alone and in combination with the MORL proposal (a threshold of 2 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1$ );
- **could** give rise to an adverse effect on site integrity at the ECC SPA in respect of herring gull both alone and in combination with the MORL proposal (a threshold of 43 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1$ );
- **could** give rise to an adverse effect on site integrity at the ECC SPA in respect of puffin in combination with the MORL proposal (a threshold of 2-7 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1-0.3$ );
- **could** give rise to an adverse effect on site integrity at the North Caithness Cliffs (“NCC”) SPA in respect of puffin in combination with the MORL proposal (a threshold of 205-341 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1-0.3$ );
- **could** give rise to an adverse effect on site integrity at the ECC SPA in respect of guillemot in combination with the MORL proposal (a threshold of 563-1689 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1-0.3$ ); and
- **could** give rise to an adverse effect on site integrity at the ECC SPA in respect of razorbill in combination with the MORL proposal (a threshold of 111-334 breeding birds was advised as the maximum sustainable additional annual mortality the population could withstand based on  $f = 0.1-0.3$ ).

Concerns from SNH and the JNCC regarding impacts on great black-backed gull, herring gull, puffin razorbill and guillemot led to the development of a common



currency approach to allow a more reliable and transparent cumulative impact assessment from the Development in combination with MORL. This process involved MORL and BOWL, SNH, the JNCC and MSS agreeing the parameters which were most appropriate when predicting the levels of impact that the two developments were likely to have on the bird populations (for example breeding season, boat – based bias, proportion of sabbatical birds etc. – a full list is provided in **Appendix 2 of ANNEX E - APPROPRIATE ASSESSMENT**). The common currency allowed numbers to be generated for collision and displacement effects for each species of concern giving a cumulative impact from the two developments. The common currency spreadsheet is attached in **Appendix 1 of ANNEX E – APPROPRIATE ASSESSMENT**. It should be noted that this common currency spreadsheet and the subsequent advice that was provided is based on BOWL's Most Likely Scenario ("MLS") of 140 WTGs as described in chapter 4 of the SEIS, and MORL's Worst Case Scenario ("WCS") of 339 WTGs. Since this advice was received MORL have confirmed that their proposal will now comprise a maximum of 186 WTGs.

Following the agreement between SNH, the JNCC and MSS of this common currency approach further advice was received from SNH and the JNCC on the 29<sup>th</sup> October 2013. Again using PBR, SNH and the JNCC concluded:

- no adverse effect on site integrity at ECC SPA for great black-backed gull, if cumulative collision risk mortality is no greater than 6 birds per annum;
- no adverse effect on site integrity for herring gull at ECC SPA;
- no adverse effect on site integrity at ECC SPA for Puffin, if cumulative displacement amounts to no more than 24 pairs per annum;
- no adverse effect on site integrity for puffin at NCC SPA;
- no adverse effect on site integrity for guillemot at ECC SPA; and
- no adverse effect on site integrity for razorbill at ECC SPA.

RSPB Scotland commented that there was a discrepancy in the figure advised as the acceptable mortality for great black-backed gull between the advice provided in July and in October. The main reason is that in July, SNH and the JNCC used an f value of 0.1 in the PBR calculation, this was revised to an f value of 0.3 in October as following further consideration by SNH and the JNCC this was deemed more appropriate. This increase in the f value along with the reduction in the number of turbines being considered due to BOWL confirming their MLS allowed no adverse effect on site integrity to be concluded for most of the other species and SPAs of concern. The only two species where concern remained was for great black-backed gull and puffin, both from the ECC SPA.

The way in which SNH and the JNCC advice was worded in October led to some misunderstanding, as the acceptable mortality for great black-backed gull was referred to as 6 "birds". This is discussed below in 1.) Great black-backed gull at ECC SPA.

MSS provided advice based on the application of the ABC tool to the PVA outputs on 31<sup>st</sup> October having considered the advice provided by SNH and the JNCC. MSS agreed with SNH and the JNCC on the following:

- no adverse effect on site integrity at for herring gull ECC SPA;
- no adverse effect on site integrity for puffin at NCC SPA;

- no adverse effect on site integrity for guillemot at ECC SPA; and
- no adverse effect on site integrity for razorbill at ECC SPA.

This left two species where MSS did not agree with the advice provided by SNH and the JNCC – 1.) great black-backed gull, and 2.) puffin at ECC SPA.

**1.) Great black-backed gull at ECC SPA** - MSS applied the ABC tool to both MORL and BOWL's population model outputs for great black-backed gull. The thresholds of acceptable levels of change which were predicted by the ABC tool were 20 if the MORL model was used and 15 if the BOWL model was used. The differences between the MORL and BOWL values are due to the slightly different model structure of each, and the way in which birds were apportioned to SPA and non-SPA populations. Taking into account the fact that SNH and the JNCC had advised a figure of 6 as being an acceptable threshold, MSS concluded that there would be no adverse effect on site integrity at ECC SPA for great black-backed gull, if cumulative collision risk mortality from MORL and BOWL is no greater than approximately 10 birds per annum.

This precautionary figure was advised in order to better align with the figure advised by SNH and the JNCC. It was later realised that the figure of 6 birds advised by SNH and the JNCC refers to adult breeding birds as this is the metric which their PBR method calculates. The figures of 15 and 20 predicted by the ABC tool refers to birds of all ages, therefore the figure of 10 recommended by MSS as not causing an adverse impact on site integrity also refers to birds of all ages. This misunderstanding was discussed between SNH, the JNCC, MSS and MS-LOT on the 22<sup>nd</sup> November 2013. It was agreed that for ECC SPA the common currency spreadsheet estimated a total impact from collision of 4 breeding great black-backed gull or a total of 15 for birds of all ages. Therefore both these figures are within the thresholds of acceptable change of 6 breeding birds as advised by SNH and the JNCC and the lowest threshold generated by the application of ABC to MORL and BOWL's PVA outputs of 15 birds of all ages.

It was agreed that the estimates of great black-backed gull collision mortality for MORL and BOWL would not result in adverse effect on site integrity when considered against the relevant thresholds, using comparable metrics. SNH and the JNCC noted that the estimated mortalities are approaching the threshold values (ABC or PBR) and that a precautionary approach may be warranted as there are areas of uncertainty in the underlying data and impact assessment process. In order to take account of this uncertainty the AA (having considered advice from SNH, the JNCC and MSS) identified a precautionary additional annual mortality of 11 great black-backed gulls of all ages as the threshold of acceptable change to ensure that the Development and the MORL proposal will not adversely affect site integrity of ECC SPA.

**2.) Puffin at ECC SPA** – SNH and the JNCC advised that the calculation of displacement effects for the MORL and BOWL developments is based on the footprint of the wind farms and the number of birds using the area. It takes no account of design (i.e. the density of WTGs) because there is no agreed method and limited available evidence to support any such approach. It predicts impacts solely in terms of displacement and its consequences for productivity. SNH and the JNCC

noted that the assumption that each individual displaced equates to a pair failing to breed is at the most precautionary end of the range for this parameter, BOWL and MORL also consider this assumption to be highly precautionary. Assessments completed for offshore wind farms around England have focussed on SPAs for wintering / passage populations where the units have always been individuals not pairs, therefore MSS are not aware of this issue being addressed in other assessments.

SNH and the JNCC advised on the 29<sup>th</sup> October 2013 that there would be no adverse effect on site integrity if the cumulative displacement from MORL and BOWL was no more than 24 pairs, again this estimate was based on the use of PBR (using an  $f$  value of 0.3 giving a mortality of 7 birds, equating to the displacement of 22-24 pairs per annum). MSS advised that PBR deals with adult mortality rather than chick mortality, and it is chick mortality ('productivity') that was the key displacement effect being considered by SNH and the JNCC in their advice. In order to be able to use PBR in this situation SNH and the JNCC attempted to 'convert' the adult mortality threshold produced by the PBR into equivalent chick mortality values. This chick mortality 'equivalent' was then compared against the number of puffin estimated to be displaced by the wind farms (each displaced bird was assumed to represent a discrete pair and 100% of displaced birds would fail to breed successfully).

MSS advised that they were not aware that the conversion of adult survival into 'equivalent' chick survival has ever been done before and that as per Wade (1998) case specific simulations are required to address scenarios that the PBR does not explicitly seek to address. On the 31<sup>st</sup> October 2013, MSS advised that the predicted effects from the common currency of 79 puffin displaced from ECC SPA would not result in an adverse effect on site integrity based on thresholds estimated by applying the ABC tool to the population models, and considering the precautionary manner in which the effects had been estimated.

Subsequent to this advice, uncertainties arose about the population sizes of the SPAs at the time of designation and the subsequent trends. The citations state that both sites supported populations of 1750 at time of designation. This is considered unlikely to be accurate and a combined population of 3500 at time of designation is considered more reliable. To address this issue SNH and the JNCC provided advice on the 17<sup>th</sup> January 2014 based on use of PBR applied to a combined population of both sites. This provided a combined threshold of 212-354 breeding adult mortalities based on using an  $f$  value range of 0.3-0.5, and a joint SPA population estimate of 7345 pairs (from the seabird 2000 count). SNH and the JNCC advised that this joint assessment addresses the requirements under the Habitats Regulations.

In relation to use of thresholds of change to the combined ECC and NCC SPAs population, MSS advised that:

- The population estimates and trends for puffin at all sites considered in this assessment have considerable uncertainty associated with them. The estimates used by the SNH and the JNCC, in their recommendation to undertake a combined assessment of both SPAs, are the most appropriate;

- Application of the ABC tool to the BOWL and MORL population model outputs should be based upon a P value of 0.5 as the model forecasts are considered to be representative of trends;
- Application of the ABC tool to the BOWL PVA outputs for ECC and NCC results in thresholds of c.50 and c.850 displaced pairs respectively;
- Application of the ABC tool to the MORL PVA outputs for ECC and NCC results in thresholds of 140 and >2000 displaced adults respectively;
- Application of the ABC tool to the PVA outputs for ECC and NCC combined results in cumulative thresholds of c.900 displaced pairs and >2140 displaced adults respectively; and
- The BOWL population model's assumption (based on SNH and the JNCC advice) that each displaced individual equates to a pair that fails to breed successfully is overly precautionary (this is reflected in the lower ABC threshold values). The MORL model assumes displaced individuals belong to the same pair as other displaced individuals, which represents the upper limit of what is ecologically realistic. Overall thresholds based on the BOWL outputs can be considered at the lower limit of the range and those of MORL as the upper limit.

The effects on puffin were estimated using the common currency approach. The estimate provided a metric of individuals displaced, which for the purposes of assessing against a PBR threshold resulted in an additional step of conversion to adult mortality. In their advice of 17<sup>th</sup> January 2014, SNH and the JNCC assumed that 99% of the effect from the MORL proposal was apportioned to ECC and NCC combined. SNH and the JNCC estimated the combined effect as being 199 breeding adult mortalities. Following the SNH draft guidance on apportioning, as has been done with BOWL's effects, results in approximately 25% of the effect being apportioned to non-SPA colonies in the Pentland Firth area. MSS applied the SNH draft guidance on apportioning and estimated that 483 displaced individuals should be apportioned to NCC from the MORL and BOWL proposals combined. Using the SNH and the JNCC conversion factor this equates to 137 breeding adult mortalities at NCC.

Table 1: Summary comparing estimated puffin effects with identified thresholds

	Effects	PBR	PVA & ABC
ECC	79 individuals displaced converted to 23 breeding adult mortalities	7-13 breeding adult mortalities	Between ~ 50 pairs and 140 individuals failing to breed
NCC	483 individuals displaced converted to 137 breeding adult mortalities	205 - 341 breeding adult mortalities	Between ~ 850 pairs and > 2000 individuals failing to breed
ECC/NCC combined	562 individuals displaced converted to 159 breeding adult mortalities	212 - 354 breeding adult mortalities	Between ~ 900 pairs and > 2140 individuals failing to breed

MSS advised that the manner in which displacement effects have been quantified is highly precautionary for the following reasons:

1. It has been assumed that 100% of displaced birds fail to breed successfully (outputs from the Centre for Ecology and Hydrology (“CEH”) seabird displacement model indicate that this is a significant over estimate);
2. The assumption that each displaced bird represents a discrete pair i.e. 1 displaced bird = 1 failed pair. This is unlikely and so represents an extreme view;
3. The near doubling in WTG spacing resulting from BOWL’s move from their WCS of 277 turbines to the MLS of 140 turbines has not been accounted for in the proportion of birds being displaced or the percentage of pairs failing to breed successfully. Nor has recent confirmation from MORL that the maximum number of WTGS has been reduced from 339 to 186, been considered. This would result in an increase in spacing and/or reduction in area occupied by WTGs. Evidence from Holland (Leopold et al 2012) suggests that displacement effects are greater in wind farms with higher turbine density i.e. smaller inter-turbine spacing, and the mitigating effects of increased turbine spacing is acknowledged in the SNH and the JNCC recommendations of 19<sup>th</sup> December 2013;
4. Habituation of birds to the presence of wind turbines during the 25 year life of the wind farms has not been considered. Work on habituation to wind farms is on-going at Robin Rigg and elsewhere. One difficulty is distinguishing between habituation and attraction due to increased food availability that may result from wind farm construction e.g. long tailed duck at Nysted, Denmark;
5. Evidence as summarised by MacArthur Green’s Review of Evidence of Seabird Displacement from Offshore Windfarms (October 2013) suggests that the displacement rate of 60% applied to the auk species is likely to be an overestimate;
6. Birds on the water and in flight have both been assumed to be displaced and therefore fail to breed successfully; and
7. The mean seasonal peak abundance, rather than the mean abundance estimates have been used.

MSS advised that adopting a number of additional assumptions and further, more precise, quantification would reduce the estimated effects substantially. This has not been done, as MSS do not consider the additional quantification would substantively change the advice in relation to the overall conclusions.

### **Conclusion of puffin assessment**

The population estimates underpinning the assessment methods used should be regarded as indicative. Although best available evidence has been used throughout, the inherent uncertainties are sufficiently great that the precise estimates of the effects and the acceptable thresholds should not be considered as absolute values. It is, however, reasonable to consider the lower calculated thresholds of acceptable change as being underestimates, and the estimated effects as being overestimates.

Following SNH and the JNCC advice, overall conclusions in relation to site integrity should be based upon the population estimate for ECC and NCC combined. SNH and the JNCC concluded that there will be no adverse effect on site integrity from the BOWL and MORL WCSs based on their application of PBR to set a threshold and conversion of the PBR value to an “equivalent” productivity value. MSS have used

the ABC tool and population models to assess effects on productivity and taken account of the precautionary nature of the estimation of the magnitude of effects. MSS advised that the estimated effects are typically within the range of values used to estimate the acceptable thresholds and concluded no adverse effect on site integrity based on the number of birds displaced and the thresholds described above.

### **Appropriate Assessment**

The AA completed for the Development focused on the in-combination impacts with MORL. The assessment used the best available evidence and gave detailed consideration to all SPAs where likely significant effect had been identified by SNH and the JNCC and considered fully the impacts of BOWL and MORL on the SPA populations of concern. The AA concluded that BOWL in combination with MORL will not adversely affect site integrity of any SPA as long as conditions attached to any consent were complied with. A condition has been attached to the BOWL consent to ensure that collision impacts on great blacked-back gull are within the acceptable threshold in combination with MORL identified in the AA. This condition of the BOWL consent defines the acceptable numbers and parameters of WTGs that can be built. MORL have reduced their design envelope sufficiently which ensures that their impacts will be below the identified acceptable threshold in combination with BOWL. SNH and the JNCC have reviewed the AA and agreed with all the conclusions reached.

Under Article 6(3) of the Habitats Directive a competent authority may only consent a project after having ascertained that it will not adversely affect the integrity of the site concerned. The judgement on the Waddenzee case found that no reasonable scientific doubt must remain as to the absence of such effects in order to come to a decision. MS-LOT, as the competent authority, considers that the AA has used the best scientific evidence available and has been sufficiently precautionary in light of the uncertainties and therefore concludes that the requirements of the Waddenzee test have been met.

In light of the above, MS-LOT considers that, while the Development would have an impact on birds, taking account of the reduced number of WTGs, this would not be so significant that it would require consent to be withheld.

## References

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## **ANNEX C – ADVICE TO MINISTERS AND RECOMMENDATION**

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED.**

### **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**, Marine Scotland Licensing 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 Development, including the Environmental Statement (“ES”), the Supplementary Environmental Information Statement (“SEIS”), representations from the Company, as well as representations from consultees and from members of the public, 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; and
2. an inquiry into the issues raised by consultees or members of the public 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 CONSENT UNDER SECTION 36 OF THE ELECTRICITY  
ACT 1989**

MS-LOT considers 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 preservation of the environment and ecology and are of the view that you will have discharged your responsibilities in terms of Schedule 9 to the Electricity Act 1989 (as amended) ('the Electricity Act') in this respect, if you decide to grant consent.

MS-LOT considers 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 consent.

For the reasons set out in **Annex A, B, and E**, the Scottish Ministers may be satisfied to the appropriate test that the Development, alone, and in combination with Telford Offshore Wind Farm, Stevenson Offshore Wind Farm and MacColl Offshore Wind Farm (all three combined make up the Moray Offshore Renewables Limited ("MORL") proposal), will not adversely affect site integrity of any European site 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 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.

You can be satisfied that this proposal has had regard to the interference of recognised sea lanes essential to international and national navigation. None of the stakeholders responsible for navigational issues objected to the Application; however some concerns were raised regarding the possible impact on navigation arising from the Development. Through further discussion between the Company and these stakeholders, and subject to the inclusion of appropriate conditions on any marine licence or consent, the navigational bodies were content that the Development's impact upon recognised sea lanes essential to international and national navigation

could be overcome. MS-LOT is therefore of the view that you have discharged your responsibilities in terms of section 36B of the Electricity Act.

Application iii for a marine licence under the Marine (Scotland) Act 2010 for the Beatrice Offshore Wind Farm has been considered alongside this Application. It will be determined and a decision issued in due course.

Application iv for a marine licence under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 for the Offshore Transmission Works and export cable to shore at Portgordon, has been considered alongside this Application. It will be determined and a decision issued alongside this consent.

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 Conservation (Natural Habitats, &c.) Regulations 1994. This will be applied for by the Company separately once the final layout of the wind farm and wind turbine generators ("WTGs") specifications has been agreed.

#### **SECTION 36 RECOMMENDATION**

MS-LOT recommends that you determine to grant **consent under section 36 of the Electricity Act for the Beatrice Offshore Wind Farm subject to the imposition of conditions**. The draft decision letter with conditions is enclosed (at **ANNEX D – DRAFT DECISION LETTER AND CONDITIONS**).

## **ADVICE TO THE SCOTTISH MINISTERS IN RELATION TO THE DECISION WHETHER TO GRANT A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989**

At the same time as the Company applied for consent under Section 36 of the Electricity Act, they also applied for a declaration to be made by the Scottish Ministers under section 36A of that Act. MS-LOT considers that adequate opportunity was afforded for public representation with regards to a declaration. No objections were received from any stakeholders or members of the public. It is our recommendation that the Scottish Ministers make a declaration to extinguish the public right of navigation in so far as it passes through places within territorial waters where the structures forming part of the offshore wind farm are located. A declaration will be issued to the Company at the same time as the section 36 consent, should you determine that consent is appropriate.

### **SECTION 36A RECOMMENDATION**

MS-LOT recommends that you **grant a declaration under section 36A of the Electricity Act for the Beatrice Offshore Wind Farm** to extinguish the public right of navigation in so far as it passes through places within territorial waters where the structures forming part of the offshore wind farm are located. The draft declaration is enclosed (at **ANNEX H – DRAFT DECLARATION**).

Gayle Holland, EIA/HRA Compliance Manager,  
Marine Scotland Licensing Operations Team,  
Marine Planning & Policy  
5<sup>th</sup> March 2014

## ANNEX D – DRAFT DECISION LETTER AND CONDITIONS

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF AN OFFSHORE GENERATING STATION, THE BEATRICE OFFSHORE WIND FARM, IN THE OUTER MORAY FIRTH.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED.**

**marinescotland**

T: +44 (0)1224 295579 F: +44 (0)1224 295524  
E: MS.MarineLicensing@Scotland.gsi.gov.uk

Mr Colin Palmer  
SSE Renewables  
1 Waterloo Street  
Glasgow  
G2 6AY



**Date**

Dear Mr Palmer,

**CONSENT GRANTED BY THE SCOTTISH MINISTERS UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 TO CONSTRUCT AND OPERATE THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**DECLARATION GRANTED BY THE SCOTTISH MINISTERS UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED.**

Defined Terms used in this letter and Annex 1 & 2 are contained in **Annex 3**.

The following applications have been made to the Scottish Ministers for:-

- i. A consent under section 36 of the Electricity Act 1989 (as amended) (“the Electricity Act”) by Beatrice Offshore Windfarm Limited (Company Number SC350248) and having its registered office at Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ for the Beatrice Offshore Wind Farm in the Outer Moray Firth;
- ii. A declaration under section 36A of the Electricity Act by Beatrice Offshore Windfarm Limited to extinguish public rights of navigation so far as they pass through those places within the Scottish marine area where structures forming part of the Beatrice Offshore Wind Farm and Offshore Transmission Works are to be located;
- iii. A marine licence to be considered under the Marine (Scotland) Act 2010 (“the 2010 Act”) by Beatrice Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Beatrice Offshore Wind Farm; and
- iv. A marine licence to be considered under the 2010 Act and the Marine and Coastal Access Act 2009 (as amended) (“the 2009 Act”) by Beatrice Offshore Windfarm Limited to deposit any substance or object and to construct, alter or improve any works in relation to the Offshore Transmission Works within the Scottish marine area and the Scottish Offshore Region.

## **THE APPLICATION**

I refer to applications at i and ii above made by Beatrice Offshore Windfarm Limited (“the Company”), received on the 23<sup>rd</sup> April 2012 for consent under section 36 of the Electricity Act and a declaration under section 36A of the Electricity Act, for the construction and operation of Beatrice Offshore Wind Farm in the Outer Moray Firth with a maximum generating capacity of **1000 megawatts (“MW”)** (“the Application”), and to extinguish public rights of navigation so far as they pass through those places within the territorial sea where structures forming part of the Beatrice Offshore Wind Farm are to be located.

The generating capacity has been reduced during the consultation process due to concerns raised by consultees with regards to potential impacts to birds. This consent is now granted for a maximum generating capacity of up to **750 MW**.

In this letter, “the Development” means the proposed Beatrice Offshore Wind Farm electricity generating station as described in **Annex 1** of this letter.

## **STATUTORY AND REGULATORY FRAMEWORK**

### **The Scotland Act 1998, The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) Order 1999 and The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) (No. 2) Order 2006**

The generation, transmission, distribution and supply of electricity are reserved matters under Schedule 5, Part II, section D1 of the Scotland Act 1998. The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) Order 1999 (“the 1999 Order”) executively devolved section 36 consent functions under the Electricity Act (with related Schedules) to the Scottish Ministers. The Scotland Act 1998 (Transfer of Functions to the Scottish Ministers etc.) (No. 2) Order 2006 revoked the transfer of section 36 consent functions as provided under the 1999 Order and then, one day later, re-transferred those functions, as amended by the Energy Act 2004, to the Scottish Ministers in respect of Scotland and the territorial waters adjacent to Scotland and extended those consent functions to a defined part of the Renewable Energy Zone beyond Scottish territorial waters (as set out in the Renewable Energy Zone (Designation of Area) (Scottish Ministers) Order 2005).

### **The Electricity Act 1989**

Any proposal to construct, extend or operate a generating station situated in the territorial sea (out to 12 nautical miles (“nm”) from the shore), with a generation capacity in excess of 1 MW requires consent under Section 36 of the Electricity Act. A consent under section 36 may include such conditions (including conditions as to the ownership or operation of the station) as appear to the Scottish Ministers to be appropriate. The consent shall continue in force for such period as may be specified in or determined by or under the consent.

Paragraph 3 of Schedule 9 to the Electricity Act places a duty on licence holders or persons authorised by an exemption to generate, distribute, supply or participate in the transmission of electricity when formulating “relevant proposals” within the meaning of paragraph 1 of Schedule 9 to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Such persons are statutorily obliged to do what they reasonably can to mitigate any effect which the proposals would have on these features.

Paragraph 3 of Schedule 9 to the Electricity Act also provides that the Scottish Ministers must have regard to the desirability of preserving natural beauty etc. and the extent to which the person by whom the proposals were formulated has complied with their duty to mitigate the effects of the proposals. When exercising any relevant functions, a licence holder, a person authorised by an exemption to generate or supply electricity, and the Scottish Ministers, must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

Under Section 36A of the Electricity Act, Scottish Ministers have the power to make a declaration, on an application, which extinguishes public rights of navigation which pass through the place where a generating station will be established; or suspend

rights of navigation for a specified period of time. The power to extinguish public rights of navigation extends only to generating stations in territorial waters.

A declaration made under section 36A is one declaring that the rights of navigation specified, or described in it, i) are extinguished, ii) are suspended for a period that is specified in the declaration, iii) are suspended until such time as may be determined in accordance with a provision contained within the declaration, or iv) are to be exercisable subject to such restrictions or conditions, or both, as are set out in the declaration. The declaration has effect, from the time at which it comes into force, and, continues in force for such a period as may be specified in the declaration.

Under section 36B of the Electricity Act, the Scottish Ministers may not grant a consent in relation to any particular offshore generating activities if they consider that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the carrying on of those activities or is likely to result from their having been carried on. The Scottish Ministers, when determining whether to give consent for any particular offshore generating activities, and considering the conditions to be included in such consent, must have regard to the extent and nature of any obstruction of or danger to navigation which, without amounting to interference with the use of such sea lanes, is likely to be caused by the carrying on of the activities, or is likely to result from their having been carried on. In determining this consent, the Scottish Ministers must have regard to the likely overall effect (both while being carried on and subsequently) of the activities in question and such other offshore generating activities which are either already the subject of section 36 consent or activities for which it appears likely that such consents will be granted.

Under Schedule 8 to the Electricity Act and the Electricity (Applications for Consent) Regulations 1990 ("the 1990 Regulations"), notice of applications for section 36 consent must be published by the applicant in one or more local newspapers and in the Edinburgh Gazette to allow representations to be made to the application. Under Schedule 8 to the Electricity Act the Scottish Ministers must serve notice of application for consent upon any relevant Planning Authority.

Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant Planning Authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection, then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances, before determining whether to give their consent, the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.

The location and extent of the proposed Development to which the Application relates (being wholly offshore) means that the Development is not within the area of any local Planning Authority. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be held. The nearest local Planning Authorities did not object to the Application. If they had objected to the Application, and even then if they did not withdraw their objections, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.

The Scottish Ministers are, however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held in respect of the application. Paragraph 3(2) of Schedule 8 provides that if the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the application.

The Scottish Ministers are satisfied that they have considered and applied all the necessary tests set out within the Electricity Act when assessing the Application. The Company, at the time of application, was not a licence holder or a person authorised by an exemption to generate, distribute, supply or participate in the transmission of electricity when formulating “relevant proposals” within the meaning of paragraph 1 of Schedule 9 to the Electricity Act. The Company obtained a generation licence during the period whilst the Scottish Ministers were determining the Application for consent. The Minister and his officials have, from the date of the Application for consent, approached matters on the basis that the same Schedule 9, paragraph 3(1) obligations as applied to licence holders and the specified exemption holders should also be applied to the Company.

The approach taken has been endorsed by the Outer House of the Court of Session where Lord Doherty in *Trump International Golf Club Scotland Limited and The Trump Organization against The Scottish Ministers and Aberdeen Offshore Wind Farm Limited* [2014] CSOH 22 opines that the Electricity Act and regulations made under it contemplate and authorise consent being granted to persons who need not be licence holders or persons with the benefit of an exemption. In addition, the Company is, in any event, required to consider the protection of the environment under statutory regulations which are substantially similar to Schedule 9 to the Electricity Act, namely the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (“the 2000 Regulations”), whether or not the Company is among the categories of persons described in Schedule 9, paragraph 3(1).

### **Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009**

The 2010 Act regulates the territorial sea adjacent to Scotland in terms of marine environment issues. As this Application falls within the Scottish marine area (essentially the territorial sea adjacent to Scotland, which extends out to 12 nm from the shore), it falls to the 2010 Act to regulate marine environmental issues in this area. Subject to exemptions specified in subordinate legislation, under Part 4 of the 2010 Act, licensable marine activities may only be carried out in accordance with a marine licence granted by the Scottish Ministers.

Under Part 2 of the 2010 Act the Scottish Ministers have general duties to carry out their functions in a way best calculated to achieve the sustainable development, including the protection and, where appropriate, the enhancement of the health of the area. The Scottish Ministers when exercising any function that affects the Scottish marine area under the 2010 Act, must act in a way best calculated to mitigate, and adapt to, climate change.



As the application for the transmission infrastructure associated with the wind farm falls partly out with the Scottish Territorial Sea, beyond the 12 nm limit, it falls to the Marine and Coastal Access Act 2009 (“the 2009 Act”) to regulate marine environmental issues in this area. Other than for certain specified matters, 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.

The 2009 Act transferred certain functions in issuing consents under section 36 of the Electricity Act from the Secretary of State to the Marine Management Organisation (“MMO”). The MMO does not exercise such functions in Scottish waters or in the Scottish part of the renewable energy zone, as that is where the Scottish Ministers will perform such functions.

Where applications for both a marine licence under the 2009 Act and consent under section 36 of the Electricity Act are made then, in those cases where they are the determining authority, the Scottish Ministers may issue a note to the applicant stating that both applications will be subject to the same administrative procedure. Where that is the case then that will ensure that the two related applications may be considered at the same time.

### **Climate Change (Scotland) Act 2009**

Under Part 2 of the 2010 Act, the Scottish Ministers must, when exercising any function that affects the Scottish marine area (essentially the territorial sea adjacent to Scotland) under the Climate Change (Scotland) Act 2009 (as amended), 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 (as amended), annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.

The Scottish Ministers are satisfied that in assessing the Application, they have acted in accordance with their general duties, and they have exercised their functions in compliance with the requirements of the Climate Change (Scotland) Act 2009 (as amended).

### **Environmental Impact Assessment Directive; The Electricity (Applications for Consent) Regulations 1990 and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended)**

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 Environmental Impact Assessment (“EIA”) to be undertaken. The Company identified the proposed Development as one requiring an Environmental Statement (“ES”) in terms of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended) (“the 2000 Regulations”).

The proposal for the Development has been publicised, to include making the ES available to the public, in terms of the 2000 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 1990 Regulations, the 2000

Regulations and the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) have been followed.

The Scottish Ministers have, in compliance with the 2000 Regulations consulted with Scottish Natural Heritage (“SNH”), the Joint Nature Conservation Committee (“JNCC”), the Scottish Environment Protection Agency (“SEPA”), the Planning Authorities most local to the Development, 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 Supplementary Environmental Information Statement (“SEIS”), and the representations received from the statutory consultative bodies and from all other persons.

The Scottish Ministers have, in compliance with the 2000 Regulations, obtained the advice of the SEPA on matters relating to the protection of the water environment. This advice was received on 29<sup>th</sup> May 2012.

The Scottish Ministers have also consulted a wide range of relevant organisations, including colleagues within the Scottish Government on the Application, on the ES and as a result of the issues raised, upon the required SEIS.

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

### **The Habitats Directive and the Wild Birds Directive**

The Habitats Directive provides for the conservation of natural habitats and of wild flora and fauna in the Member States’ European territory, including offshore areas such as the proposed site of the developments. It promotes the maintenance of biodiversity by requiring Member States to take measures which include those which maintain or restore natural habitats and wild species listed in the Annexes to the Habitats Directive at a favourable conservation status and contributes to a coherent European ecological network of protected sites by designating Special Areas of Conservation (“SACs”) for those habitats listed in Annex I and for the species listed in Annex II, both Annexes to that Directive.

The Wild Birds Directive applies to the conservation of all species of naturally occurring wild birds in the member states’ European territory, including offshore areas such as the proposed site of the developments and it applies to birds, their eggs, nests and habitats. Under Article 2, Member States are obliged to “take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level”. Article 3 further provides that “[i]n the light of the requirements referred to in Article 2, Member States shall take the requisite measures to preserve maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1”. Such measures are to include the creation of protected areas: article 3.2.

Article 4 of the Wild Birds Directive provides *inter alia* as follows:

- “1. The species mentioned in Annex I [of that Directive] shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. [...]
2. Member States shall take similar measures for regularly occurring migratory species not listed in Annex I [of that Directive], bearing in mind their need for protection in the geographical sea and land area where this Directive applies, as regards their breeding, moulting and wintering areas and staging posts along their migration routes. To this end, Member States shall pay particular attention to the protection of wetlands and particularly to wetlands of international importance.
- [...]
4. In respect of the protection areas referred to in paragraphs 1 and 2, Member States shall take appropriate steps to avoid pollution or deterioration of habitats or any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this Article. Outside these protection areas, Member States shall also strive to avoid pollution or deterioration of habitats.”

Articles 6 & 7 of the Habitats Directive provide *inter alia* as follows:

- “6.2 Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.
- 6.3 Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
- 6.4. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.
7. Obligations arising under Article 6 (2), (3) and (4) of this Directive shall replace any obligations arising under the first sentence of Article 4 (4) of Directive 79/409/EEC in respect of areas classified pursuant to Article 4 (1) or similarly recognized under Article 4 (2) thereof, as from the date of implementation of this Directive or the date of classification or recognition

by a Member State under Directive 79/409/EEC, where the latter date is later.”

The Habitats Directive and the Wild Birds Directive have, in relation to the marine environment, been transposed into Scots law by the Conservation (Natural Habitats, & c.) Regulations 1994 (“the 1994 Regulations”) and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (“the 2007 Regulations”). As the Development is to be sited in the Scottish Territorial Sea, it is the 1994 Regulations which are applicable in respect of this application for section 36 consent. The 2007 Regulations do, however, apply to those parts of the associated transmission works which lie inside the Scottish Offshore Region (i.e. in the region beyond 12 nm from the shore).

The 1994 and the 2007 Regulations (“the Habitats Regulations”) clearly implement the obligation in article 6(3) & (4) of the Habitats Directive, which by article 7 applies in place of the obligation found in the first sentence of article 4(4) of the Wild Birds Directive. In each case the “competent authority”, which in this case is the Scottish Ministers, is obliged to “make an appropriate assessment of the implications for the site in view of the site’s conservation objectives” (hereafter an “AA”). Such authority is also obliged to consult SNH and, for the purpose of regulation 48 of the 1994 Regulations, to have regard to any representations made by SNH. The nature of the decision may be taken for present purposes from the provision in regulation 25(4) & (5) of the 2007 Regulations:

- “(4) In the light of the conclusions of the assessment, and subject to regulation 26, the competent authority may agree to the plan or project only if it has ascertained that it will not adversely affect the integrity of the European offshore marine site or European site (as the case may be).
- (5) In considering whether a plan or project will adversely affect the integrity of a site, the competent authority must have regard to the manner in which it is proposed to be carried out and to any conditions or restrictions subject to which the competent authority proposes that the consent, permission or other authorisation should be given.”

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 which are set out as follows:

- Stage 1 - Where a project is not connected with or necessary to the site’s management and it is likely to have a significant effect thereon (either individually or in combination with other projects), then an AA is required.
- Stage 2 - In light of the AA of the project’s implications for the site in view of the site’s conservation objectives, the competent authority must ascertain to the requisite standard that the project will not adversely affect the integrity of the site, having regard to the manner in which it is proposed to be carried out and to any conditions or restrictions subject to which the consent is proposed to be granted.

SNH and the JNCC were of the opinion that the Development is likely to have a significant effect on the qualifying interests of certain Special Protected Areas (“SPAs”) and SAC sites, therefore an AA was required. The AA which has been undertaken has considered the combined effects of the Development and the Moray Offshore Renewables Limited (“MORL”) wind farms. This is because the MORL proposal, the applications for which were submitted to the Scottish Ministers in August 2012, are proposed to be sited immediately adjacent to the Development.

The Scottish Ministers, as a competent authority, have complied with European Union (“EU”) obligations under the Habitats Directive and the Wild Birds Directive in relation to the Development. Marine Scotland Licensing Operations Team (“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 site integrity of any of the identified European protected sites assessed to have connectivity with the Development, and have imposed conditions on the grant of this consent ensuring that this is the case. The test in the *Waddenzee* judgement formed the basis for the approach taken (CJEU Case C-127/02 [2004] ECR I-7405), and the Scottish Ministers are certain that the Development will not adversely affect site integrity of the sites “where no reasonable scientific doubt remains as to the absence of such effects”. The AA will be published and available on the Marine Scotland licensing page of the Scottish Government’s website.

## **APPLICABLE POLICIES AND GUIDANCE**

### **Marine area**

#### **The UK Marine Policy Statement 2011**

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

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 energy related manufacturing and deployment activity. The associated opportunities on the regeneration of local and national economies need also to be considered.

Chapter 3, paragraphs 3.3.1 to 3.3.6, 3.3.16 to 3.3.19 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.

Existing terrestrial planning regimes generally extend to mean low water spring tides. The marine plan area boundaries extend up to the level of mean high water spring tides. 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. The Scottish Ministers have, 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.

The Scottish Ministers have had full regard to the Statement when assessing the Application. It is considered that the Development accords with the Statement.

### Blue Seas-Green Energy: A Sectorial Plan for Offshore Wind Energy in Scottish Territorial Waters

The Scottish Government has used a marine planning approach to develop Blue Seas Green Energy – A Sectorial Marine Plan for Offshore Wind in Scottish Territorial Waters (“the Plan”).

The Plan represents the Scottish Minister’s vision for the delivery of energy from offshore wind resources within Scottish Territorial Waters (0 to 12 nautical miles). The Plan contains proposals for offshore wind development at the regional level up to 2020 and beyond. It seeks to maximise the benefits for Scotland, its communities and people and recognises the need for public acceptability in the development of offshore wind. It aims to strike a balance between economic, social and environmental needs and also recognises that there are national and regional challenges to overcome to facilitate development.

The draft Plan contained 10 short term (up to 2020) and 30 medium term (up to 2030) options including Beatrice as a short term site in the North East region. The sites were selected by developers and The Crown Estate Commissioners (“CEC”) and awarded Exclusivity Agreements. This reduced to 9 as one site developer withdrew.

Scottish Ministers further decided that 3 short term sites in the West and South-West regions were unsuitable for the development of offshore wind and should not be progressed as part of the Plan. These short term sites were considered unsuitable because of the presence of a wide range of constraints on a number of receptors (including communities, shipping, fishing, biodiversity, recreation, defence, economic impact, cultural heritage, seascapes and landscapes). Scottish Ministers decided that 6 short term sites and 25 medium term areas of search should be progressed within this Plan.

The main findings for the North East (Moray Firth) Offshore Wind Plan region was that this region has favourable conditions and significant potential for the development of offshore wind both within Scottish Territorial Waters and beyond into Scottish Offshore Waters (12 to 200 nautical miles). The significant strategic issues to be resolved according to the Plan related to fishing and the environment, with

potential adverse effects on bottlenose dolphins presented as a significant issue. Other key issues to be addressed for the region included shipping and navigation, biodiversity, aviation and radar, and defence activities. Evidence at this stage suggested that issues could be addressed through appropriate mitigation measures at the project level.

The Beatrice short term site within Scottish Territorial Waters was seen to be suitable for development by 2020 (as well as a large Round 3 offshore wind development site just outside Scottish Territorial Waters adjacent to Beatrice). The cumulative impacts of these developments were identified as requiring further consideration.

The Plan recommended that the Beatrice short term option should be taken forward to the licensing stage. A key finding was that there is significant potential for this development in the short term and it appears to be publicly and environmentally acceptable. Another key finding was that the North East region relates closely to areas where there is significant potential for economic investment and employment.

Overall the Plan seeks to deliver Scottish Ministers' policies for green energy, thereby helping to meet carbon reduction targets. The Plan underpins the promotion of economic development and competitiveness for Scotland and has been built using environmental and socio-economic assessments and consultation, both public and sectoral, as marine plan making tools.

The outcomes of Strategic Environmental Assessment ("SEA"), HRA, Socio-economic Assessment and Consultation Analysis informed the final Plan.

#### Draft National Marine Plan

A draft National Marine Plan, developed under the 2010 Act and the 2009 Act was subject to consultation which closed in November 2013. Marine Scotland Planning & Policy are now considering the responses and undertaking a consultation analysis exercise. When formally adopted, the Scottish Ministers must take authorisation and enforcement decisions which affect the marine environment in accordance with the Plan.

The draft National Marine Plan sets an objective to promote the sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations. It also contains specific policies relating to the mitigation of impacts on habitats and species; and in relation to treatment of cables.

The Scottish Ministers have had full regard to the draft national Marine Plan when assessing the Application. It is considered that the Development accords with the draft Plan.

#### Offshore Renewable Policy

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. The Scottish Ministers remain fully committed to realising Scotland's offshore wind potential and to capture the biggest sustainable economic growth opportunity for a generation.

This Development, will contribute significantly to Scotland's renewable energy targets 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 and the National Renewables Infrastructure Plan.

### **Terrestrial area**

Existing terrestrial planning regimes generally extend to mean low water spring tides. The marine plan area boundaries extend up to the level of mean high water spring tides. 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. The Scottish Ministers have, accordingly, had regard to the terms of relevant terrestrial planning policy documents and Plans when assessing the Application.

In addition to high level policy documents regarding the Scottish Government's policy on renewables (2020 Renewable Route Map for Scotland - Update (published 30 Oct 2012), the Scottish Ministers have had regard to the following documents.

### **Scottish Planning Policy**

Scottish Planning Policy sets out the Scottish Government's planning policy on renewable energy development. Whilst it makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, it states that these are likely to include impacts on landscapes and the historic environment, ecology (including birds, mammals and fish), biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. It also makes clear that the scope for the development to contribute to national or local economic development should be a material consideration when considering an application.

The Scottish Ministers are satisfied that these matters have been addressed in full both within the Application and within the responses received to the consultation by the closest onshore Planning Authorities, SEPA, the JNCC, SNH and other relevant bodies.

### **National Planning Framework 2**

Scotland's National Planning Framework 2 ("NPF2") sets out strategic development priorities to support the Scottish Government's central purpose, namely sustainable economic growth. Relevant paragraphs to the Application are paragraphs 65, 144,



145, 146, 147 and 216. NPF2 provides strong support for the development of renewable energy projects to meet ambitious targets to generate the equivalent of 100% of our gross annual electricity consumption from renewable sources and to establish Scotland as a leading location for the development of the renewable offshore wind sector.

### National Planning Framework 3

Scotland's National Planning Framework 3 ("NPF3") is the national spatial plan for delivering the Government Economic Strategy. The Main Issues Report sets out the ambition for Scotland to be a low carbon country, and emphasises the role of planning in enabling development of renewable energy onshore and offshore. NPF3 includes a proposal for national development to support onshore infrastructure for offshore renewable energy, as well as wider electricity grid enhancements. NPF3 also supports development and investment in sites identified in the National Renewables Infrastructure Plan.

The Main Issues Report was published for consultation in April 2013 and the Proposed NPF3 was laid in the Scottish Parliament on 14<sup>th</sup> January 2014. This will be subject to sixty (60) day Parliamentary scrutiny ending on 22<sup>nd</sup> March 2014. The Scottish Government expect to publish the finalised NPF3 in June 2014.

### Highland Renewable Energy Strategy and Planning Guidelines, May 2006

The Highland Renewable Energy Strategy and Planning Guidelines ("HRESPG") supplement the existing policies of The Highland Council and aims to provide guidance and direction for Planning Authority decisions and developers plans.

The HRESPG notes that the optimal area for prospective offshore wind development is considered to be the outer Moray Firth and that offshore wind is viewed as an important potential renewable energy technology for the Highland region. The key aspects of a renewables vision for the Highland region involve setting a balance between social, economic and environmental interests whilst utilising the high calibre energy resources available in the region. The vision also recognises the need for cleaner forms of energy within the existing energy network to help reduce CO<sub>2</sub> emissions.

Within the HRESPG, Strategic Topic E12 (within the Action Plan to implement objectives) states that The Highland Council will prioritise the few offshore wind areas for commercial development that have energy and grid potential with a medium term aim of 1 gigawatt ("GW") capacity by 2020 and long term aim of 2 GW capacity by 2050 in the Moray Firth.

Although the Development is located outside 12 nm from the Highland coastline and thus out with the jurisdiction of The Highland Council, the Scottish Ministers consider that the HRESPG is broadly supportive of the Development which will contribute to the aims for offshore renewable wind development in the Highland region.

### The Highland – wide Local Development Plan, April 2012

The purpose of the Highland – Wide Local Development Plan ('HwLDP') is to set out a balanced strategy to support the growth of all communities across the Highlands ensuring that development is directed to places with sufficient existing or planned infrastructure and facilities to support sustainable development. Relevant policies within this plan can be applied to the Development.

The Vision chapter of the HwLDP makes a commitment to ensuring that the development of renewable energy resources are managed effectively including guidance on where harnessing renewable sources is appropriate or not. There is also a commitment to provide new opportunities to encourage economic development and create new employment across the Highland area focusing on key sectors including renewable energy whilst at the same time improving the strategic infrastructure necessary to allow the economy to grow in the long term.

The Scottish Ministers consider that the HwLDP is broadly supportive of the Development.

### The Moray Structure Plan, April 2007

The Moray Structure Plan ("MSP 2007") sets out the strategic framework for the way in which Moray Council intend to develop the region over the next 15 – 20 years. The central pillar of the development strategy is to promote economic growth whilst safeguarding and enhancing the natural and built environment, and promoting overall sustainability. Promoting the sensitive development of renewable energy (Policy 2) has been identified as a key strategic issue which the MSP 2007 must address.

The Scottish Ministers consider the MSP 2007 is broadly supportive of the Development. The Development offers an opportunity for the region to contribute towards renewable energy targets, tackle the effects of climate change, increase energy security and contribute to the local and regional economies of Moray.

### The Moray Local Plan 2008

The Moray Local Plan ("MLP") interprets the strategic direction provided by the MSP 2007 into detailed policies and proposals for use in the determining of planning policies. The MLP states that Moray has a wealth of natural resources including opportunities for renewable energy, particularly wind energy. The MLP provides a framework to optimise the benefits of these natural resources to the area.

The Scottish Ministers consider that the MLP is broadly supportive of the Development.

### Moray Economic Strategy, October 2012

The recently published Moray Economic Strategy ("MES"), produced by the Moray Community Planning Partnership provides the long term economic diversification strategy for the area. The MES recognises that the engineering and fabrication base,

which at the moment mainly services the oil, gas, and distillation industries, lends itself to development and diversification into the renewable energy supply chains. The MES recognises the potential offered by renewable energy as well as the opportunity for infrastructure in the Moray region to support the development of a world leading and diversified renewable energy sector. Buckie Harbour is specifically identified as having the potential to act as an operations and maintenance base to service the offshore wind farms proposed for the Moray Firth.

## **CONSULTATION**

In accordance with the statutory requirements of the 1990 Regulations and the 2000 Regulations, notices of the Application had to be placed in the local and national press. The Scottish Ministers note that these requirements have been met. Notice of the Application for section 36 consent is required to be served on any relevant Planning Authority under Schedule 8 to the Electricity Act.

Notifications were sent to Moray Council (as the onshore Planning Authority where the transmission works export cable comes ashore at Portgordon) as well as to Highland Council (as the nearest onshore Planning Authority) as well as to SNH, the JNCC and SEPA.

A two-stage formal consultation process was undertaken by the Scottish Ministers. The first, which related to the application for section 36 consent, the marine licence applications (applications i, iii and iv) and the ES, was commenced on 25<sup>th</sup> April 2012, and the second which related to the submission of further information in the form of a SEIS began on 4<sup>th</sup> June 2013.

## **Representations and objections**

A total of forty seven (47) valid representations were received by the Scottish Ministers during the course of the public consultation exercise, mostly from members of the public, with a small number coming from fisheries trusts, and one from a community council. Of these forty five (45) objected to the Development and two (2) were in support of the Development.

Members of the public who objected to the Development stated concerns regarding the visual impact of the turbines, the impacts on marine wildlife, fisheries, navigation, aviation and tourism. Some objections also stated that offshore wind is an unreliable source of energy and the subsidies required to support the industry are too high. There was also a belief that there had been a failure to meet the requirements of the Aarhus Convention, and the Development could be a potential contributor to the blue carbon effect.

Representations which noted support for the Development were of the belief that the Development would offer local benefits such as the creation of jobs, economic opportunities for the area and help fight climate change.

Of the public representations made concerning the Application none were received from elected representatives.

Objections were received from, amongst others, the Royal Society for the Protection of Birds Scotland (“RSPB Scotland”), the Defence Infrastructure Organisation (“DIO”) (Ministry of Defence), National Air Traffic Services (“NATS”), MORL, the Association of Salmon Fishery Boards (“ASFB”), the Moray Firth Sea Trout Project (“MFSTP”), and Whale and Dolphin Conservation (“WDC”).

Several respondents, including the DIO, NATS, and WDC stated their willingness to withdraw their objections provided certain stated conditions were met. Following further correspondence, the DIO and NATS removed their objections subject to conditions being applied to this consent. The Scottish Ministers consider that conditions applied regarding marine mammals address concerns raised by WDC (**Annex 2**).

Objections from members of the public, the ASFB, RSPB Scotland and the MFSTP are being maintained. In light of these concerns, the Company has reduced their design envelope from 1,000 MW to 750 MW and the Scottish Ministers have applied conditions for monitoring and mitigation to this consent (**Annex 2**).

The ASFB and MFSTP have welcomed the salmon monitoring strategy being developed by Marine Scotland. MORL did not remove their objection regarding the cable route, however this issue will be addressed by the Crown Estate (“TCE”).

The Scottish Ministers have considered and had regard to all representations and objections received.

### **Material Considerations**

In light of all the representations, objections and outstanding objections received by the Scottish Ministers in connection with the Application, the Scottish Ministers have carefully considered the material considerations, for the purposes of deciding whether it is appropriate to cause a public inquiry to be held and for making a decision on the Application for consent under section 36 of the Electricity Act.

The Scottish Ministers consider that no further information is required to determine the Application.

### **Public Local Inquiry**

Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant planning authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances before determining whether to give their consent the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.

The location and extent of the Development to which the Application relates being wholly offshore means that the Development is not within the area of any local planning authority. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be

held. The nearest local planning authorities did not object to the Application. Even if they had objected to the Application, and even then if they did not withdraw their objection, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.

The Scottish Ministers are, however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held with respect to the Application. If the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the Application.

The Scottish Ministers have received objections to the Development as outlined above, raising a number of issues. In summary, and in no particular order, the objections were related to the following issues:

- The efficiency of wind energy and high subsidies;
- Visual impacts of the Development;
- Impact upon the tourism industry;
- Impact upon shipping, aviation and DIO;
- Impact upon marine wildlife including birds;
- Impact on salmon and sea trout;
- Impact on commercial fishing;
- Cumulative impacts in the Moray Firth;
- Transmission cable route; and
- Failure to meet the requirements of the Aarhus convention.
- Blue carbon effect

#### *The efficiency of wind energy and high subsidies*

A number of respondents to the Application commented on a range of issues relating to the efficiency of wind energy. The Scottish Ministers consider that although the electrical output of wind farms is variable, and cannot be relied on as a constant source of power, the electricity generated by wind is a necessary component of a balanced energy mix which is large enough to match Scotland's demand. Power supplied from wind farms reduces the need for power from other sources and helps reduce fossil fuel consumption.

With regards to high subsidies, support schemes play an important role in the development of renewable electricity schemes, particularly for more immature technologies. Increased deployment of offshore wind turbines is anticipated to result in declining costs, as the industry learns more about the technical issues that arise in challenging conditions. Alongside this, a number of other factors will also impact the future costs, including steel prices, exchange rates, labour and vessel costs.

The challenge laid down to industry as part of the Offshore Wind Cost Reduction Task Force is to reduce the levelised cost of offshore wind to £100 per megawatt hour. This is clearly ambitious and will require developers to work in collaboration and consider innovative technology and working practices. Test and demonstration facilities will also continue to be crucial to the development of the industry and in particular in pursuing the cost reduction agenda.

The Scottish Ministers, therefore, consider they have sufficient information regarding the efficiency of wind energy and high subsidies, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### Visual impacts of the Development

Adverse visual impact of the Development in its proposed location was raised in the outstanding objections to the Development. The Company in its ES indicates that the Development would have visual impacts that range from negligible to major depending upon where the viewer is situated. SNH, the Scottish Ministers' statutory nature conservation advisers who advise on, amongst other matters, visual impacts on designated landscape features, advised that key landscape, seascape and visual impacts of the Development together with MORL will occur along a 39 km stretch of the Caithness coast from Noss Head to Dunbeath. Here at its closest the Development is 13.5 km from shore with the MORL proposal being 22 km. The two developments are likely to be perceived as one single wind farm lying offshore, parallel to the coast. They will form a prominent new feature (some 19 km in length) on the skyline of the open sea. The visual impacts are primarily caused by Beatrice, rather than MORL due to its closer proximity to shore.

SNH advised that where a viewpoint / location has a panoramic and expansive context, the offshore development may well appear 'incidental' on the horizon. However landscape and visual effects will be adverse at specific viewpoints and locations, especially elevated cliff tops and landmarks. This will be the case at key viewpoints such as Wick, Sarclet, Whaligoe Steps, Lybster Harbour, Dunbeath Castle and from stretches of the A9. Due to lighting requirements, the wind farms will change the night-time character of seas and skies in this area where there is currently limited light pollution. SNH advised that impacts on the Moray and Aberdeenshire coastline would be negligible. SNH recommended that the final turbine layout should be agreed with the Scottish Ministers and that visualisations for this final layout should be produced for statutory consultees and public information. The Scottish Ministers agree that visualisations for final wind farm layout and design would be a necessity to inform the public. A condition requiring the submission of a Design Statement forms part of this consent at **Annex 2**.

The Highland Council raised some concerns over the visual impact of the Development as they considered that the turbines had not been represented at the correct scale in the visualisations. Their concerns were not sufficient however to cause them to object to the Development.

The Company's ES includes a number of visual photomontages that give an indication of the likely visual impacts. Although these are not definitive, the visualisation material acts as a tool to help inform the decision-making process.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the potential visual impacts of the Development, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate these impacts.

#### Impact upon the tourism industry

Concerns have been raised by respondents to the Application regarding the development's potential impact upon tourism, particularly relating to the dolphin watching in the Moray Firth.

In this respect, the Scottish Ministers note that attitudes of tourists towards wind farms have been assessed in many studies. The results of stated preference studies have found that generally the majority of tourists were positive towards wind farms. Omnibus Research, commissioned by Visit Scotland in 2011, found that 80% of the survey respondents stated that a wind farm would not affect their decision to visit an area. The attitudes of recreational users have been researched to a lesser extent. Landry, Allen, Cherry & Whitehead's 2012 study into the impact of wind farms on coastal recreational demand found that offshore wind farms overall had little impact on recreational visits by residents. However, there are individual differences within the data which, averaged out, show an overall limited impact. Whilst some residents said they would take fewer trips to the beach if there was a wind farm within view, others indicated that they would actually take more trips.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the potential impacts of the Development upon the tourism industry, to reach a conclusion on this matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### Impact on shipping, aviation and DIO

Representation received raised concerns that the Development might present a hazard to vessels navigating in the Moray Firth, and have impacts on aviation and cause problems for national defence. The Scottish Ministers consider that the information provided to them by, amongst others, the Maritime Coastguard Agency ("MCA"), Northern Lighthouse Board ("NLB"), National Air Traffic Service ("NATS") and DIO provides them with sufficient information on which to take a decision in this matter. NATS and DIO initially raised objections against the proposal on the basis of the Development's impact upon air traffic services and DIO radar. Following discussions between the Company and these organisations objections were removed subject to conditions being placed on the consent (**Annex 2**).

The Scottish Ministers, therefore, consider that they have sufficient information regarding the hazards of the Development to shipping, aviation and the DIO, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### Impact on marine wildlife including birds

The impact on marine mammals, birds, benthic ecology and other marine life, as well as Natura concerns, was raised in the outstanding objections to the Development. The Company in the ES and SEIS assessed the potential impact of the Development on fauna and the Scottish Ministers consulted various nature conservation bodies including SNH, the JNCC, RSPB Scotland and WDC on these documents. Only the RSPB Scotland has maintained their objection. SNH, the JNCC and WDC did not object so long as the consent was made subject to specified conditions. Such conditions have been included in this consent to ensure that impacts on wildlife, including birds are acceptable (**Annex 2**).

The Scottish Ministers recognise that there is an outstanding objection from RSPB Scotland due to the potential impacts on several seabird species (most notably great black-backed gull, herring gull, gannet, kittiwake and puffin). MSS, SNH and the JNCC, however, are in agreement that predicted impacts are within acceptable levels for all species in terms of both the 2000 Regulations and the Habitats Regulations. An AA completed by MS-LOT, concluded that the Development will not adversely affect site integrity of any SAC or SPA considered to have connectivity with the Development. Conditions to mitigate and monitor the effects on marine wildlife form part of this consent (**Annex 2**).

One representation stated that it is an offence to disturb or kill cetaceans. To mitigate this, the Company will be required to apply for a European Protected Species (“EPS”) licence prior to construction.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the potential impacts of the Development on marine wildlife, including birds, to reach a conclusion on this matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### *Impact on Atlantic salmon and sea trout*

Objections relating to potential effects on Atlantic salmon and sea trout were received through the public consultation exercise, the ASFB and MFSTP also maintained their objections. The Company in the ES and SEIS recognised the uncertainties around the assessments of these species. The ASFB and MFSTP also recognise these uncertainties and believe they can only be overcome through strategic research. A strategy is being developed by Marine Scotland to address monitoring requirements for Atlantic salmon and sea trout at a national level. The Company has engaged with MS-LOT, MSS, the ASFB and the MFSTP to address this issue. A condition to engage at a local level (the Moray Firth) to the strategic salmon and trout monitoring strategy is contained in this consent (**Annex 2**).

The Scottish Ministers, therefore, consider that sufficient steps, including the development of national strategic monitoring, have been taken to address the uncertainties regarding the potential effects of the Development on Atlantic salmon and sea trout from, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### *Impact on commercial fishing*

The Scottish Fisherman’s Federation (“SFF”) and the Moray Firth Inshore Fishery Group (“MFIFG”) had concerns over impacts on fishing and this was also raised by some members of the public in their objections. The Company in the ES and SEIS assessed the loss of fishing grounds as minor with the wind farm area being of relatively low importance compared with other areas in the Moray Firth.

The Company have engaged with the SFF, and in conjunction with neighbouring wind farm developers, has formed the Moray Firth Offshore Wind Developers Group – Commercial Fisheries Working Group (“MFOWDG-CFWG”). The MFOWDG-CFWG has been established to facilitate on-going dialogue throughout the pre-construction, construction and operational phases of the Development. The MFOWDG-CFWG has representation for all commercial fishing interests in the area



and provides a forum to discuss any issues and potential mitigation in relation to the wind farm developments in the Moray Firth. Conditions for the Company to continue in the MFOWDG-CFWG and mitigate hazards to fishing are contained in this consent (**Annex 2**). Notices to Mariners and notices placed through the Kingfisher Fortnightly Bulletins, is to be considered as a condition as part of the marine licences, applications for which are to be determined in due course.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the potential impacts of the Development on commercial fisheries, and that a mechanism is now in place to facilitate communication, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### *Cumulative impacts in the Moray Firth*

The cumulative effects of concern were not specified by the objectors within their representations, but for offshore wind farms, the Scottish Ministers have conducted and assessed cumulative impacts on all receptors, (including but not limited to; visual, marine life, birds, commercial fisheries and shipping and navigation) of the Development alone, and in combination with the MORL proposal, which lies adjacent. These assessments show that the Development in combination with the MORL proposal will not give rise to any unacceptable impacts.

There will be limited cumulative impact of onshore and offshore wind farm development on settlements in the core area (Noss Head, Wick to Dunbeath). Cumulative effects will arise at Sarclet and Lybster from the Burn of Whilk wind farm (consented) together with the offshore proposals, and at Dunbeath, the operational Buolfruch wind farm will also give rise to cumulative effects. These cumulative effects are however not considered by the Scottish Ministers to be significant.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the cumulative presence of wind farm developments in the Moray Firth, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### *Transmission cable route*

Following the submission of the SEIS and the change to the cable route MORL objected to the Development as the new cable route is even more prejudicial than that which was originally proposed. The Crown Estate (“TCE”) has advised that both parties have been given the opportunity to reach mutual agreement. In the event of failure to agree, there will come a point where TCE will determine a solution to accommodate the requirements. This will be carried out in a balanced and fair process with both parties making written submissions. In these circumstances the decision of TCE will be final and binding.

The Scottish Ministers, therefore, consider that this is a matter for TCE, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

#### *Failure to meet the requirements of the Aarhus Convention*

A concern was raised from a member of the public that, in August 2013, the United Nations Economic Commission for Europe (“UNECE”) declared that the UK

Government's National Renewable Energy Action Plan ("NREAP") violated the laws that transpose the Aarhus Convention into the UK legal framework. In particular, it was stated that the public had not been given full access to information on the impacts on people and the environment, nor had they been given decision-making powers over their approval.

The Aarhus Convention is an international convention which protects the rights of individuals in relation to environmental matters in gaining access to information, public participation in decision-making, and access to justice. The UK is a signatory to the Convention, as is the EU.

On the single accusation relating to the UK Government – public participation in the Renewables Roadmap – the UK Government was found to be in breach of the Convention, as it had not conducted a Strategic Environmental Assessment ("SEA") or other public consultation. However, on the four accusations for which the Scottish Government had lead responsibility, including public participation in the preparation of plans, programmes and policies in Scotland, and public participation in relation to the section 36 consent of a wind farm proposal, the Scottish Government's position was upheld. The ruling confirmed that Scotland is in compliance with this international obligation.

The Scottish Ministers consider that proper assessments have been undertaken for this Development and proper opportunity was afforded for consultation with stakeholders and members of the public, in compliance with the Public Participation Directive, to reach a conclusion on the matter. The Scottish Ministers are committed to applying strict environmental assessment procedures. The Scottish Ministers, therefore, do not consider it appropriate to cause a public inquiry to be held to further investigate this.

#### Blue Carbon effect

Some concerns were raised through the public consultation on the blue carbon effect. MSS have advised that sea bed mobilisation has the potential to increase rates of organic matter degradation. It does this by increasing the exposure of organic carbon incorporated into the sediments to dissolved oxygen. Compared to other processes for oxidising organic matter in the marine environment, exposure to dissolved oxygen is the most efficient. Sea bed mobilisation arising from the installation of offshore turbines has to be set in the context of on-going mobilisation events resulting from human activities. There are many activities undertaken in the marine environment that result in sea bed mobilisation including demersal trawling for fish and sea bed dredging to ensure safe navigational access in and out UK ports and harbours. These activities can occur on a much larger spatial scale than the installation of offshore renewable turbines. Also sea bed mobilisation will take place as a result of natural process particularly during storm events.

The Scottish Ministers, therefore, consider that they have sufficient information regarding the blue carbon effect, to reach a conclusion on the matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

## Summary

In addition to the issues raised by the objections, as discussed above, the Scottish Ministers have considered all other material considerations with a view to determining whether a public inquiry should be held with respect to the Application. Those other material considerations are discussed in detail below, as part of the Scottish Ministers' consideration of the Application. The Scottish Ministers are satisfied that they have sufficient information to enable them to take those material considerations into proper account when making their final determination on this Application. The Scottish Ministers have had regard to the detailed information available to them from the Application, the ES, the SEIS and in the consultation responses received from the closest onshore Planning Authorities, SEPA, the JNCC, SNH and other relevant bodies, together with all other objections and representations. The Scottish Ministers do not consider that a public local inquiry is required in order to inform them further in that regard.

## **DETERMINATION ON WHETHER TO CAUSE A PUBLIC INQUIRY TO BE HELD**

In the circumstances, the Scottish Ministers are satisfied that-

1. they possess sufficient information upon which to determine the Application;
2. an inquiry into the issues raised by the objectors would not be likely to provide any further factual information to assist Ministers in determining the Application;
3. they have had regard to the various material considerations relevant to the Application, including issues raised by objections; and
4. the objectors have been afforded every opportunity to provide information and to make representations.

Accordingly, having regard to all material considerations in this Application and the nature of the outstanding objections, the Scottish Ministers have decided that it is not appropriate to cause a public inquiry to be held.

## **THE SCOTTISH MINISTERS' CONSIDERATION OF THE ENVIRONMENTAL INFORMATION**

The Scottish Ministers are satisfied that an ES has been produced in accordance with the 2000 Regulations and the applicable procedures regarding publicity and consultation laid down in the 2000 Regulations have been followed.

The Scottish Ministers have taken into consideration the environmental information, including the ES and SEIS, and the representations received from the consultative bodies, including SNH, the JNCC, SEPA, and from Moray Council, Highland Council and from all other persons.

The Company, at the time of submitting the Application, was not a licence holder or a person authorised by an exemption to generate, distribute, supply or participate in the transmission of electricity when formulating "relevant proposals" within the

meaning of paragraph 1 of Schedule 9 to the Electricity Act. The Company obtained a generation licence during the period whilst the Scottish Ministers were determining the application for consent. The Scottish Ministers have, from the date of the Application for consent, approached matters on the basis that the same Schedule 9, paragraph 3(1) obligations as applied to licence holders and the specified exemption holders should also be applied to the Company. The Scottish Ministers have also, as per regulation 4(2) of the 2000 Regulations, taken into account all of the environmental information and are satisfied the Company has complied with their obligations under regulation 4(1) of those Regulations.

### **THE SCOTTISH MINISTERS' CONSIDERATION OF THE POSSIBLE EFFECTS ON A EUROPEAN SITE**

When considering an application for section 36 consent under the Electricity Act, which might affect a European protected site, the competent authority must first determine whether a development is directly connected with or necessary for the beneficial conservation management of the site. If this is not the case, the competent authority must decide whether the development is likely to have a significant effect on the site. Under the Habitats Regulations, if it is considered that the development is likely to have a significant effect on a European protected site, then the competent authority must undertake an AA of its implications for the site in view of the site's conservation objectives.

With regards to the Development, SNH and the JNCC advised that the Development is likely to have a significant effect upon the qualifying interests of a number of sites, both SACs and SPAs. As the recognised competent authority under European legislation, the Scottish Ministers, through MS-LOT, have considered the relevant information and undertaken an AA. On the basis of the AA, MS-LOT concluded that the Development would not adversely affect the integrity of any of the designated sites if the mitigation measures outlined were implemented by means of enforceable conditions attached to this consent (**Annex 2**). Under the Habitats Regulations the relevant statutory nature conservation bodies must be consulted. This has been carried out and SNH and the JNCC agreed with all the conclusions reached in the AA.

In the case of this Development the key decision for the Scottish Ministers has been the test laid down under article 6(3) of the Habitats Directive (and transposed by the Habitats Regulations) which applies to the effects of projects on both SACs and SPAs. The Scottish Ministers and their statutory nature conservation advisers are satisfied that the test in article 6(3) is met, and that the relevant provisions in the Habitats Directive, the Wild Birds Directive and the Habitats Regulations are being complied with. The precautionary principle, which is inherent in article 6 of the Habitats Directive and is evident from the approach taken in the AA, has been applied and complied with.

The Scottish Ministers are convinced that, by the attachment of conditions to the consent, the Development will not adversely affect site integrity of the European protected sites included within the AA. The Scottish Ministers are satisfied that no

reasonable scientific doubt remains as to the absence of such effects and that the most up-to-date scientific data available has been used.

## **THE SCOTTISH MINISTERS' CONSIDERATION OF THE APPLICATION**

The Scottish Ministers' consideration of the Application and the material considerations are set out below.

For the reasons already set out above, the Scottish Ministers are satisfied that the Development finds support from the applicable policies and guidance. The Scottish Ministers are also satisfied that all applicable Acts and Regulations have been complied with, and that the Development will not adversely affect site integrity of any European protected site.

### **The impacts on fish and shellfish**

The consultation responses from the ASFB and the MFSTP confirmed objections to the Development from each. Both organisations raised concerns regarding the uncertainty over the potential impacts on migratory fish. The key issues included the potential impacts associated with subsea noise during construction and operation, electromagnetic fields ("EMF"), degradation of the benthic environment, impact on prey species, unknown aggregation effects at the turbines and the fact that the landfall was close to the River Spey. Both organisations were concerned at the lack of biological information to make a wholly accurate assessment of possible impacts from the Development and both requested monitoring and mitigation measures be put in place. Responses received through the public consultation exercise from the Beaully District Fishery Board, the Ness and Beaully Fisheries Trust and the Moray and Pentland Firth Salmon Protection Group raised similar concerns. A condition requiring a comprehensive monitoring programme has been included within this consent (**Annex 2**) and MSS are undertaking strategic research on migratory fish which the Company will contribute to at a local level (Moray Firth).

SNH and the JNCC identified several river SACs where the Development is likely to have a significant effect on the qualifying interests. This required MS-LOT, on behalf of the Scottish Ministers, to undertake an AA in view of the conservation objectives for each SAC. The AA concluded that subject to certain conditions, including appropriate mitigation and monitoring, the Development could be implemented without adversely affecting site integrity. Such conditions have been included by the Scottish Ministers within this consent (**Annex 2**)

SNH, the JNCC and MSS raised some concerns over the potential impacts on cod, herring and sandeels. MSS requested that the Company conduct a post consent/pre construction sandeel survey to ascertain the distribution of sandeels across their site and provide additional baseline information. This would then be used in conjunction with a post construction survey to validate the ES assessments of low impact to sandeels. MSS advised that the Company should carry out a pre-construction cod survey to build an improved knowledge base of spawning sites within the Moray Firth. Post construction cod surveys are also required and are conditioned in this consent (**Annex 2**). The cod and sandeel surveys are due to take place in early 2014. Herring surveys will be required during August to October prior to construction

and will help to refine mitigation measures to reduce impacts on the Orkney / Shetland stock. Should the proposed mitigation not be suitable MSS advised that there should be a piling restriction of up to 16 days which should be determined following analysis of the survey data.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development's impact on fish species and shellfish that would require consent to be withheld.

#### *The impacts on birds*

SNH, the JNCC and the RSPB Scotland expressed concerns about the potential impact of the Development, on its own and in combination with the adjacent proposed MORL proposal, on several bird species using the Moray Firth. The species of most concern were great black-backed gull, herring gull, gannet, puffin, razorbill and guillemot. Concerns over great black backed gull and herring gull were mainly in relation to collision risk with the wind turbine generators ("WTGs") during operation. Concerns over the auk species (puffin, razorbill and guillemot) were in relation to displacement of these species from the wind farm site. Potential displacement effects are; the loss of feeding grounds and increased energy costs that could lead to breeding failure. Concerns over gannet related to both collision and displacement.

Of the species above all except gannet were considered in the AA as gannet is not a qualifying feature of the nearby Troup, Pennan and Lion's Head SPA. However as part of the Gamrie and Pennan Coast Site of Special Scientific Interest ("SSSI"), the gannet colony at Troup Head is a notified feature and therefore required consideration. SNH and the JNCC advised that the colony at Troup Head has been increasing in numbers and concluded that the Development in combination with MORL would not have a significant adverse impact on the SSSI gannet population.

The AA requires to assess the implications of the Development (in combination with the MORL proposal, and including mitigation measures) for each site in view of the site's conservation objectives. SNH and the JNCC have advised that in the case of bird species the relevant conservation objective in the present case is to ensure the long-term maintenance of the population of the relevant qualifying bird species as a viable component of the relevant SPA. This is because that objective not only encompasses direct impacts to the species, such as significant disturbance when birds are out with the SPA, but it can also address indirect impacts, such as the degradation or loss of supporting habitats which are out with the SPA but which help maintain the population of the species of the SPA in the long-term. Such an assessment requires the use of data and scientific method to estimate two key values: first, to predict the impact of the Development (in combination with the MORL proposal, and including mitigation measures) on the population of the qualifying species; and second, to quantify the level of impact that such populations could sustain without there being an adverse effect on the population of the species as a viable component of the site (i.e. an acceptable level of population change or "impact threshold", whether caused by increased mortality or decreased productivity). In the case of offshore wind farms, such impacts on bird species principally occur by virtue

of two key effects, namely (i) increased mortality by direct collision of birds with a wind turbine and/or (ii) decreased productivity by displacement of birds from their foraging area (full details are provided in the AA).

Concerns from SNH and the JNCC regarding impacts on great black-backed gull, herring gull, puffin razorbill and guillemot led to the development of a common currency approach for fixing the first key value, the predicted impact of the Development and the MORL proposal. This approach involved the Company and MORL, SNH, the JNCC and MSS agreeing the parameters which were most appropriate when predicting the levels of impact that the Development and the MORL proposal were likely to have on the bird populations. This common currency approach allowed a number to be generated and agreed for the collision and displacement effects for each species of concern giving a cumulative impact from both the Development and MORL proposal.

SNH, the JNCC and MSS advised on what the acceptable levels of change were for each affected qualifying species. The methods used for determining this figure varied between SNH, the JNCC and MSS. SNH and the JNCC used a calculation called Potential Biological Removal ("PBR"), and MSS used both MORL and BOWL's PVA modelling work augmented by the Acceptable Biological Change ("ABC") tool, which was developed by MSS as a means of estimating acceptable levels of biological change.

Following the common currency exercise SNH, the JNCC and MSS agreed in October 2013 that there would be no adverse effect on site integrity at East Caithness Cliffs ("ECC") SPA in respect of herring gull, guillemot and razorbill, and at North Caithness Cliffs ("NCC") SPA in respect of puffin. There was however some disagreement over the acceptable levels of impact on 1.) great black-backed gull from ECC SPA, and 2.) puffin from ECC SPA.

1.) Great black-backed gull (collision risk) – SNH and the JNCC advised on the 29<sup>th</sup> October 2013 that for great black-backed gull from ECC SPA, using PBR, the acceptable level of impact was a cumulative mortality of no more than 6 birds a year. The impact thresholds which were predicted by MSS using the ABC tool were 20 if the MORL's model was used and 15 if the BOWL model was used. Taking into account the fact that SNH and the JNCC had advised a figure of 6, MSS concluded that there would be no adverse effect on site integrity at ECC SPA for great black-backed gull, if cumulative collision risk mortality from MORL and BOWL is no greater than approximately 10 birds per annum. This precautionary figure was recommended in order to more closely align with the figure advised by SNH and the JNCC. It was later realised that the figure of 6 birds advised by SNH and the JNCC refers to adult breeding birds as this is the metric which their PBR method calculates. On the 22<sup>nd</sup> November 2013 agreement was reached between SNH, the JNCC and MSS that there would be no adverse effect on site integrity for great black-backed gull from ECC SPA based on the common currency which predicted an in-combination total impact of 3.95 collision mortalities for breeding adults or 14.82 collision mortalities including birds of all ages.

The AA, which concluded that there would be no adverse impact on the integrity of great black-backed gull from the ECC SPA, was completed using all advice received

from SNH, the JNCC and MSS. In order to be suitably precautionary and recognise the uncertainty around assessment methodologies, the AA identified that the acceptable threshold for great black-backed gull was 11 birds of all ages. This was split between the MORL proposal and the Development, with the Development being allocated 7 birds of all age classes. The cumulative threshold of 11 is below the figure predicted by the ABC tool applied to both the MORL and BOWL PVA models and is well below the threshold advised by SNH and the JNCC of 6 adult breeding birds (MSS have estimated that 6 breeding birds equates to between 19 and 25 birds of all age classes depending on whether the MORL or BOWL population model is used). The AA was based on the BOWL MLS of 140 WTGs, and the estimated collisions from BOWL were 8.62 (which is greater than the BOWL threshold of 7). BOWL, due to its closer proximity to the ECC SPA, will have the greatest impact on great black-backed gull and therefore a condition will be required on this consent to ensure that impacts are within acceptable limits and to ensure no adverse effect on site integrity. This condition restricts the numbers of WTGs to 125, if the Company wish to exceed this number up to a maximum of 140 WTGs then the exact parameters must be agreed with the Scottish Ministers to ensure that the predicted collisions of great black-backed gulls are within the acceptable threshold. This will be accomplished by running the proposed parameters through an agreed collision risk model prior to authorisation.

2.) Puffin (displacement) - SNH and the JNCC advised that the calculation of displacement effects for the Development and the MORL proposal is based on the footprint of the wind farms and the number of birds using the area. It takes no account of design (i.e. the density of WTGs) because there is no agreed method and limited available evidence to support any such approach. It predicts impacts solely in terms of displacement and its consequences for productivity. SNH and the JNCC noted that the assumption that each individual displaced equates to a pair failing to breed is at the most precautionary end of the range for this parameter, BOWL and MORL also consider this assumption to be highly precautionary. Assessments completed for offshore wind farms around England have focussed on SPAs for wintering / passage populations where the units have always been individuals not pairs, therefore this issue is somewhat novel.

SNH and the JNCC provided advice on appropriate impact thresholds based primarily on use of PBR. Original advice from 8<sup>th</sup> July and 29<sup>th</sup> October 2013 was based on a PBR calculation for the ECC SPA and NCC SPA individually. The October advice provided a threshold of up to 7 breeding adults for ECC SPA using an f value of 0.3, and 341 breeding adults for NCC SPA using an f value of 0.5. This led SNH and the JNCC to conclude that an adverse effect on site integrity could not be ruled out for ECC with respect to puffin. The impact threshold identified by PBR is highly sensitive to the f value used in the equation and SNH and the JNCC advice on the choice of f was based on trend information at the colonies. The ECC SPA population was considered to be declining as the population at the time of designation was thought to be much higher than estimates from more recent counts, leading to the lower f value of 0.3 being used in the PBR model. Subsequent to this advice, uncertainties about the population sizes of the SPAs at time of designation, and the subsequent trends arose. To address this, SNH and the JNCC provided advice on the 17<sup>th</sup> January 2014 based on use of PBR applied to a combined population of both sites (ECC and NCC SPAs). This provided a combined threshold



of 212-354 breeding adults based on using an f value range of 0.3-0.5, and a joint SPA population estimate of 7345 pairs. SNH and the JNCC advised that this joint assessment addresses the requirements under the Habitats Regulations.

MSS identified thresholds of acceptable change by applying the ABC tool to the BOWL and MORL PVA models.

The effects on puffin were estimated using the common currency approach. The estimate provided a metric of individuals displaced, which for the purposes of assessing against a PBR threshold resulted in an additional step of conversion to adult mortality.

The table below details the estimated puffin effects with identified thresholds

	Effects	PBR	PVA & ABC
ECC	79 individuals displaced converted to 23 breeding adult mortalities	7-13 breeding adult mortalities	Between ~ 50 pairs and 140 individuals failing to breed
NCC	483 individuals displaced converted to 137 breeding adult mortalities	205 - 341 breeding adult mortalities	Between ~ 850 pairs and > 2000 individuals failing to breed
ECC/NCC combined	562 individuals displaced converted to 159 breeding adult mortalities	212 - 354 breeding adult mortalities	Between ~ 900 pairs and > 2140 individuals failing to breed

MSS advised that the manner in which displacement effects have been quantified is highly precautionary (full details of this are provided in the AA).

The population estimates underpinning the assessment methods used should be regarded as indicative. Although best available evidence has been used throughout, the inherent uncertainties are sufficiently great that the precise estimates of the effects and the acceptable thresholds should not be considered as absolute values. It is, however, reasonable to consider the calculated thresholds of acceptable change as being underestimates, and the estimated effects as being overestimates.

SNH and the JNCC advised that overall conclusions in relation to site integrity should be based upon the population estimate for both ECC SPA and NCC SPA combined. SNH and the JNCC concluded that there will be no adverse effect on site integrity from the BOWL and MORL worst case scenarios based on their application of PBR to set an impact threshold and conversion of the PBR value to an “equivalent” productivity value. MSS have used the PVA models to assess effects on productivity and taken account of the precautionary nature of the estimation of the magnitude of effects. MSS advised that the estimated effects are typically within the range of values used to estimate the acceptable thresholds. A reasonable interpretation of best available evidence led MSS to conclude no adverse effect on site integrity based on the number of birds displaced and the thresholds described above.

The AA completed for puffin concluded, having assessed all the evidence provided and taking into account the reduction in design envelopes, that whilst it is clear that puffin as a SPA qualifying interest appears the most sensitive to the displacement effect, the Development and the MORL proposal will not adversely affect site integrity of ECC SPA or NCC SPA.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development's impact on birds that would require consent to be withheld.

#### *The impacts on marine mammals*

The Scottish Ministers note that techniques used in the construction of most offshore renewable energy installations have the potential to impact on marine mammals.

SNH, the JNCC and WDC advised that a key concern of theirs was the potential impacts from pile driving during construction. SNH and the JNCC noted that for bottlenose dolphins and harbour seals where population level effects could be a concern and population modelling was presented in the Company's SEIS, that SNH and the JNCC were satisfied that this used the best scientific approach currently available. The models are precautionary and predict some impact on the populations during construction, but no long term effects. SNH and the JNCC advised that it may be possible to further reduce disturbance impacts through consideration of construction programming and the adoption of mitigation, both of which, have been incorporated into the conditions of this consent (**Annex 2**).

SNH and the JNCC advice provided on the 8<sup>th</sup> July 2013 concluded that the Development and the MORL proposal will not lead to any adverse effects on site integrity of the Moray Firth SAC and the Dornoch Firth and Morrich More SAC and did not object subject to conditions being attached to any section 36 consent (**Annex 2**). An AA completed by MS-LOT, on behalf of the Scottish Ministers, concluded that the Development and the MORL proposal will not adversely affect site integrity of these SACs.

For minke whale, MSS advised that the management area for minke whale is British and Irish waters. This area is estimated to contain 23,163 animals, with 95% confidence intervals ranging from 13,772 to 38,958. MSS advised that disturbance from piling will not affect the favourable conservation status of the minke whale population. However, disturbance of individual animals is likely to occur, both inside and outside of Scottish Territorial Waters, from both the Development and MORL, necessitating the requirement for a EPS licence.

For harbour porpoise, MSS advised that significant disturbance is predicted to occur at ranges of around 10-15 km. Evidence from studies of harbour porpoise responses to seismic surveys in the Moray Firth suggests that animals that were displaced by noise effects within 10 km returned within a few hours and that animals reduced their response time over the duration of the survey. MSS advised that the Development alone, and in combination with MORL proposal, will not have a significant adverse effect on the North Sea, or Moray Firth harbour porpoise population.

WDC raised concerns over impacts on minke whale and harbour porpoise as well as corkscrew injuries to harbour seals. Impacts to prey species, particularly sandeels and salmonids was also raised. MSS have advised that there have been a small number of reports of corkscrew seals injuries in the inner Moray Firth, but the area is not considered at this time to be a hotspot for these injuries. Discussions are ongoing between MSS and SNH over the cause and effect of corkscrew injuries to seals but there is not sufficient evidence at this time to attribute this type of injury to one particular source. A potential source may be a ducted propeller, such as a Kort nozzle or some types of Azimuth thrusters. Such systems are common to a wide range of ships including tugs, self-propelled barges and rigs, various types of offshore support vessels and research boats.

SNH and the JNCC advised that it has not been established whether there is a link between the use of ducted propellers and the corkscrew injuries which have been recorded in seal species over the last couple of years. Research in this regard has been commissioned by Marine Scotland and SNH, and is currently being undertaken by the Sea Mammal Research Unit (“SMRU”). SNH and the JNCC will be consulted on the Vessel Management Plan (“VMP”) which is a condition of this consent, as will such other advisors and organisations as may be required at the discretion of the Scottish Ministers. This plan will detail the mitigation measures proposed by the Company to reduce the probability of injuries of this type occurring to seals as a direct result of vessels associated with the Development. Scottish Ministers are satisfied that the mitigation and monitoring included in the conditions attached to this consent (**Annex 2**) will suffice.

WDC had concerns over the cumulative impacts on marine mammals from both the proposed Moray Firth developments and the proposed Forth and Tay wind farm developments. Advice received from MSS relating to the impact on the Coastal East Scotland bottlenose dolphin population from the construction of Nigg, Ardersier and Invergordon ports together with the construction impacts from the Moray Firth wind farms and Forth and Tay wind farms concluded that cumulative impacts were not significant to the population, given that they are statistically indistinguishable from the population estimate.

The Company will also be required to apply for a licence allowing the disturbance of EPS at a later date.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development’s impact on marine mammals that would require consent to be withheld.

#### *The impacts on benthic ecology and habitat interests*

The design envelope applied for includes the option for gravity bases to be used. The Scottish Ministers have agreed with the Company that if gravity bases are to be used across all WTG locations, this would be the subject of a further marine licence application and environmental impact assessment to consider the required dredging and disposal of sediment. SNH and the JNCC have welcomed this approach and

have advised that with the absence of dredge spoil disposal there will be no adverse effect on site integrity on the Moray Firth SAC habitat interests.

Benthic surveys for BOWL identified a potential Priority Marine Feature (“PMF”), SNH have advised that this is a deep water version of SS.SCS.ICS.Moe.Ven. As this is a new record of a biotope in deeper waters, records are not available as to the extent of the interest in Scottish waters. Once geotechnical surveys are completed further consideration of this biotope should be given through consideration in the construction method statement of siting of turbines.

SNH and the JNCC advised that no Annex 1 habitats had been identified in the survey work for the Development.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development’s impact on benthic ecology and habitat interests that would require consent to be withheld.

#### *The impacts on commercial fishing activity*

Regarding commercial fishing activity the SFF raised concerns on restricted access or total loss of traditional fishing grounds, EMF and barriers caused by cabling to towing gear. The SFF stated that within the design envelope fewer WTGs would be favourable. The Application as submitted was for a development comprising up to 277 WTGs, however during the consultation process, the Company reduced this number down to no more than 140 WTGs. As suggested by MSS and the SFF, the MFOWDG-CFWG has been established to facilitate on-going dialogue throughout all phases of the Development. The MFOWDG-CFWG met for the first time on the 18<sup>th</sup> April 2013. Mitigation for the construction, operational and decommissioning impacts of this Development, in combination with the MORL proposal, was identified as the key aims. Participation in the MFOWDG-CFWG and the creation of a commercial fisheries mitigation strategy, approved by the Scottish Ministers, are reflected in conditions of this consent (**Annex 2**). The reduction in the number of WTGs and the condition in this consent requiring over trawl surveys will potentially mitigate the impacts of the Development on commercial fisheries.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development’s impact on commercial fishing activity that would require consent to be withheld.

#### *The impacts on shipping and navigational safety*

The Chamber of Shipping (“CoS”) acknowledged that the proposed wind farm site is in an area with relatively low levels of commercial shipping activity and that the main concentrations of traffic on the Pentland Firth route are some 4-5 nm from the site boundary. The CoS agreed that the impacts on commercial shipping are likely to be relatively low, however raised some concerns over the cumulative impacts of the BOWL development and MORL proposal on navigation. The CoS advised that the Company should work closely with MORL to ensure as much uniformity of the layout

as possible between the wind farms. They also raised concerns about the possibility of the anchor interaction with both cable route options, particularly in the Spey Bay area and requested that navigational stakeholders should be consulted on the planned Burial Protection Index (“BPI”) assessment. The CoS also stated that a full rationale for the possible application for 50m operational safety zones should have been provided in the ES. Any safety zones will need to be applied for through the Department of Energy and Climate Change (“DECC”).

The Company responded to the CoS on the points raised above, giving a commitment to working collaboratively with MORL to support the effective management of cumulative impacts to navigational safety. The Company also advised that further assessment of operational safety zones would be carried out. If safety zones are not justified the Navigational Risk Assessment (“NRA”) will be updated to assess any changes in risk as a result of their removal.

The Northern Lighthouse Board (“NLB”) was unable to specify final marking and lighting requirements owing to a lack of clarity in the Application with regard to the number and layout of WTGs, sub-stations and meteorological masts. Lighting and marking requirements will be given by the NLB during the finalisation of the Development Specification and Layout Plan (“DSLPL”) once submitted by the Company. Submission of a DSLPL is a condition of this consent (**Annex 2**).

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development’s impact on shipping and navigational safety that would require consent to be withheld.

#### *The impacts on aviation*

NATS objected because of potential impacts on the Allanshill radar and associated air traffic operations. Following discussions between the Company and NATS, an agreement has been entered into between the two parties for the design and implementation of an identified and defined mitigation solution in relation to the Development. Consequently, NATS have withdrawn their objection.

The DIO initially objected to the Development citing concerns with the Air Traffic Control radar at RAF Lossiemouth. Following discussions with the DIO and further consideration of the mitigation proposals submitted by the Company, the DIO confirmed that it was prepared to withdraw their objection subject to conditions being attached on any consent (**Annex 2**).

The CAA highlighted relevant Policy Statements and guidance relating to standards for lighting of offshore WTGs and the failure of aviation warning lighting on WTGs which the Company should adhere to. The CAA stated that there was a requirement to notify the UK Hydrographic Office of final positions and maximum heights of the WTGs for aviation and maritime charting. A condition capturing this requirement is reflected in this consent (**Annex 2**).

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having

regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development's impact on aviation that would require consent to be withheld.

#### *The impacts on recreation and tourism*

Some concerns have been raised through the public consultation regarding the Development's potential impact upon tourism, particularly relating to the dolphin watching in the Moray Firth, by WDC. Although there is likely to be some short term displacement of marine mammals during construction, this is not considered to be significant in the longer term and so will not significantly reduce the opportunities for marine mammal watching.

Concerns were also raised by Surfers Against Sewage ("SAS") that the Development could impact surfing locations around the Moray coast. Discussions between the Company and SAS satisfied these concerns. The Scottish Ministers are satisfied that the wave climate will not be altered by the Development to such an extent as to impact on surfing.

No concerns were raised by either the Scottish Canoe Association ("SCA") or the Royal Yachting Association Scotland ("RYA Scotland"). However, the RYA Scotland did ask that a condition be attached to all marine licences to inform the 'Clyde Cruising Club Sailing directions and Anchorages' of the location of the Development.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development's impact on recreation and tourism that would require consent to be withheld.

#### *Visual impacts of the Development*

SNH, the Scottish Ministers statutory advisors on visual impacts and designated landscape features, was consulted and did not object to the proposed Development on the grounds of visual impacts. SNH and the JNCC advised that there would be a major change to Caithness' coastal character and scenery in the core area of Noss Head (Wick) to Dunbeath and that the Development together with MORL will form a prominent new feature (some 19km in length) on the skyline of the open sea. These landscape and visual impacts are primarily caused by the Development rather than MORL, due to its closer proximity to shore. SNH and the JNCC advised that the visual impact of the Development and the MORL proposal on the Moray and Aberdeenshire coast would be negligible. The Highland Council also raised concerns regarding the visual impacts of the Development and considered that the height of the turbines was miss-represented in the visualisations which were prepared by the Company to the Highland Council specifications. These concerns were not however sufficient to cause the Highland Council to object to the Development. The Highland Council has asked to be consulted on the final layout of the farm, but have accepted that seabed conditions and navigational safety will be the primary drivers in the design of the Development. As part of this consent, a condition has been placed on the Company to provide final visualisations to the Highland Council and all Consultees with an interest in visual amenity (**Annex 2**).

No Consultees, Statutory or otherwise, have objected to the Development on landscape and visual impacts.

The Scottish Ministers recognise that the Development and MORL proposal will be a prominent new feature on the seascape from the Caithness coastline.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the Development's visual impacts that would require consent to be withheld.

#### *Impact on telecommunications*

The Highland Council raised a concern that the Development could cause an impact upon television reception in the area. The Scottish Ministers have therefore included a condition within the consent which sets out the mitigation measures that would be taken to investigate and rectify any complaint made (**Annex 2**).

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the conditions proposed, there are no outstanding concerns in relation to the Development's impact on recreation and tourism that would require consent to be withheld.

#### *The efficiency of wind energy*

No form of electricity generation is 100% efficient and wind farms, in comparison with other generators, are relatively efficient. Less than half the energy of the fuel going into a conventional thermal power station is turned into useful electricity – a lot of it ends up as ash, nuclear waste or air pollution harmful to health as well as carbon dioxide. Also, the fuel for a wind farm does not need to be mined, refined or shipped and transported from foreign countries. The Scottish Ministers consider that although the electrical output of wind farms is variable, and cannot be relied on as a constant source of power, the electricity generated by wind is a necessary component of a balanced energy mix which is large enough to match Scotland's demand. Power supplied from wind farms reduces the need for power from other sources and helps reduce fossil fuel consumption.

The Scottish Ministers consider that, having taken account of the information provided by the Company and representations received, there are no outstanding concerns in relation to the efficiency of wind energy that would require consent to be withheld.

#### *The development of renewable energy*

The Scottish Ministers must ensure that the development of the offshore wind sector is achieved in a sustainable manner in the seas around Scotland. This Development forms part of the Scottish Territorial Waters Round of offshore wind farm sites to be consented in Scotland and as such will raise confidence within the offshore wind industry that Scotland is delivering on its commitment to maximise offshore wind potential. This Development will also benefit the national and local supply chains. The Scottish Ministers aim to achieve a thriving renewables industry in Scotland, the

focus being to enhance Scotland's manufacturing capacity, to develop new indigenous industries, and to provide significant export opportunities.

This 750 MW Development has the potential to annually generate renewable electricity equivalent to the demand from approximately 477,610 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 renewable sources to generate the equivalent of 100% of Scotland's gross annual electricity consumption by 2020. Scotland requires a mix of energy infrastructure in order to achieve energy security at the same time as moving towards a low carbon economy. Due to the intermittent nature of renewables generation, a balanced electricity mix is required to support the security of supply requirements. This does not mean an energy mix where Scotland will be 100% reliable on renewables generation by 2020; but it supports Scotland's plan to remain a net exporter of electricity.

The Scottish Ministers consider that, having taken account of the information provided by the Company and representations received, there are no outstanding concerns in relation to the development of renewable energy that would require consent to be withheld.

#### *Proposed location of the Development*

The Scottish Ministers consider that the Company has carefully considered the location of the Development and selected the outer Moray Firth due to its many advantages. In February 2009 The Crown Estate ("TCE") announced an Exclusivity Agreement with the Company. The suitability of the site was further affirmed in May 2010 with the Scottish Government's publication of the Strategic Environmental Assessment ("SEA") in the Draft Plan for Offshore Wind Energy in Scotland which confirmed that all ten Scottish Territorial Waters 2009 lease round sites could be developed between 2010 and 2020 if "appropriate mitigation is implemented to avoid, minimise and offset significant environmental impacts".

The Marine Renewable Energy and the Natural Heritage: an Overview and Policy Statement (SNH, 2004) and Matching Renewable Electricity Generation and Demand (Scottish Government, 2006) indicated the Moray Firth Area was favoured for development of large scale offshore wind farms. In 2008 the Company identified the wind farm site as a suitable site for offshore wind farm development; there are a number of reasons for the site being suitable:

- Existing development, construction and operational experience on the Smith Bank in deep water;
- A favourable wind regime, as identified from five years of wind data from meteorological masts at the Durrans Mains onshore wind farm and two years of LIDAR wind data from the Beatrice A platform;
- An existing 1,000 MW Grid Connection Agreement held since 2006;
- Perceived low seascape, landscape and visual sensitivity – based on findings of the SNH (2006) assessment of sensitivity and capacity of the Scottish seascape in relation to wind farms (low to medium sensitivity, moderate to high capacity for development); and



- Perceived low environmental constraints – due to the lack of designated sites and rare or protected species recorded in close proximity to the Wind Farm Site.

In March 2011 Blue Seas – Green Energy, A Sectoral Marine Plan for Offshore Wind Energy in Scottish Territorial Waters was published by Marine Scotland. The Final Plan in this document included 6 of the 10 sites initially put forward by TCE. Kintyre; Forth Array; Bell Rock and Solway Firth were not included in the Final Plan. BOWL was included in the Final Plan as a short-term site.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies and members of the public, there are no outstanding concerns with regards to the proposed location of the Development that would require consent to be withheld.

#### Cumulative impacts of the Development

The close proximity of the Development to the proposed adjacent MORL proposal has meant that cumulative impacts have raised significant concerns. The issue of potential cumulative impact on landscape and visual amenity was considered by SNH and the JNCC with no significant concerns raised regarding cumulative visual impact with other onshore and offshore developments.

Cumulative impacts on marine wildlife was raised by several organisations including SNH, the JNCC, RSPB Scotland, WDC, the ASFB and the MFSTP. Cumulative impacts on benthic ecology, birds, marine mammals and fish interests have been fully considered in this consent and conditions put in place to minimise the impacts and ensure that residual impacts are within acceptable limits (**Annex 2**).

The cumulative impacts on certain bird species has led to the original design envelope being reduced to ensure that any impacts are within calculated acceptable levels. The cumulative impacts on any protected species or habitats have also been considered in the AA, undertaken by MS-LOT, on behalf of the Scottish Ministers.

Cumulative impacts on commercial fisheries were also raised by the SFF, however a working group (MFOWDG-CFWG) has been established in order to discuss and address any issues. A condition to ensure the Company continues its membership of the working group and its commitment to any mitigation strategy forms part of this consent (**Annex 2**). Concerns were also raised on the cumulative impacts on navigation by the CoS. Conditions ensuring that consultation with the CoS is undertaken prior to commencement of the Development forms part of this consent (**Annex 2**). The Company are committed to working collaboratively with MORL to support the effective management of cumulative impacts to navigational safety.

The Scottish Ministers consider that, having taken account of the information provided by the Company, the responses of the consultative bodies, and having regard to the mitigation measures and conditions proposed, there are no outstanding concerns in relation to the cumulative impact of this Development with other developments in the Moray Firth that would require consent to be withheld.

### Economic Benefits

The Company estimate the total gross cost of the wind farm construction to be £3 billion excluding VAT and Operational Expenditure (“OPEX”), and £200 million excluding VAT and OPEX for the transmission infrastructure. In Scotland the expenditure made by the proposed Development could generate Gross Value Added (“GVA”) of between £620 million and £1,003 million over its lifetime, including benefits generated through the supply chain. Between £176 million and £356 million of this total GVA could be in Moray, Highland, Aberdeen and Aberdeenshire (“the Study Area”).

The Company estimate that the Development could support between 9,300 and 15,300 job-years’ worth of employment in Scotland across the whole lifetime of the Project. The Development could support 1,294 – 2,187 jobs in Scotland at its peak during construction; during the operations phase this would fall to 141 – 252 jobs. Between 2,900 and 6,100 of the total job-years created could be in the Study Area.

The above estimates are based on 2 scenarios:

1. Low case - where the total value of contracts that have been delivered, or are expected to be delivered, from within each geography, assumes the current supply chain
2. High case - the total value of contracts that could be secured by firms based in Scotland (and the Study Area) with a stronger supply chain.

The proportions of expenditure, particularly under the high case, are subject to a high degree of uncertainty. However, the Company have assessed the low case and the high case as the realistic parameters within which the value of contracts will fall. The overall proportion of the budget the Company anticipates spending in Scotland is 30% under the low case and 50% under the high case, with variation across the different project phases.

It should be recognised however that at this stage, many development and procurement decisions are still to be made. Changes in the anticipated expenditure or procurement patterns from those anticipated during the assessment will change the associated estimates of employment and GVA. The effect on employment through the supply chain depends critically on the design, construction and operation decisions that are yet to be taken, and on the extent to which Scottish companies are able to secure contracts. The figures also assume that the full proposal of 750 MW is developed.

The Scottish Ministers have taken account of the economic information provided by the Company and consider that there are no reasons in relation to this that would require consent to be withheld.

## **Summary**

The Scottish Ministers consider the following as principal issues material to the merits of the section 36 consent application made under the Electricity Act:

- The Company has provided adequate environmental information for the Scottish Ministers to judge the impacts of the Development;
- The Company's ES, SEIS and the consultation process has identified what can be done to mitigate the potential impacts of the Development;
- The matters specified in regulation 4(1) of the 2000 Regulations have been adequately addressed by means of the submission of the Company's ES and SEIS, and the Scottish Ministers have judged that the likely environmental impacts of the Development, subject to the conditions included in this consent (**Annex 2**), are acceptable;
- The Scottish Ministers are satisfied that the Development can be satisfactorily decommissioned and will take steps to ensure that where any decommissioning programme is required under the Energy Act 2004, such programme is prepared in a timely fashion by imposing a condition requiring its submission to the Secretary of State before the Commencement of the Development (**Annex 2**);
- The Scottish Ministers have considered material details of how the Development can contribute to local or national economic development priorities and the Scottish Government's renewable energy policies;
- The Scottish Ministers have considered fully and carefully the Application and accompanying documents, the SEIS, all relevant responses from consultees and the forty-seven (47) public representations received; and
- On the basis of the AA, the Scottish Ministers have ascertained to the appropriate level of scientific certainty that the Development (in combination with the MORL proposal, and in light of mitigating measures and conditions proposed) will not adversely affect site integrity of any European protected sites, in view of such sites' conservation objectives.

Regarding the Company's application for a declaration under section 36A of the Electricity Act to extinguish public rights of navigation in so far as they pass through places in territorial waters adjacent to Scotland where the structures of the Development are to be located, there were no objections received by the Scottish Ministers during the consultation to the making of such a declaration. The Scottish Ministers, therefore, consider that there are no reasons as to why a declaration under section 36A should not be made.

## **THE SCOTTISH MINISTERS' DETERMINATION**

Subject to the conditions set out in **Annex 2** to this Decision, the Scottish Ministers **GRANT CONSENT** under section 36 of the Electricity Act for the construction and operation of the Development, with a permitted capacity of up to **750 MW** (as described in **ANNEX 1**).

Deemed planning for the onshore ancillary development was not applied for by the Company.

In accordance with the 2000 Regulations, the Company must publicise this determination for two successive weeks in the Edinburgh Gazette and one or more newspapers circulating in the locality of the Development.

In reaching their decision, the Scottish Ministers have had regard to all, representations and relevant material considerations, and, subject to the conditions included in this consent (**Annex 2**), are satisfied that it is appropriate for the Company to construct and operate the generating station in the manner as described in **Annex 1**.

The Scottish Ministers **MAKE A DECLARATION** under Section 36A of the Electricity Act to extinguish public rights of navigation in so far as they pass through places within territorial waters where the structures forming part of the Development are located (**Annex H**).

In accordance with section 36A(6)(b) of the Electricity Act, the Scottish Ministers request that the Company publicise the declaration, as soon as reasonably practicable, to bring it to the attention of persons likely to be affected by it.

Copies of this letter, consent, and declaration, have been sent to The Highland Council as the nearest onshore Planning Authority and Moray Council. This letter and declaration have also been published on the Marine Scotland licensing page of the Scottish Government's website.

The Scottish Ministers' decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Scottish Ministers exercise their statutory function to determine Applications for consent. The rules relating to applications for judicial review can be found at Chapter 58 of the Court of Session rules on the website of the Scottish Courts –

<http://www.scotcourts.gov.uk/rules-and-practice/rules-of-court/court-of-session-rules>

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

**DATE**

## **Annex 1**

### **DESCRIPTION OF THE DEVELOPMENT**

An offshore wind turbine generating station, located as shown in Figure 1 below, with a gross electrical output capacity of up to 750 MW comprising:

1. not more than 140 three-bladed horizontal axis wind turbines each with a maximum blade tip height of up to 198.4 metres and a maximum rated capacity of up to 8MW;
2. for each wind turbine generator, a substructure (either a monotower or a tubular jacket structure) and foundations (either pin piles, suction piles or gravity bases);
3. for each wind turbine generator, a transition piece (including access ladders / fences and landing platforms), turbine tower, blades and nacelle; and
4. inter array cabling,

and, except to the extent modified by the foregoing, all as specified in the application letter and the project description contained in the accompanying Environmental Statement (section 7 of the ES as supplemented by section 4 of the SEIS) but subject always to the conditions specified in **Annex 2** of this consent.

A condition has been attached to the consent (condition 5) at **Annex 2**, which restricts the number and parameters of the WTGs. This is to provide that the Development may only be constructed in excess of specified parameters subject to the approval of the Scottish Ministers where the Company has demonstrated to the satisfaction of the Scottish Ministers that the predicted impact of the Development would not exceed a certain level.

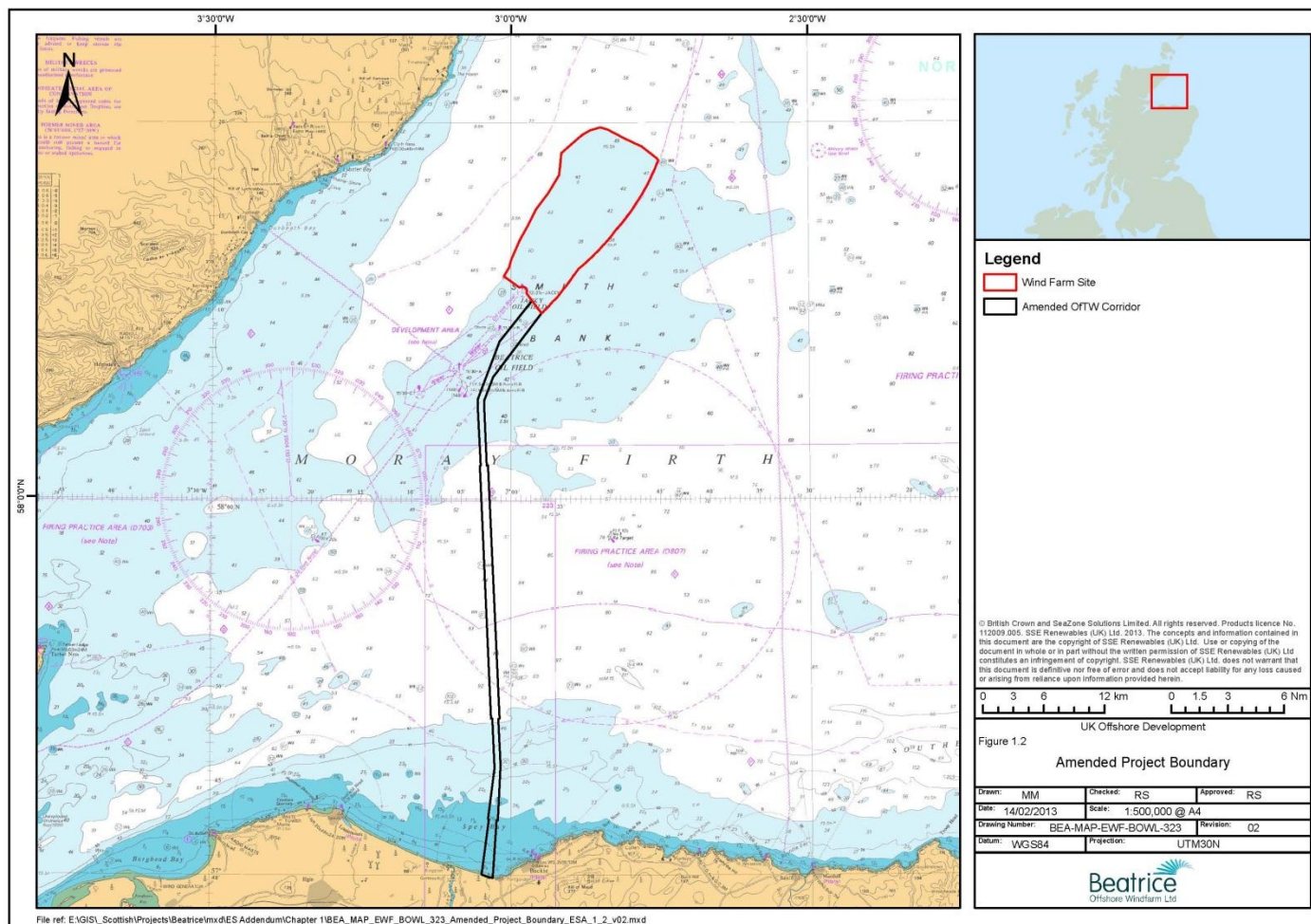


Figure 1. Development Location

## ANNEX 2

### **CONDITIONS OF THE SECTION 36 CONSENT**

The consent granted in accordance with section 36 of the Electricity Act 1989 is subject to the following conditions:

1. The consent is for a period from the date this consent is granted until the date occurring 25 years after the Final Commissioning of the Development. Written confirmation of the date of the Final Commissioning of the Development must be provided by the Company to the Scottish Ministers, the Planning Authority, JNCC and SNH no later than one calendar month after the Final Commissioning of the Development. Where the Scottish Ministers deem the Development to be complete on a date prior to the date when all wind turbine generators forming the Development have supplied electricity on a commercial basis to the National Grid then, the Scottish Ministers will provide written confirmation of the date of the Final Commissioning of the Development to the Company, the Planning Authority, JNCC and SNH no later than one calendar month after the date on which the Scottish Ministers deem the Development to be complete.

**Reason:** *To define the duration of the consent.*

2. The Commencement of the Development must be a date no later than 5 years from the date the consent is granted, or such later date from the date of the granting of this consent as the Scottish Ministers may hereafter direct in writing.

**Reason:** *To ensure the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.*

3. Where the Secretary of State has, following consultation with the Scottish Ministers, given notice requiring the Company to submit to the Secretary of State a Decommissioning Programme, pursuant to section 105(2) and (5) of the Energy Act 2004, then construction may not begin on the site of the Development until after the Company has submitted to the Secretary of State a Decommissioning Programme in compliance with that notice.

**Reason:** *To ensure that a decommissioning plan is submitted to the Secretary of State where the Secretary of State has, following consultation with the Scottish Ministers, so required before any construction commences.*

4. The Company is not permitted to assign this consent without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may grant (with or without conditions) or refuse such authorisation as they, at their own discretion, see fit. The consent is not capable of being assigned, alienated or transferred otherwise than in accordance with the foregoing procedure.



**Reason:** *To safeguard the obligations of the consent if assigned to another company.*

5. The Development must be constructed in accordance with the following wind turbine parameters except to the extent approved, in writing, by the Scottish Ministers under the second part of this condition:
- a. up to a total of 125 turbines;
  - b. a hub height of between 104.64 metres and 115.9 metres (measured from LAT);
  - c. a rotor diameter of up to 154 metres;
  - d. a blade speed of up to 11 revolutions per minute;
  - e. a blade width of up to 5 metres; and
  - f. a maximum blade pitch of 20 degrees.

Should the turbine parameters exceed any of those listed in a. to f. above, but remain within the limits of Annex 1, then the Development must only be constructed following approval by the Scottish Ministers, in writing. The Company must demonstrate, to the satisfaction of the Scottish Ministers, that any proposed alterations to parameters a. to f. above would not, taken together, increase the predicted annual collision mortality rate of the East Caithness Cliffs SPA great black-backed gull population attributable to the Development above a predicted 7 per annum, calculated using the agreed Collision Risk Model using the data gathered to prepare the Application.

**Reason:** *To ensure there is no adverse effect on the integrity of the East Caithness Cliffs SPA in relation to great black-backed gulls.*

6. In the event that for a continuous period of 12 months or more any WTG installed and commissioned and forming part of the Development fails to produce electricity on a commercial basis to the National Grid then, unless otherwise agreed in writing by the Scottish Ministers and after consultation with any advisors as required at the discretion of the Scottish Ministers, any such WTG and all associated foundations and ancillary equipment may be deemed by the Scottish Ministers to cease to be required. If so deemed, the WTG and all its associated foundations and ancillary equipment must be dismantled and removed from the Site by the Company, following the procedures laid out within the Company's Decommissioning Programme, within the period of 24 months from the date of the deeming decision by the Scottish Ministers and the Site must be fully reinstated by the Company to the specification and satisfaction of the Scottish Ministers after consultation with any such advisors on decommissioning as may be required at the discretion of the Scottish Ministers.

**Reason:** *To ensure that any redundant WTGs and associated ancillary equipment is removed from the Site in the interests of safety, amenity and environmental protection.*

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

**Reason:** *To inform the Scottish Ministers of any serious health and safety incident occurring on the Site.*

8. The Development must be constructed and operated in accordance with the terms of the Application and related documents, including the accompanying ES, the Supplementary Environmental Information Statement ("SEIS") and Annex 1 of this letter, except in so far as amended by the terms of this section 36 consent.

**Reason:** *To ensure that the Development is carried out in accordance with the application documentation.*

9. As far as reasonably practicable, the Company must, on being given reasonable notice by the Scottish Ministers (of at least 72 hours), provide transportation to and from the Site for any persons authorised by the Scottish Ministers to inspect the Site.

**Reason:** *To ensure access to the Site for the purpose of inspection.*

10. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Construction Programme ("CoP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CoP must be in accordance with the ES. The Development must, at all times, be constructed in accordance with the approved CoP (as updated and amended from time to time by the Company). Any updates or amendments made to the CoP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

The CoP must set out:

- a. The proposed date for Commencement of Development;
- 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 Development infrastructure;
- d. Contingency planning for poor weather or other unforeseen delays; and
- e. The scheduled date for Final Commissioning of the Development.

**Reason:** *To confirm the timing and programming of construction.*

11. The Company must, no later than 6 months prior to the Commencement of the Development submit a Construction Method Statement (“CMS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CMS must set out the construction procedures and good working practices for installing the Development. The CMS must be in accordance with the construction methods assessed in the ES and must include details of how the construction related mitigation steps proposed in the ES are to be delivered. The Development must, at all times, be constructed in accordance with the approved CMS (as updated and amended from time to time by the Company). Any updates or amendments made to the CMS by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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

**Reason:** *To ensure the appropriate construction management of the Development, taking into account mitigation measures to protect the environment and other users of the marine area.*

12. In the event that pile foundations are to be used, the Company must, no later than 6 months prior to the Commencement of the Development, submit a Piling Strategy (“PS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH and any such other advisors as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed in accordance with the approved PS (as updated and amended from time to time by the Company). Updates or amendments to the PS must be approved, in writing, by the Scottish Ministers. Any updates or amendments made to the PS by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

The PS must include:

- a. Full details of the proposed method and anticipated duration of pile-driving at all locations;
- b. Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and
- c. Details of mitigation and monitoring to be employed during pile-driving, as agreed by the Scottish Ministers.

The PS must be in accordance with the ES and reflect any surveys carried out after submission of the Application. The PS must demonstrate how the exposure to and / or the effects of underwater noise have been mitigated in respect of the following species: bottlenose dolphin; harbour seal; Atlantic salmon; cod; and herring.

The PS must, so far as is reasonably practicable, be consistent with the EMP, the PEMP and the CMS.

**Reason:** *To mitigate the underwater noise impacts arising from piling activity.*

13. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Development Specification and Layout Plan ("DSLSP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the MCA, NLB, CoS, the JNCC, SNH, SFF and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed in accordance with the approved DSLSP (as updated and amended from time to time by the Company). Any updates or amendments made to the DSLSP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

The DSLSP 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 foundation type for each WTG and any key constraints recorded on the Site;
- b. A list of latitude and longitude co-ordinates accurate to three decimal places of minutes for each WTG, this should also be provided as a GIS shape file using WGS84 format;
- c. A table or diagram of each WTG dimensions including - height to blade tip (measured above HAT), height to hub (measured above HAT to the centreline of the generator shaft), rotor diameter and rotation speed;
- d. The generating capacity of each WTG used on the Site and a confirmed generating capacity for the Site overall;
- e. The finishes for each WTG (see condition 20 on WTG lighting and marking); and
- f. The length and proposed arrangements on the seabed of all inter-array cables.

**Reason:** *To confirm the final Development specification and layout.*

14. The Company must, prior to the Commencement of the Development, submit a Design Statement ("DS"), in writing, to the Scottish Ministers that includes representative wind farm visualisations from key viewpoints agreed with the Scottish Ministers, based upon the final DSLSP as approved by the Scottish Ministers (as updated and amended from time to time by the Company). The DS must be provided, for information only, to the Planning Authorities, and the JNCC, SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The DS must be prepared and

signed off by at least one qualified landscape architect, instructed by the Company prior to submission to the Scottish Ministers.

**Reason:** *To inform interested parties of the final wind farm scheme proposed to be built.*

15. The Company must, no later than 6 months prior to the Commencement of the Development, submit an Environmental Management Plan (“EMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, RSPB Scotland and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed and operated in accordance with the approved EMP (as updated and amended from time to time by the Company). Any updates or amendments made to the EMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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

- a. all construction as required to be undertaken before the Final Commissioning of the Development; and
- b. the operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation. (Environmental management during decommissioning is addressed by condition 3).

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

- a. Mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the ES and pre-consent and pre-construction surveys, and include the relevant parts of the CMS (refer to condition 11);
- b. Pollution prevention measures and contingency plans;
- c. Management measures to prevent the introduction of invasive non-native marine species;
- d. Measures to minimise, recycle, reuse and dispose of waste streams; and
- e. The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders (including, but not limited to, the JNCC, SNH, SEPA, RSPB Scotland, MCA and NLB) with regular

updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The Company must, no later than 3 months prior to the Final Commissioning of the Development, submit an updated EMP, in writing, to cover the operation and maintenance activities for the Development to the Scottish Ministers for their written approval. Such approval may be given only following consultation with the JNCC, SNH, SEPA, RSPB Scotland and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The EMP must be regularly reviewed by the Company and the MFRAG (referred to in condition 28) over the lifespan of the Development, and be kept up to date (in relation to the likes of construction methods and operations of the Development in terms of up to date working practices) by the Company in consultation with the MFRAG.

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

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

- 16.** The Company must, no later than 6 months prior to the Commencement of the Development, submit a Vessel Management Plan ("VMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed and operated in accordance with the approved VMP (as updated and amended from time to time by the Company). Any updates or amendments made to the VMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval

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 the unnecessary use of ducted propellers;
- c. How vessel management will be coordinated, particularly during construction but also during operation; and
- 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.

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

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

**Reason: To mitigate disturbance or impact to marine mammals and birds.**

17. The Company must, no later than 3 months prior to the Commissioning of the first WTG, submit an Operation and Maintenance Programme (“OMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The OMP must set out the procedures and good working practices for operations and the maintenance of the WTG’s, substructures, and inter-array cable network of the Development. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

Operation and maintenance of the Development must, at all times, proceed in accordance with the approved OMP (as updated and amended from time to time by the Company). Any updates or amendments made to the OMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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 environmental interests during operation of the offshore generating station.**

18. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Navigational Safety Plan (“NSP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers. The NSP must include, but not be limited to, the following issues:
- a. Navigational safety measures;
  - b. Construction exclusion 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 Development; and
  - g. Buoyage.

The Company 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, and its annexes that may be appropriate to the Development, or any other relevant document which may supersede said guidance. The Development must, at all times, be constructed and operated in accordance with the approved NSP (as updated and amended from time to time by the Company). Any updates or amendments made to the NSP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

**Reason:** *To mitigate the navigational risk to other legitimate users of the sea.*

19. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Cable Plan (“CaP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, MCA and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CaP must be in accordance with the ES. The Development must, at all times, be constructed and operated in accordance with the approved CaP (as updated and amended from time to time by the Company). Any updates or amendments made to the CaP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

The CaP must include the following:

- a. Details of the location and cable laying techniques for the inter array cables;
- b. The results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c. Technical specification of inter array cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- d. 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;
- e. Methodologies for over trawl surveys of the inter array cables through the operational life of the wind farm where mechanical protection of cables laid on the sea bed is deployed; and
- f. Measures to address exposure of inter array cables.

**Reason:** *To ensure all environmental and navigational issues are considered for the location and construction of the inter array cables.*

20. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Lighting and Marking Plan (“LMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB, CAA



and DIO and any such other advisors as may be required at the discretion of the Scottish Ministers. The LMP must provide that the Development be lit and marked in accordance with the current CAA and DIO aviation lighting policy and guidance that is in place as at the date of the Scottish Ministers approval of the LMP, or any such other documents that may supersede said guidance prior to the approval of the LMP. The LMP must also detail the navigational lighting requirements detailed in IALA Recommendation O-139 or any other documents that may supersede said guidance prior to approval of the LMP.

The Company must provide the LMP to the Highland Council, Moray Council, the JNCC, SNH and any other bodies as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed and operated in accordance with the approved LMP (as updated and amended from time to time by the Company). Any updates or amendments made to the LMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

**Reason: To ensure safe marking and lighting of the offshore generating station.**

21. The Company must, prior to the erection of any WTGs on the Site, submit an Air Traffic Control Radar Mitigation Scheme ("ATC Scheme"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the DIO. No WTGs shall become operational until:

- a. the mitigation measures that are required under the approved ATC Scheme have been implemented;
- b. any performance criteria, all as specified in the approved ATC Scheme as requiring to be satisfied, have been so satisfied; and
- c. the implementation and satisfaction of the performance criteria have been approved by the Scottish Ministers in consultation with the DIO.

The Company must, at all times, comply with all obligations under the approved ATC Scheme.

**Reason: To mitigate the adverse impacts of the Development on the air traffic control radar at RAF Lossiemouth and the operations of the DIO.**

22. No turbine shall be erected until the Developer has agreed a Primary Radar Mitigation Scheme with the Operator which has been submitted to and agreed in writing by the Scottish Ministers in order to mitigate the impact of the development on the Primary Radar Installation at Allanshill.

**Reason: To mitigate the adverse impact of the development on air traffic operations.**

23. No turbine shall be erected unless and until the approved Primary Radar Mitigation Scheme has been implemented and the development shall

thereafter be operated fully in accordance with such approved Scheme.

**Reason: To mitigate the adverse impact of the development on air traffic operations.**

24. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Television and Radio Reception Mitigation Plan ("TRRMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the Highland Council. The TRRMP must provide for a baseline television reception survey to be carried out at a location(s) to be agreed by the Scottish Ministers in consultation with the Highland Council, paid for by the Company, prior to the commencement of any WTG installation. The results of which must be submitted by the Company, in writing, to the Highland Council within the time limit set in the TRRMP.

From Commencement of the Development until the date occurring 12 months after the Final Commissioning of the Development, any reasonable claim by any individual person regarding television picture loss or interference at their house, business premises or other building, which they claim is attributable to the Development and which is notified to the Company, must be investigated by a qualified engineer approved by the Scottish Ministers in consultation with the Highland Council. The Company is liable for any costs incurred by any such investigation. The results of any investigation must be submitted by the Company to the Scottish Ministers and the Highland Council within 2 months of completion of the investigation. Any impairment to the television signal shall be remedied by the Company, at its own expense, as soon as practicable to provide that the standard of reception at any affected property is equivalent to the baseline television and radio reception as existing at that property before the operation of the Development.

**Reason: For the protection of the local amenity.**

25. The Company must, prior to the Commencement of the Development, and following confirmation of the approved DSLP by the Scottish Ministers (refer to condition 13), provide the positions and maximum heights of the WTGs and construction equipment to the UKHO for aviation and nautical charting purposes. The Company must, within 1 month of the Final Commissioning of the Development, provide the "as-built" positions and maximum heights of the WTGs to the UKHO for aviation and nautical charting purposes.

**Reason: For aviation and navigational safety.**

26. The Company must, no later than 6 months prior to the Commencement of the Development submit a Traffic and Transportation Plan ("TTP") in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with Transport Scotland and any such other advisors as may be required at the discretion of

the Scottish Ministers. The TTP must set out a mitigation strategy for the impact of road based traffic and transportation associated with the construction of the Development. The Development must, at all times, be constructed and operated in accordance with the approved TTP (as updated and amended from time to time, following written approval by the Scottish Ministers).

**Reason: To maintain the free flow and safety of the Trunk Road network.**

27. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Project Environmental Monitoring Programme (“PEMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, RSPB Scotland, WDC, ASFB and any other ecological advisors as required at the discretion of the Scottish Ministers. The PEMP must be in accordance with the ES as it relates to environmental monitoring.

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

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

The Scottish Ministers may agree that monitoring may cease before the end of the lifespan of the Development.

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

- a. Pre-construction, construction (if considered appropriate by the Scottish Ministers) and post-construction monitoring surveys as relevant in terms of the ES and any subsequent surveys for:
  1. Birds;
  2. Cod;
  3. Herring;
  4. Sandeels;
  5. Diadromous fish;
  6. Benthic communities; and
  7. Seabed scour and local sediment deposition.
- b. The participation by the Company in surveys to be carried out in relation to marine mammals as set out in the MMMP; and

- c. The participation by the Company in surveys to be carried out in relation to regional and strategic bird monitoring;

All the initial methodologies for the above monitoring must be approved, in writing, by the Scottish Ministers and, where appropriate, in consultation with the MFRAG referred to in condition 28 of this consent. Any pre-consent surveys carried out by the Company to address any of the above species may be used in part to discharge this condition.

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

The Company must submit written reports of such monitoring surveys to the Scottish Ministers at timescales to be determined by the Scottish Ministers in consultation with the MFRAG. Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Scottish Ministers, 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.*

28. The Company must participate in any Moray Firth Regional Advisory Group (“MFRAG”) established by the Scottish Ministers for the purpose of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish. Should a SSMEG be established (refer to condition 29), the responsibilities and obligations being delivered by the MFRAG will be subsumed by the SSMEG at a timescale to be determined by the Scottish Ministers.

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

29. The Company must participate in any Scottish Strategic Marine Environment Group (“SSMEG”) established by the Scottish Ministers for the purposes of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish.

**Reason:** *To ensure effective environmental monitoring and mitigation is undertaken at a National scale.*

30. Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with the JNCC and SNH, appoint an Ecological Clerk of Works (“ECoW”). The term of appointment for the ECoW shall be from no later than 9 months post consent until the Final Commissioning of the Development.

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 consent;
- b. Provide advice to the Company on compliance with consent conditions, including the conditions relating to the CMS, the EMP, the PEMP, the PS (if required), the CaP and the VMP;
- c. Monitor compliance with the CMS, the EMP, the PEMP, the PS (if required), the CaP and the VMP;
- d. Provide reports on point c) above to the Scottish Ministers at timescales to be determined by the Scottish Ministers; and
- e. Inducting site personnel on site / works environmental policy and procedures.

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

31. The Company must, to the satisfaction of the Scottish Ministers, participate in the monitoring requirements as laid out in the ‘Scottish Atlantic Salmon, Sea Trout and European Eel Monitoring Strategy’ so far as they apply at a local level (the Moray Firth). The extent and nature of the Company’s participation is to be agreed by the Scottish Ministers in consultation with the MFRAG.

**Reason:** *To ensure effective monitoring of the effects on migratory fish at a local level (the Moray Firth).*

32. The Company must continue its membership in the Moray Firth Offshore Wind Developers Group - Commercial Fisheries Working Group (“MFOWDG-CFWG”), or any successor group formed to facilitate commercial fisheries dialogue to define and finalise a Commercial Fisheries Mitigation Strategy. As part of any finalised Commercial Fisheries Mitigation Strategy (“CFMS”), the Company must produce and implement a mitigation strategy for each commercial fishery that can prove to the Scottish Ministers that they will be adversely affected by the Development. Should it be deemed necessary by the MFOWDG-CFWG, investigations into alternative gear for the scallop fishing industry in the Moray Firth must form part of the CFMS. The CFMS to be implemented must be approved in writing by the Scottish Ministers. The Company must implement all mitigation measures committed to be carried out

by the Company within the CFMS so far as is applicable to the Development. Any contractors, or sub-contractors working for the Company, must co-operate with the fishing industry to ensure the effective implementation of said CFMS.

**Reason: To mitigate the impact on commercial fishermen.**

- 33.** Prior to the Commencement of the Development, a Fisheries Liaison Officer (“FLO”), approved by Scottish Ministers, must be appointed by the Company for the period from Commencement of the Development until the Final Commissioning of the Development. The Company must notify the Scottish Ministers of the identity and credentials of the FLO before Commencement of the Development by including such details in the EMP (referred to in condition 15). The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development, and ensure compliance with best practice guidelines whilst doing so.

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

- a. Establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall project 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 Development; 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.

**Reason: To mitigate the impact on commercial fishermen.**

- 34.** In the event that pile foundations are to be used, the Company must undertake herring surveys every year during the months of August and September commencing the first August and September following the date of this consent, up until, and including, the last August and September prior to Commencement of the Development, unless otherwise agreed in writing by the Scottish Ministers. The methodology of the herring surveys must be agreed, in writing, by the Scottish Ministers, following consultation with Marine Scotland Science, prior to the surveys commencing. The results of the herring surveys will be used to better inform the knowledge of spawning behaviour / characteristics of the Orkney / Shetland herring stock, thus allowing the Company to devise mitigation options to minimise noise impacts from piling activity on all life stages of herring and to inform the Company’s PS (if a PS is required).

Following the results of the herring surveys undertaken in the last August and September prior to the Commencement of the Development, the Company

must submit, in writing, its mitigation strategy to minimise the noise impacts on herring from piling activity, to the Scottish Ministers for their written approval. Once the Scottish Ministers have provided their written approval, the mitigation must be deployed during the annual herring spawning period (August and September) in any year of construction involving piling. Failing any agreement on mitigation, a piling restriction not exceeding sixteen (16) days within the months of August and September will take place across the whole Development in any year of construction involving piling. The sixteen (16) days are not necessarily to be consecutive. The relevant sixteen (16) days of piling restrictions will be notified to the Company by the Scottish Ministers, in writing, at least 90 days prior to the first day of piling restriction.

**Reason: To mitigate the risk to herring numbers in the Orkney/Shetland stock.**

35. Any baseline cod survey undertaken between February and March in any given year prior to Commencement of the Development will remain valid as a pre-construction baseline cod survey provided the Commencement of the Development occurs no later than 5 years from completion of said baseline cod survey. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of the baseline cod survey for approval, in writing, by the Scottish Ministers.

If Commencement of the Development occurs later than 5 years after the initial baseline cod survey was carried out, the Company must undertake a further baseline cod survey between the months of February and March prior to the Commencement of the Development, in a survey area to be agreed with the Scottish Ministers. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of any further baseline cod survey for approval, in writing, by the Scottish Ministers. Surveys must be carried out, as agreed by the Scottish Ministers, unless prior written approval is sought and obtained from the Scottish Ministers.

The Company must undertake a post-construction cod survey in the first February and March, occurring no earlier than 12 months, following the Final Commissioning of the Development. This cod survey must be undertaken in an area, to be agreed with the Scottish Ministers, unless prior written approval is sought and obtained from the Scottish Ministers. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of any post-construction cod survey for approval, in writing, by the Scottish Ministers.

**Reason: To validate conclusions of impact assessments made in the ES on cod populations in the Moray Firth.**

36. Any baseline sandeel survey undertaken between February and March in any given year prior to Commencement of the Development will remain valid as a pre-construction baseline sandeel survey provided the Commencement of the Development occurs no later than 5 years from completion of said baseline

sandeel survey. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of the baseline sandeel survey for approval, in writing, by the Scottish Ministers.

If Commencement of the Development occurs later than 5 years after the initial baseline sandeel survey was carried out, the Company must undertake a further baseline sandeel survey between the months of February and March prior to the Commencement of the Development, in a survey area to be agreed with the Scottish Ministers. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of any further baseline sandeel survey for approval, in writing, by the Scottish Ministers. Surveys must be carried out, as agreed by the Scottish Ministers, unless prior written approval is sought and obtained from the Scottish Ministers.

The Company must undertake a post-construction sandeel survey in the first February and March, occurring no earlier than 12 months, following the Final Commissioning of the Development. This sandeel survey must be undertaken in an area, to be agreed with the Scottish Ministers, unless prior written approval is sought and obtained from the Scottish Ministers. A full survey report and data set must be submitted, in writing, to the Scottish Ministers within 3 months following completion of any post-construction sandeel survey for approval, in writing, by the Scottish Ministers.

**Reason:** *To validate conclusions of impact assessments made in the ES on sandeel populations in the Moray Firth.*

37. The Company must, no later than 6 months prior to the Commencement of the Development, submit a Reporting Protocol which sets out what the Company must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the Development, in writing, to the Scottish Ministers for their written approval. Such approval may be given only following consultation by the Scottish Ministers with any such advisors as may be required at the discretion of the Scottish Ministers. The Reporting Protocol must be implemented in full, at all times, by the Company.

**Reason:** *To ensure any discovery of archaeological interest is properly and correctly reported.*

38. The Company must ensure no WTGs, offshore substation platforms or meteorological masts are erected within 2.5km of Beatrice Alpha, Bravo, Charlie or Jacky Platforms.

**Reason:** *To ensure minimal impact on the use of helicopters for safe evacuation of offshore personnel in the Greater Beatrice Area.*



### **Annex 3**

#### **DEFINITIONS AND GLOSSARY OF TERMS**

In this decision letter and in Annex 1 and 2:

“AA” means Appropriate Assessment.

“ABC” means the Acceptable Biological Change tool.

“the Application” means the Application letters and Environmental Statement submitted to the Scottish Ministers by the Company on 23 April 2012 and Supplementary Environmental Information Statement submitted to the Scottish Ministers by the Company on 29 May 2013.

“ATC Scheme” means Air Traffic Control Radar Mitigation Scheme. A detailed scheme to mitigate the adverse impacts of the Development on the air traffic control radar at RAF Lossiemouth and the air surveillance and control operations of the Defence Infrastructure Organisation (Ministry of Defence). The scheme will set out the appropriate measures to be implemented to that end.

“CFMS” means Commercial Fisheries Mitigation Strategy

“Collision Risk Model” means (i) application of the Band 2012 collision risk model (Using a collision risk model to assess bird collision risks for offshore windfarms, Report to The Crown Estate, SUSS-02, Band 2012), using the flight height distribution adjustment (option 3) to identify the total number of predicted great black-backed gull collisions; and (ii) multiplication of the output from (i) above by the total adjustment value of 0.07889.

“Commencement of the Development” means the date on which Construction begins on the site of the Development in accordance with this consent.

“Commissioning of the First WTG” means the date on which the first wind turbine generator forming the Development has supplied electricity on a commercial basis to the National Grid.

“the Company” means Beatrice Offshore Windfarm Limited, 1 Waterloo Street, Glasgow, G2 6AY. Registration Number: SC350248

“Construction” means as defined at section 64(1) of the Electricity Act 1989, read with section 104 of the Energy Act 2004

“Decommissioning Programme” means the programme for decommissioning the relevant object, to be submitted by the Company to the Secretary of State under section 105(2) of the Energy Act 2004 (as amended).

“the Development” means the Beatrice Offshore Wind Farm in the outer Moray Firth

“ECC” means East Caithness Cliffs Special Protection Area.

“ECoW” means Ecological Clerk of Works.

“EIA” means Environmental Impact Assessment.

“EMF” means electromagnetic fields.

“EPS” means European Protected Species.

“ES” means the Environmental Statement submitted to the Scottish Ministers by the Company on 23 April 2012 as part of the Application as defined above.

“EU” means European Union.

“Final Commissioning of the Development” means the date on which all wind turbine generators forming the Development have supplied electricity on a commercial basis to the National Grid, or such earlier date as the Scottish Ministers deem the Development to be complete.

“FLO” means a Fisheries Liaison Officer.

“GIS” means Geographic Information System.

“GVA” means Gross Value Added, a measure of the contribution to the economy of each individual producer, industry or sector in the United Kingdom.

“GW” means gigawatt.

“HAT” means Highest Astronomical Tide - the highest level of water which can be predicted to occur under any combination of astronomical conditions.

“HRA” means Habitats Regulations Appraisal.

“IALA Recommendation O-139” means the International Association of Marine Aids to Navigation and Lighthouse Authorities Recommendation O-139 On The Marking of Man Made Offshore Structures.

“LIDAR” means Light Detection And Ranging

“Marine Guidance Note 371” means the Maritime and Coastguard Agency Marine Guidance Note 371 Offshore Renewable Energy installations (OREI’s) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues.

“MFOWDG-CFW” means Moray Firth Offshore Wind Developers Group - Commercial Fisheries Working Group. A group formed, and set up, to develop the Commercial Fisheries Mitigation Strategy, and as forum to facilitate on-going dialogue with the commercial fishing industry.

“MFRAG” means Moray Firth Regional Advisory Group. A group yet to be formed, responsible for overseeing monitoring and mitigation on a regional scale, set up by the Scottish Ministers

“MW” means megawatt.

“NCC” means North Caithness Cliffs Special Protection Area.

“nm” means nautical miles.

“NRA” means Navigational Risk Assessment.

"Operator" means NATS (En Route) plc, incorporated under the Companies Act (4129273) whose registered office is 4000 Parkway, Whiteley, Fareham, Hants PO15 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).

“OPEX” means Operational Expenditure.

“PBR” means Potential Biological Removal.

“the Planning Authorities” means the Highland Council and Moray Council.

“the Planning Authority” means Moray Council.

"Primary Radar Mitigation 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 Allanshill primary radar and air traffic management operations of the Operator.

“PVA” means Population Viability Analysis

“SAC” means Special Area of Conservation.

“Scottish Atlantic Salmon, Sea Trout and European Eel Monitoring Strategy” means a strategy that will be formulated from the Marine Scotland Science Report 05/13 – “The Scope of Research Requirements for Atlantic Salmon, Sea Trout and European Eel in the Context of Offshore Renewables” to monitor migratory fish at a strategic level.

“Scottish marine area” has the meaning given in section 1 of the Marine (Scotland) Act 2010.

“Scottish Offshore Region” has the meaning given in section 322 of the Marine and Coastal Access Act 2009 (as amended).

“SEA” means Strategic Environmental Assessment.

“SEIS” means the Supplementary Environmental Information Statement submitted to the Scottish Ministers by the Company on 29 May 2013 as part of the Application as defined above.

“the Site” means the area outlined in red in Figure 1, attached to this consent at Annex 1.

“Soft start piling” means the gradual increase of piling power, incrementally over a set time period, until full operational power is achieved.

“SPA” means Special Protection Area.

“SSMEG” means Scottish Strategic Marine Environment Group. A group yet to be formed, responsible for overseeing monitoring and mitigation on a National scale, set up by the Scottish Ministers.

“SSSI” means Site of Special Scientific Interest.

“the Study Area” means Moray, Highland, Aberdeen City and Aberdeenshire.

“WDA” means the Western Development Area of Zone 1 of Round 3 leasing agreements in the UK Renewable Energy Zone.

“WGS84” means the World Geodetic System 1984.

“WTG” means wind turbine generator.

#### Organisations and companies

“ASFB” means The Association of Salmon Fishery Boards.

“BOWL” means Beatrice Offshore Windfarm Limited (Company Number SC350248) and having its registered office at Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ.

“CAA” means The Civil Aviation Authority.

“CoS” means The Chamber of Shipping.

“DECC” means Department of Energy and Climate Change.

“DIO” means The Defence Infrastructure Organisation (Ministry of Defence).

“IALA” means International Association of Marine Aids to Navigation and Lighthouse Authorities.

“JNCC” means The Joint Nature Conservation Committee.

“MCA” means The Maritime and Coastguard Agency.

“MFSTP” means Moray Firth Sea Trout Project.

“MMO” means Marine Management Organisation.

“MORL” means Moray Offshore Renewables Limited, and having its registered office at 1st floor, 14/18 City Road, Cardiff, CF24 3DL. Registration Number: 7101438.

“MPFSPG” means Moray and Pentland Firth Salmon Protection Group.

“MS-LOT” means Marine Scotland Licensing Operations Team.

“MSS” means Marine Scotland Science.

“NATS” means National Air Traffic Service.

“NLB” means The Northern Lighthouse Board.

“NREAP” means UK Government's National Renewable Energy Action Plan.

“RSPB Scotland” means The Royal Society for the Protection of Birds Scotland.

“RYA Scotland” means Royal Yachting Association Scotland.

“SAS” means Surfers Against Sewage.

“SCA” means – Scottish Canoe Association

“SEPA” means The Scottish Environment Protection Agency.

“SFF” means The Scottish Fisherman’s Federation.

“SMRU” means Sea Mammal Research Unit.

“SNH” means Scottish Natural Heritage.

“TCE” means The Crown Estate.

“UNECE” means United Nations Economic Commission for Europe.

“UKHO” means United Kingdom Hydrographic Office.

“WDC” means Whale and Dolphin Conservation.

#### Plans, Programmes and Statements

“CaP” means Cable Plan.

“CFMS” means Commercial Fisheries Mitigation Strategy.

“CMS” means Construction Method Statement.

“CoP” means Construction Programme.

“DIO Scheme” means Air Traffic Control Radar Mitigation Scheme.

“DS” means Design Statement.

“DSLPP” means Development Specification and Layout Plan.

“EMP” means Environmental Management Plan.

“HRESPG” means Highland Renewable Energy Strategy and Planning Guidelines, May 2006.

“HwLDP” means The Highland – wide Local Development Plan, April 2012.

“LMP” means Lighting and Marking Plan.

“MES” means Moray Economic Strategy, October 2012.

“MLP” means The Moray Local Plan, November 2008.

“MMMP” means Marine Mammal Monitoring Programme.

“MSP 2007” means The Moray Structure Plan, April 2007.

“NPF2” means Scotland’s National Planning Framework 2.

“NPF3” means Scotland’s National Planning Framework 3.

“NSP” means Navigational Safety Plan.

“OMP” means Operation and Maintenance Programme.

“PEMP” means Project Environmental Monitoring Programme.

“PS” means Piling Strategy.

“the Statement” means The UK Marine Policy Statement 2011.

“TRRMP” means Television and Radio Reception Mitigation Plan.

“TTP” means Traffic and Transportation Plan

“VMP” means Vessel Management Plan.

### Legislation

“Wild Birds Directive” means Council Directive 79/409/EEC of 2<sup>nd</sup> 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 30<sup>th</sup> November 2009.

“the Electricity Act” means the Electricity Act 1989 (as amended).

“the 1990 Regulations” means the Electricity (Applications for Consent) Regulations 1990 (as amended).

“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 Habitats Regulations” means the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (as amended).

“the 1994 Regulations” means the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended).

“the 2000 Regulations” means the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended).

“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.

## **ANNEX E – APPROPRIATE ASSESSMENT**

### **APPLICATIONS FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND APPLICATIONS FOR MARINE LICENCES UNDER THE MARINE AND COASTAL ACCESS ACT 2009 AND THE MARINE (SCOTLAND) ACT 2010 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WINDFARM IN THE OUTER MORAY FIRTH**

#### **MARINE SCOTLAND’S CONSIDERATION OF A PROPOSAL AFFECTING DESIGNATED SPECIAL AREAS OF CONSERVATION (“SACs”) OR SPECIAL PROTECTION AREAS (“SPAs”)**

**SITE DETAILS:** Beatrice Offshore Windfarm Limited (“BOWL”) development in the Outer Moray Firth.

**FILE REF:** 003/OW/BOWL – 8

**APPROPRIATE ASSESSMENT CONCLUSION:** Marine Scotland Licensing Operations Team (“MS-LOT”) concludes that, based upon the content of the following assessment, the proposed BOWL development will not adversely affect site integrity of the East Caithness Cliffs SPA (“ECC SPA”), North Caithness Cliffs SPA (“NCC SPA”), Hoy SPA, Dornoch Firth & Morrich More SAC, Moray Firth SAC, Berriedale & Langwell Waters SAC, River Evelix SAC, River Moriston SAC, River Oykel SAC, River Spey SAC, River Thurso SAC, River Borgie SAC, River Dee SAC and River Naver SAC either alone or in-combination with Moray Offshore Renewable Limited (“MORL”) Eastern Development Area (“EDA”) comprising; the Telford Offshore Wind Farm, the Stevenson Offshore Wind Farm and the MacColl Offshore Wind Farm and other projects which have already been consented provided that the conditions detailed in section 3d are complied with.

#### **Introduction**

This is a record of the Appropriate Assessment (“AA”) of the Beatrice Offshore Wind Farm. The assessment has been undertaken by MS-LOT and Marine Scotland Science (“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”) and by Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 for projects within 12 nm before the Scottish Ministers may decide to give consent to the development. As the BOWL development is located within 12 nm and the cable route is, in part, out with 12 nm and because the assessment is a cumulative assessment with MORL, which is out with 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 recommend the grant of consent for the project. The precautionary principle requires to be applied when complying with obligations under the Habitats Directive and in preparing an AA. In accordance with the ECJ case of *Waddenzee*<sup>1</sup> the Scottish Ministers may only authorise the 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”.

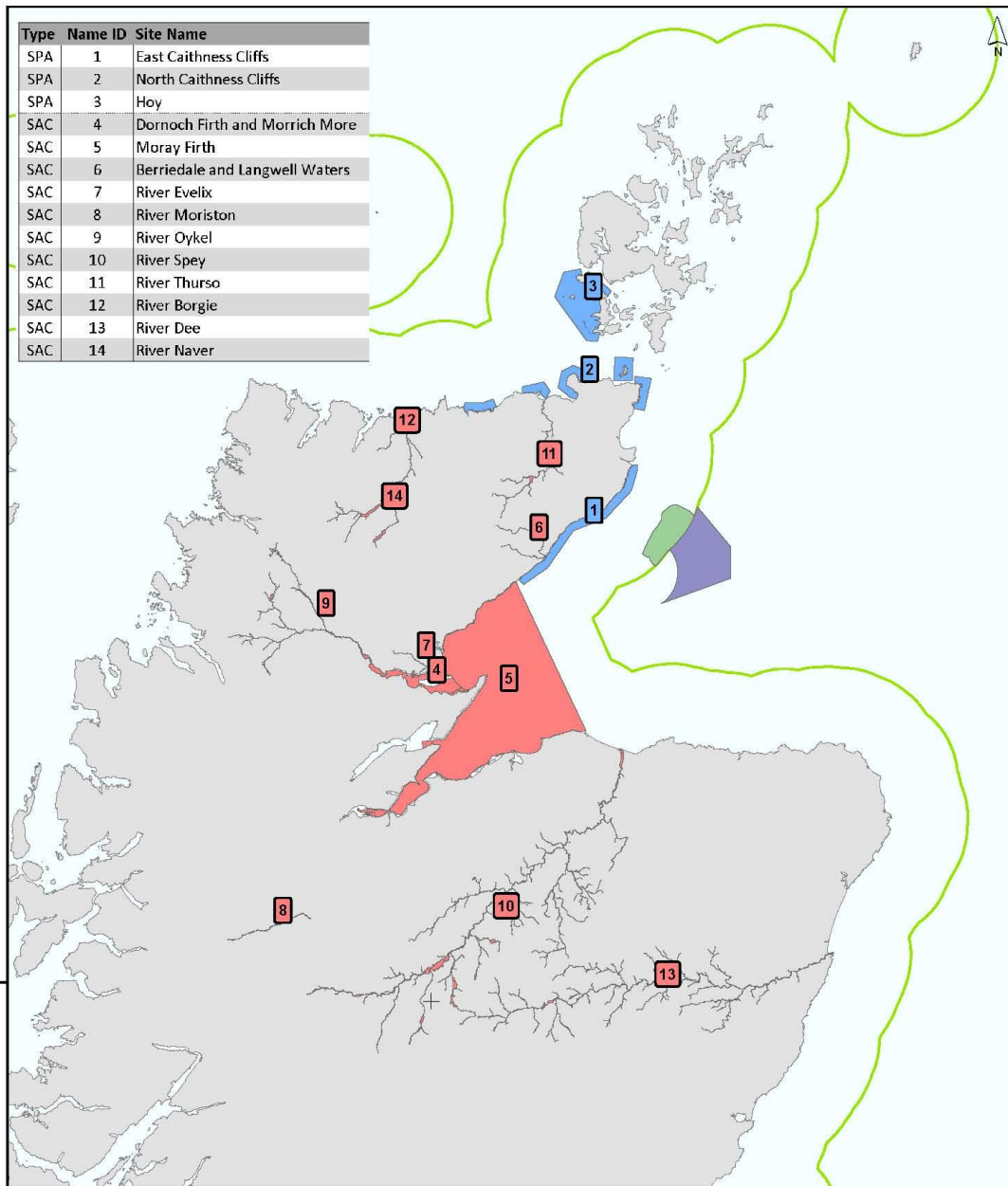
A detailed AA has been undertaken and Scottish Natural Heritage (“SNH”) and the Joint Nature Conservation Committee (“JNCC”) have been consulted, as is required, under the Habitats Regulations. Those Regulations allow for the competent authority to consult the general public on the AA if they consider it appropriate. This has not been done as the general public have already had the opportunity to respond to the applications through the Environmental Impact Assessment (“EIA”) process where information regarding the potential impacts on European protected sites was available in the Environmental Statements (“ESs”) provided by both MORL and BOWL. The Additional Ornithology Information submitted by MORL and the Supplementary Environmental Information Statement (“SEIS”) submitted by BOWL were also made publically available and consulted on. Public representations were received regarding the potential impacts on SPAs and SACs from the MORL proposal in combination with BOWL, however as this assessment has concluded, the BOWL development in combination with the MORL proposal will not adversely affect site integrity for all sites of concern. It is therefore not deemed appropriate to consult the general public further.

A map showing the locations of the MORL and BOWL developments along with the European protected sites which are considered in this assessment is presented below.

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<sup>1</sup> ECJ Case no - C-127/02 – judgment issued on 07.09.2004.

## SACs & SPAs relevant to Moray Firth Offshore Wind Developments



- Special Areas of Conservation included in AAAs
- Special Protection Areas included in AAAs
- United Kingdom
- 12 Nautical Miles Limit
- Wind Developments**
- Beatrice Offshore Windfarm Limited
- Moray Offshore Renewables Limited



0 15 30 60 Km

1:1,600,000 Size: A4 Author: Andronikos Kafas

British National Grid

Version 4.0 20/01/2014

Positions shown relative to British National Grid.  
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Marine Laboratory  
PO Box 101  
375 Victoria Road,  
Aberdeen, AB11 9DB  
+44(0) 1224 876544  
www.scotland.gov.uk/marinescotland

**marinescotland**  
**science**



Table 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. Table 1c. details the qualifying features of the SACs and SPAs in this assessment. The conservation objectives being considered are detailed in section 1d. For the qualifying interests where likely significant effect (“LSE”) has been identified (section 3b), the appropriate assessment assesses whether or not the relevant conservation objectives will be achieved. This enables a conclusion to be made in relation to whether or not the BOWL development, in combination with the MORL proposal, will adversely affect the integrity of the sites which have been assessed.

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

<b>1. East Caithness Cliffs SPA</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8492">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8492</a>
<b>2. North Caithness Cliffs SPA</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8554">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8554</a>
<b>3. Hoy SPA</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8513">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8513</a>
<b>4. Dornoch Firth &amp; Morrich More SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8242">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8242</a>
<b>5. Moray Firth SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8327">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8327</a>
<b>6. Berriedale &amp; Langwell Waters SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8206">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8206</a>
<b>7. River Evelix SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8358">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8358</a>
<b>8. River Moriston SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8361">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8361</a>
<b>9. River Oykel SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8363">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8363</a>
<b>10. River Spey SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8365">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8365</a>
<b>11. River Thurso SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8368">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8368</a>
<b>12. River Borgie SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8356">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8356</a>
<b>13. River Dee SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8357">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8357</a>
<b>14. River Naver SAC</b> <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8362">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8362</a>

**1b. Name of component SSSI if relevant**

Not considered relevant for this assessment

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

<p><b>1. East Caithness Cliffs SPA</b></p> <ul style="list-style-type: none"> <li>▪ Cormorant (breeding)</li> <li>▪ Fulmar (breeding)</li> <li>▪ Great black-backed gull (breeding)</li> <li>▪ Guillemot (breeding)</li> <li>▪ Herring gull (breeding)</li> <li>▪ Kittiwake (breeding)</li> <li>▪ Peregrine (breeding)</li> <li>▪ Puffin (breeding)</li> <li>▪ Razorbill (breeding)</li> <li>▪ Shag (breeding)</li> <li>▪ Seabird assemblage (breeding)</li> </ul>	<p><b>2. North Caithness Cliffs SPA</b></p> <ul style="list-style-type: none"> <li>▪ Fulmar (breeding)</li> <li>▪ Guillemot (breeding)</li> <li>▪ Kittiwake (breeding)</li> <li>▪ Peregrine (breeding)</li> <li>▪ Puffin (breeding)</li> <li>▪ Razorbill (breeding)</li> <li>▪ Seabird assemblage (breeding)</li> </ul>
<p><b>3. Hoy SPA</b></p> <ul style="list-style-type: none"> <li>▪ Arctic skua (breeding)</li> <li>▪ Fulmar (breeding)</li> <li>▪ Great black-backed gull (breeding)</li> <li>▪ Great skua (breeding)</li> <li>▪ Guillemot (breeding)</li> <li>▪ Kittiwake (breeding)</li> <li>▪ Peregrine (breeding)</li> <li>▪ Puffin (breeding)</li> <li>▪ Red-throated diver (breeding)</li> <li>▪ Seabird assemblage (breeding)</li> </ul>	<p><b>4. Dornoch Firth &amp; Morrich More SAC</b></p> <ul style="list-style-type: none"> <li>▪ Common (harbour) seal</li> <li>▪ Otter</li> <li>▪ Atlantic salt meadows</li> <li>▪ Coastal dune heathland*</li> <li>▪ Dune grassland*</li> <li>▪ Dunes with juniper thickets*</li> <li>▪ Estuaries</li> <li>▪ Glasswort and other annuals colonising mud and sand</li> <li>▪ Humid dune slacks</li> <li>▪ Intertidal mudflats and sandflats</li> <li>▪ Lime-deficient dune heathland with crowberry*</li> <li>▪ Reefs</li> <li>▪ Shifting dunes</li> <li>▪ Shifting dunes with marram</li> <li>▪ Subtidal sandbanks</li> </ul> <p>(* indicates priority habitat)</p>
<p><b>5. Moray Firth SAC</b></p> <ul style="list-style-type: none"> <li>▪ Bottlenose dolphin</li> <li>▪ Subtidal sandbanks</li> </ul>	<p><b>6. Berriedale &amp; Langwell Waters SAC</b></p> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> </ul>
<p><b>7. River Evelix SAC</b></p> <ul style="list-style-type: none"> <li>▪ Freshwater pearl mussel</li> </ul>	<p><b>8. River Moriston SAC</b></p> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Freshwater pearl mussel</li> </ul>
<p><b>9. River Oykel SAC</b></p> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Freshwater pearl mussel</li> </ul>	<p><b>10. River Spey SAC</b></p> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Sea lamprey</li> <li>▪ Freshwater pearl mussel</li> <li>▪ Otter</li> </ul>

<b>11. River Thurso SAC</b> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> </ul>	<b>12. River Borgie SAC</b> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Freshwater pearl mussel</li> <li>▪ Otter</li> </ul>
<b>13. River Dee SAC</b> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Freshwater pearl mussel</li> <li>▪ Otter</li> </ul>	<b>14. River Naver SAC</b> <ul style="list-style-type: none"> <li>▪ Atlantic salmon</li> <li>▪ Freshwater pearl mussel</li> </ul>

#### **1d. Conservation objectives for qualifying interests:**

In their scoping advice the Statutory Nature Conservation Bodies (“the SNCBs” – SNH and the JNCC) 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.

The SNCBs advice for the SPAs is that the relevant conservation objective for this appropriate assessment is to ensure the maintenance of the population as a viable component of the site. The SNCBs also advised that this was the most relevant conservation objective for the marine mammals being considered. MSS advised that other conservation objectives which ensure the establishment and maintenance of “the distribution of the species within the site” and of “no significant disturbance of the species” may also be relevant in the case of bottlenose dolphins from the Moray Firth SAC. The primary impact upon this species comes from noise associated with pile driving which could potentially cause the dolphins to alter their distribution within the SAC, depending upon where the piling activity was taking place. The noise may also disturb the dolphins out with the SAC. For those other SACs for which the qualifying feature is a species rather than a habitat the assessment follows the SNCBs advice which is to consider the objective which ensures the establishment and maintenance of the population as a viable component of the site.

#### **East Caithness Cliffs, North Caithness Cliffs and Hoy SPAs**

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

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

##### **(i) Population of the species as a viable component of the site\***

- (ii) Distribution of the species within site
- (iii) Distribution and extent of habitats supporting the species
- (iv) Structure, function and supporting processes of habitats supporting the species
- (v) 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 - Habitats**

To avoid deterioration of the qualifying habitat 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 habitat that the following are maintained in the long term:

- (i) extent of the habitat on site
- (ii) distribution of the habitat within site
- (iii) structure and function of the habitat
- (iv) processes supporting the habitat
- (v) distribution of typical species of the habitat
- (vi) viability of typical species as components of the habitat
- (vii) no significant disturbance of typical species of the habitat

### **Moray Firth SAC - Bottlenose dolphin**

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, 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:

- (i) Population of the species as a viable component of the site\***
- (ii) Distribution of the species within site**
- (iii) Distribution and extent of habitats supporting the species
- (iv) Structure, function and supporting processes of habitats supporting the species
- (v) No significant disturbance of the species**

### **Dornoch Firth and Morrich More SAC – Common seal**

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, 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 maintained in the long term:

- (i) Population of the species as a viable component of the site\***
- (ii) Distribution of the species within site
- (iii) Distribution and extent of habitats supporting the species

- (iv) Structure, function and supporting processes of habitats supporting the species
- (v) 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.

### **SACs – Migratory fish and Freshwater Pearl Mussel**

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, 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 each species that the following are maintained in the long term:

#### **(i) Population of the species, including range of genetic types for salmon, as a viable component of the SACs\***

- (ii) Distribution of the species within site
- (iii) Distribution and extent of habitats supporting each species
- (iv) Structure, function and supporting processes of habitats supporting each species
- (v) No significant disturbance of the species

And for freshwater pearl mussel in particular, to ensure that the following are maintained in the long term:

- (vi) Distribution and viability of freshwater pearl mussel host species
- (vii) Structure, function and supporting processes of habitats supporting freshwater pearl mussel host 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 & name of consultee (i.e. applicant or competent authority)

Beatrice Offshore Wind Farm, outer Moray Firth

### 2b. Date of Consultation:

MS-LOT received advice regarding the applications from the SNCBs, on 19<sup>th</sup> July 2012, 8<sup>th</sup> July 2013, 28<sup>th</sup> August 2013, 29<sup>th</sup> October 2013 and 17<sup>th</sup> January 2014. The SNCBs advised MS-LOT to carry out an AA. MSS provided advice to MS-LOT on 25<sup>th</sup> June 2012, 16<sup>th</sup> July 2013, 25<sup>th</sup> July 2013, 4<sup>th</sup> September 2013, 31<sup>st</sup> October 2013, 22<sup>nd</sup> November 2013, 28<sup>th</sup> November 2013 and 3<sup>rd</sup> December 2013. This advice is available to view at the [Marine Scotland Interactive Website](#).

### 2c. Type of Case:

AA of the proposed BOWL development, in the Outer Moray Firth.

### 2d. Details of proposed operation (inc. location, timing, methods):

Installation and operation of the Beatrice Offshore Wind Farm which is located in the outer Moray Firth 13.5 km from the Caithness coast. The total area of the development is 131.5 km<sup>2</sup>. The eastern edge of the development site is adjacent to the proposed MORL EDA comprising the proposed Telford Offshore Wind Farm, Stevenson Offshore Wind Farm and MacColl Offshore Wind Farm. The operational lifespan of the wind farm is expected to be 25 years.

The original application was for a design envelope of up to 277 wind turbine generators ("WTGs"), and a maximum generating capacity of up to 1,000 MW. This is the envelope that was considered in all advice from the SNCB's and MSS up until 8<sup>th</sup> July 2013. Since this advice was received continued discussions have led to a reduction in the design envelope. A reduced envelope of up to 140 WTGs was specified by the Company and this envelope informed the SNCBs advice on collision risk to SPA bird species on the 29<sup>th</sup> October 2013. The maximum generating capacity of any consent granted for the BOWL development will be 750 MW.

For WTG, there will be a substructure (either a mono-tower or a tubular jacket structure) and foundations (either pin piles, suction piles or gravity bases). For each WTG, there will be a transition piece (including access ladders / fences and landing platforms), turbine tower and nacelle

Also included in the infrastructure is:

- Up to a maximum of two AC and one DC Offshore Substation Platforms ("OSPs");
- Up to a maximum of three meteorological masts;
- Up to 350 km of inter-array cabling linking turbines, OSPs and meteorological masts



The construction programme is expected to cover a period of three to five years. No date is yet available for commencement of construction, but it is likely to commence in 2015/2016.

A full BOWL project description can be found in [chapter 7 of the ES](#) and [chapter 4 of the SEIS](#).

As this assessment focuses on the in-combination impacts with the MORL proposal, a brief description of the whole MORL project is provided below:

The original MORL design envelope was for up to 339 WTGs with a maximum generating capacity of up to 1,500 MW. This is the envelope that was considered in all advice from the SNCB's and MSS up until 31<sup>st</sup> October 2013. Since this advice was received continued discussions have led to a reduction in the design envelope. The reduced design envelope is for a maximum generating capacity of up to 1,116 MW and for a maximum of 186 WTGs. The proposed MORL proposals are located on the Smith Bank in the outer Moray Firth (approximately 22 km from the Caithness coastline, in water depths of 38-57m). The operational lifespan of the wind farms is expected to be 25 years.

The three proposed wind farm sites: the Telford, Stevenson and MacColl wind farms lie within the EDA, part of Zone 1 of Round 3 leasing agreements in the UK Renewable Energy Zone. Each farm (based on the reduced design envelope) will have a maximum generating capacity of 372 MW. Substructure and foundation design for the WTGs will consist of either a mixture of, or one design option of -

- concrete gravity base foundation with ballast and a gravel/grout bed, or
- steel lattice jackets with pin piles.

The infrastructure also contains 3-6 AC OSPs, 2 AC to DC convertor OSPs, inter-array cabling, DC export cable to shore and an offshore meteorological mast. Substructure and foundation design for the OSPs will be chosen from five possible concepts:

- concrete gravity base foundation with ballast and a gravel/grout bed,
- steel lattice jackets with pin piles,
- steel lattice jackets with suction caissons,
- steel lattice jack-up with pin piles, or
- steel lattice jack-up with suction caissons.

Construction of the wind farms is proposed to occur from Q1 2016 to Q3 2020.

A full project description can be found in [volume 2 of the 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? YES/NO If YES give details:**

The operation is not connected with or necessary to conservation management of the site

If yes and it can be demonstrated that the tests in 3b have been applied to all the interest features in a fully assessed and agreed management plan then consent can be issued but rationale must be provided, including reference to management objectives. If no, or if site has several European qualifying interests and operation is not directly connected with or necessary to the management of all of these then proceed to 3b

**3b. Is the operation likely to have a significant effect on the qualifying interest? Repeat for each interest on the site.**

During the scoping phase of the EIA process the SNCBs advised in the [scoping opinion](#) that there may be a LSE on several SPAs and SACs. This initial list of SPAs and SACs was revised to those sites that are detailed in 1c following pre-application dialogue between the applicant and MS-LOT and consideration of the survey work presented in the applicant's ES. Final details on the list of SPAs and SACs to be included in the AA was provided by the SNCBs in their advice dated 8<sup>th</sup> July 2013.

**SPAs**

During the consultation phase of the section 36 and marine licence application process, the SNCBs advised on the 8<sup>th</sup> July 2013 that 2013 that the proposed BOWL development in combination with the MORL proposal, is likely to have a significant effect on the following qualifying features and SPAs, by virtue of either collision risk and/or displacement:

- Collision risk to great black-backed gull of the ECC SPA.
- Collision risk to herring gull of the ECC SPA.
- Displacement to Atlantic puffin of the ECC SPA, NCC SPA & Hoy SPA.
- Displacement to common guillemot of the ECC SPA & NCC SPA.
- Displacement to razorbill of the ECC SPA & NCC SPA.
- Collision risk and/or displacement to black-legged kittiwake of the ECC SPA & NCC SPA.
- Collision risk and/or displacement to Northern fulmar of the ECC SPA & NCC SPA.
- Collision risk to Arctic skua of Hoy SPA.

- Collision risk to Great skua of Hoy SPA.

*The remaining species listed in the SPA citations in 1c are scoped out of further consideration in this AA as no LSE was identified.*

### **SACs**

During the consultation phase of the section 36 and marine licence application process, the SNCBs advised on 8<sup>th</sup> July 2013 that the proposed BOWL development, in combination with the MORL proposal, is likely to have a significant effect on several of the qualifying features of the SACs listed in 1c. These are listed below along with the effects to be considered for the different species. Due to uncertainty surrounding the origin of potentially impacted Atlantic salmon, additional river SACs, which were advised as having LSE at the scoping stage (for BOWL) are also considered.

- Common seals as the qualifying feature of the Dornoch Firth and Morrich More SAC due to underwater noise impacts arising from the wind farm construction.
- Bottlenose dolphins as the qualifying feature of the Moray Firth SAC due to underwater noise impacts arising from the wind farm construction.
- Subtidal sandbanks as a qualifying feature of the Moray Firth SAC due to uncertainties surrounding the dredging and disposal of sediment related to the use of gravity bases.
- Atlantic salmon as a qualifying feature of the Berriedale & Langwell Waters SAC and the River Moriston, Spey, Oykel, Thurso, Borgie, Dee and Naver SACs due to disturbance from construction noise and possible effects of electro-magnetic fields ("EMF") arising from installed cables.
- Freshwater pearl mussel ("FWPM") as the qualifying feature of the River Evelix, Moriston, Oykel, Spey, Borgie, Dee and Naver SACs due to potential indirect impacts to this species as its life cycle is dependent on Atlantic salmon.
- Sea lamprey as the qualifying feature of the River Spey SAC due to disturbance from construction noise and possible effects of EMF arising from installed cables.

*The remaining species and habitats listed in the SAC citations in 1c are scoped out of further consideration in this AA as no LSE was identified.*

Otters, as qualifying features of the Dornoch Firth and Morrich More SAC, River Spey, River Borgie and River Dee SACs are not considered further in this assessment as they are a riverine or coastal species. The location of the wind farm being 13.5 km (minimum) out to sea from the coast, significantly out with the habitat of otters.

The potential impacts to consider for common seals and bottlenose dolphins are:

- a) disturbance due to the construction noise, boat movements and cable-laying, and;

b) any affects to their prey species.

The potential impacts to consider for FWPM are linked to Atlantic salmon, as salmonids are integral to the life cycle of FWPM. Any impacts to Atlantic salmon that prevent them from returning to their natal rivers may have a resulting effect on FWPM populations.

*If no for all features, a consent or non-objection response can be given and recorded under 4 (although if there are other features of national interest only, the effect on these should be considered separately). If potential significant effects can easily be avoided, record modifications required under 3d.*

*If yes, or in cases of doubt, proceed to 3c.*

### **3c. APPROPRIATE ASSESSMENT of the implications for the site in view of the site's conservation objectives.**

Due the close proximity of the BOWL and MORL wind farm sites this assessment focuses on the cumulative impacts from these developments.

#### **SPAs**

As detailed in section 1d, as the potential effects identified occur outside the SPA itself, the relevant conservation objective 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 effect of the proposed developments on the achievement of the conservation objective the assessments for relevant species involved 1.) estimation of the level of predicted effect; and 2.) setting a precautionary level of acceptable change to a 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 that the proposed developments will not adversely affect site integrity.

#### **1). Estimation of the level of predicted effect**

The main effects to bird species come from a). collision risk with the turbines (of relevance to species which may regularly fly at the same height as the rotating blades e.g. gulls) and b). displacement of birds from potential foraging areas (of relevance to species with more limited foraging ranges or greater flight energetic costs e.g. guillemot, razorbill and puffin).

a.) Collision Risk - Both MORL and BOWL presented Collision Risk Models (“CRMs”) in their ESSs, and in the case of MORL in their Additional Ornithology Information, and in the case of BOWL in their SEIS. Options 1 and 2 of the ‘basic’ Band (2012) model were presented along with Option 3, the extended version of the Band model. The basic model assumes a uniform distribution of flight heights between lowest and highest levels of the rotors. The extended model assumes that both the density of flying birds and collision risk vary across the rotor swept height.

Option 3 uses flight height distributions modelled from a pooled dataset collected from a large number of sites by a range of surveyors (Cook et al. 2012). The SNCBs noted some concerns over this dataset as it is solely derived from boat-based survey data and there could be associated observer error. This potential issue exists with all data collected during boat based surveys including the data collected at the proposed development sites. The Royal Society for the Protection of Birds Scotland (“RSPB Scotland”) also raised concerns about the use of the extended Band model (Option 3) due to assumptions implicit in the model.

The Renewables Scientific Advice Group (“RSAG” – represented by SNH and the JNCC, with attendance from MSS when required) met on 28<sup>th</sup> June 2013, and considered the use of the outputs from Option 3 in the Moray assessments appropriate. Comparison of outputs from Options 1 and 2 was undertaken to identify whether substantial differences in values and therefore flight heights between the site data and the pooled data in Cook et al 2012 existed. There were no reasons to suspect that site specific drivers would cause flight heights to differ from the sites included in Cook et al 2012, and it was accepted that pooling robustness was likely to result in the data modelled by Cook et al being more robust to errors (but not systematic bias) in flight height estimation. Any systematic bias in flight height estimates either from the site specific data or that used by Cook et al would be carried through the CRM calculations, regardless of the Option used.

At the RSAG meeting on the 28<sup>th</sup> June 2013 it was agreed that the most appropriate avoidance rate for use with the extended Band model was 98%. Both MORL and BOWL had previously provided arguments for increasing the avoidance rate for use with the standard Band model (i.e. Options 1 and 2). Conversely, RSPB Scotland has suggested that the avoidance rate should be decreased for the extended Band model. This is due to the need to undertake separate calculations for the ‘basic’ and ‘extended’ Band models in order to provide appropriate avoidance rates. The SNCBs and MSS considered that existing offshore avoidance rates are default, and not based upon observed or derived collision rates. The Cook et al data set constituted best available evidence and consequently should be used for assessment purposes. It was concluded that continued use of 98% as a default rate was justified.

b.) Displacement – It is recognised that increased activity in a sea area, or the establishment of structures such as wind farms, have the potential to displace birds. However there is limited understanding of any resulting effects on the birds displaced, for example how to quantify the increased energetic demands on the adult, through additional flight around a wind farm or to alternative foraging locations, or decreased nest attendance and provisioning of chicks and how these may affect either adult survival or productivity. As such the assumptions used for assessment are currently highly precautionary: the mean maximum abundance estimate of all birds are used to estimate numbers displaced, it is assumed that each displaced bird represents a separate pair and it is assumed that 100% of displaced birds will fail to breed successfully.

## 2.) Setting a precautionary level of acceptable change

Acceptable and precautionary effect thresholds were calculated using Potential Biological Removal (“PBR”) and Acceptable Biological Change (“ABC”).

PBR and ABC are considered to be precautionary and in compliance with the statutory requirements in that they allow assessments on the maintenance of the populations as viable components of protected sites (the primary conservation objective under consideration) to be carried out, enabling conclusions on site integrity to be reached.

A common feature of PBR and ABC is that they establish baselines for the assessment that are future points in time. Consequently, assessments in relation to the statutory requirements are based on modelled scenarios. A number of the populations assessed have declined over recent time. Seabird population sizes and trends are thought to be principally regulated by food supply. There is considerable uncertainty over the range of factors that contribute to variations in food availability over time; however several of the factors are thought to operate over large spatial scales (e.g. climate change). Future research may inform our understanding of seabird population management over larger spatial scales. The underlying drivers of population change are not considered to be a consequence of activities that require cumulative assessment under the terms of the Habitats Regulations. The inherent uncertainties associated with the populations and their trends are taken into account by the assessment methods used.

a.) PBR - The SNCBs principally provided advice based upon the PBR model. The PBR equation is based on a simple form of population modelling, which was first formulated for marine mammals (Wade 1998) to estimate allowable bycatch. PBR requires the setting of a recovery factor ( $f$ ), the value of which is a conservation management decision. PBR calculates the number of additional mortalities that can be sustained annually by a population, accepting the assumptions and goals of the method.

b.) ABC - MSS principally used the outputs of the density independent population models provided by MORL and BOWL, by applying the ABC tool. This tool follows the equation  $ABC = P + (1-fP/3)$ , where  $P$  is the probability of the conservation objective in the absence of any proposed wind farm based on the population model forecasts. An outline of the ABC tool is attached in Appendix 3 of this assessment.

The main differences between PBR and the ABC tool are summarised below:

- The timescales are different. PBR’s goals are based upon a greater recovery period after the effect than is used with the MORL and BOWL population models. PBR goals assume that the population will recover to at least maximum net productivity level over a period of up to 100 years at a logistic growth rate of 0.5. MORL and BOWL population model outputs are for the 25 year period of effect and assume no recovery period.
- The PBR model structure assumes regulation by density dependence whereas the MORL and BOWL Population Viability Analysis (“PVA”) models

assumed density independence. The MORL and BOWL population models used the best available evidence on population size and demographic rates. The SNCBs advised that recent population declines of some populations may not have been reflected in the PVA outputs that indicated an increasing population. For example, the great black-backed gull population is thought to have declined from 800 pairs cited in the Standard Data Form at time of SPA designation to 175 pairs in 1999. *Ad hoc* monitoring data collected since 2002 in the Caithness coast (Robin Sellers *personal comm.*) suggests that the population is largely stable but the models assume growth. MSS recommended use of the ABC tool took account of this. A 'forced' probability (fP) of 0.78 was used, i.e. applying ABC in a more precautionary manner using the International Panel on Climate Change ("IPCC") likelihood bands.

- The intended purpose of the PBR model is to inform annual adaptive management which is not practical in this case. The MORL and BOWL models have been developed to address the specific effects associated with this assessment.
- PBR is not intended for establishing acceptable limits to changes in productivity. In order to use the PBR calculation, where the effect of displaced birds is assumed to be upon productivity, the SNCBs have adopted an additional step which converts changes in productivity to an assumed equivalent change in adult mortality. This conversion rate has been taken from a different population model to the PBR model, with different underlying assumptions about population dynamics, and then applied to the estimates of adults displaced by the wind farms. Using the PBR's model to calculate the conversion rate would be likely to give different values to those used in this assessment. Wade suggests further simulations with the PBR's population model may inform calculation of a PBR where effects are highly selective. MSS are not aware that the statistical issues associated with attempting to apply a conversion rate from adult survival to productivity using PBR have been explored.

MSS recommend that reliance upon PBR is limited to those scenarios where it constitutes the best available evidence, and this is unlikely to include scenarios where bespoke population models are available.

For some species: black-legged kittiwake, northern fulmar, great skua and Arctic skua the SNCBs were able to advise no adverse effect on site integrity without calculating impact thresholds as a qualitative assessment was appropriate due to the minimal predicted effects. For species where predicted impacts were greater (great black-backed gull, herring gull, puffin, razorbill and guillemot) levels of acceptable change (impact thresholds) were calculated.

For a limited number of species and sites outstanding concerns remained following initial advice from SNCBs (8<sup>th</sup> July 2013). To address these outstanding concerns, the magnitude of effects assumed by this assessment is based upon a common currency in relation to relevant factors where a range of potential values could influence the outcome of the assessment. The common currency approach was developed iteratively, as part of a process to inform the assessment of those

species at sites where initial consideration of Worst Case Scenarios (“WCS”) indicated a concern. This approach involved MORL and BOWL, the SNCBs and MSS agreeing the parameters which were most appropriate when predicting the levels of impact that MORL and BOWL were likely to have on the bird populations. The common currency allowed numbers to be generated for collision and displacement effects for each species of concern giving a cumulative impact from the two developments. The results of the common currency approach and the supporting explanation of how each factor was appraised is provided in Appendix 1 & 2 of this assessment.

The species for which a common currency has been calculated are:

- Great black-backed gull from ECC SPA;
- Herring gull from ECC SPA;
- Puffin from ECC and NCC SPA;
- Guillemot from ECC SPA; and
- Razorbill from ECC SPA.

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

#### **East Caithness Cliffs SPA – great black-backed gull**

The common currency estimated that the MORL WCS of 339 WTGs in combination with the BOWL Most Likely Scenario (“MLS”) of 140 WTGs would result in an additional mortality due to collision of 14.82 (8.62 from BOWL and 6.20 from MORL) great black-backed gulls of all ages (appendix 1 – collision risk cell c45) or 3.95 (2.01 from BOWL and 1.94 from MORL) breeding birds (appendix 1 – collision risk cell e46). The SNCBs advice on appropriate thresholds was based primarily on use of PBR. They recommended that integrity would be maintained if the impact was to be no more than 6 breeding adults each year. This is based upon a recovery factor (f) of 0.3. PBR outputs are sensitive to the recovery factor, and the setting of f is a conservation management decision. The SNCBs also advised that use of ABC should be based upon a P value for the management objective that was “highly unlikely”, i.e. a P of 0.925.

MSS advice (received on 31<sup>st</sup> October 2013) using ABC, was that site integrity would be maintained if the impact was approximately 10 birds (of all age classes). This was a precautionary threshold based on the BOWL PVA threshold of 15 (equating to 15 birds of all ages) and the MORL PVA threshold of 13 (which owing to the design of the MORL PVA equates to 20 birds of all ages). This ABC calculation was based upon a baseline probability of any population decline over the 25 year period of 0.78 i.e. a precautionary application of the IPCC likelihood bands.

The choice of a P value of 0.78 limited the potential increase in probability of decline in response to potential concerns that the demographic data used in the model may not reflect current conditions. MSS advice in relation to use of the PBR model is that the impact should be no more than 10 breeding adults. This is based



upon a recovery factor of 0.5 and consideration that the population is thought to be at, or possibly slightly above, its carrying capacity.

MS-LOT concludes, after taking into account all the advice provided above, for great black-backed gull at ECC SPA, that the MORL WCS and BOWL MLS will not adversely affect site integrity if cumulative mortality is no more than 11 birds of all age classes. This is considered to be precautionary in that the number is below the thresholds estimated using the precautionary application of the ABC tool applied to both the BOWL and MORL population models (15 and 20 respectively). This figure is also well below that advised by the SNCBs in that it relates to all birds, whereas the SNCBs figure of 6 relates to breeding adults only which would equate to significantly more than 11 birds of all age classes (MSS have estimated that 6 breeding birds equates to between 19 and 25 birds of all age classes depending on whether the MORL or BOWL population model is used).

The identified threshold of 11 has been split between BOWL and MORL, the MORL threshold has been set at 4 great black-backed gull and the BOWL threshold has been set at 7. The common currency estimate for MORL of 6.20 collisions was based on the WCS of 339 WTGs, the reduction in the number of WTGs being recommended for consent for MORL from 339 to 186 will ensure that their threshold of 4 is not exceeded. The common currency estimate was already based on the BOWL MLS of 140 WTGs, and the estimated collisions from BOWL was 8.62 (which is greater than the BOWL threshold of 7). BOWL, due to its closer proximity to the ECC SPA, will have the greatest impact on great black-backed gull and therefore a condition will be required on the BOWL consent to ensure that impacts are within acceptable limits and to ensure that the proposed development will not adversely affect site integrity. This condition restricts the numbers of WTGs to 125. If BOWL wish to exceed this number up to a maximum of 140 WTGs then the exact parameters must be agreed with the Scottish Ministers to ensure that the predicted collisions of great black-backed gulls are within the acceptable threshold. This will be accomplished by running the proposed parameters through an agreed collision risk model prior to authorisation.

#### **East Caithness Cliffs SPA – Herring gull**

The cumulative collision estimate from the common currency is approximately 32 individuals of all age classes (appendix 1 – collision risk cell c47). This is safely within thresholds of acceptable change identified using ABC tool and/or PBR method. The PBR threshold advised by the SNCBs is 43 breeding birds using a  $f$  value of 0.3. The ABC threshold using a  $P$  value of 0.78, is 600 birds of all age classes (c. 70 adults) using the BOWL model and 170 of all age classes (c. 100 adults) using the MORL model. MSS agree with the conclusions provided by the SNCBs, and MS-LOT also concludes that the BOWL and MORL proposal will **not adversely affect site integrity**.

## **East Caithness Cliffs and North Caithness Cliffs SPAs – Puffin**

### **Establishing thresholds for puffin**

The SNCBs have provided advice on appropriate thresholds based primarily on use of PBR. Original advice from 8<sup>th</sup> July and 29<sup>th</sup> October 2013 was based on a PBR calculation for each SPA. The October advice provided a threshold of up to 7 breeding adult mortalities for ECC SPA using a *f* value of 0.3, and 341 breeding adult mortalities for NCC SPA using a *f* value of 0.5. The SNCBs advice on the *f* value was based on trend information at the colonies. Subsequent to this advice uncertainties arose about the population sizes of the ECC and NCC SPAs at time of designation and the subsequent trends. The citations state that both sites supported populations of 1750 at time of designation. This is considered unlikely to be accurate and a combined population of 3500 at time of designation is considered more reliable. To address this issue the SNCBs provided advice on 17<sup>th</sup> January 2014 based on use of PBR applied to a combined population of both sites. This provided a combined threshold of 212-354 breeding adult mortalities based on using an *f* value range of 0.3-0.5, and a joint SPA population estimate of 7345 pairs (from the seabird 2000 count). The SNCBs advised that this joint assessment addresses the requirements under the Habitats Regulations.

In relation to use of thresholds of change to the combined ECC and NCC SPAs population, MSS advise that:

- The population estimates and trends for puffin at all sites considered in this assessment have considerable uncertainty associated with them. The estimates used by the SNCBs in their recommendation to undertake a combined assessment of both SPAs are the most appropriate.
- Application of the ABC tool to the BOWL and MORL population model outputs should be based upon a *P* value of 0.5 as the model forecasts are considered to be representative of trends.
- Application of the ABC tool to the BOWL PVA outputs for ECC and NCC results in thresholds of c.50 and c.850 displaced pairs respectively.
- Application of the ABC tool to the MORL PVA outputs for ECC and NCC results in thresholds of 140 and >2000 displaced adults respectively.
- Application of the ABC tool to the PVA outputs for ECC and NCC combined results in cumulative thresholds of c.900 displaced pairs and >2140 displaced adults respectively.
- The BOWL population model's assumption (based on the SNCBs advice) that each displaced individual equates to a pair that fails to breed successfully is overly precautionary (this is reflected in the lower ABC threshold values). The MORL model assumes displaced individuals belong to the same pair as other displaced individuals, which represents the upper limit of what is ecologically realistic. Overall thresholds based on the BOWL outputs can be considered at the lower limit of the range and those of MORL as the upper limit.

### **Estimating the effect upon puffin**

The effects were estimated using the common currency approach. The estimate

provided a metric of individuals displaced, which for the purposes of assessing against a PBR threshold resulted in an additional step of conversion to adult mortality. In their advice of 17<sup>th</sup> January 2014, the SNCBs assumed that 99% of the effect from the MORL proposal was apportioned to ECC and NCC combined. The SNCBs estimated the combined effect as being 199 breeding adult mortalities. Following the SNCBs draft guidance on apportioning, as has been done with BOWL's effects, results in approximately 25% of the effect being apportioned to non-SPA colonies in the Pentland Firth area. MSS applied the SNCBs draft guidance on apportioning (see Appendix 1) and estimate that 483 displaced individuals should be apportioned to NCC from the MORL and BOWL developments combined. Using the SNCBs conversion factor this equates to 137 breeding adult mortalities at NCC.

Summary table comparing estimated puffin effects with identified thresholds:

	Effects	PBR	PVA & ABC
ECC	79 individuals displaced converted to 23 breeding adult mortalities	7-13 breeding adult mortalities	Between ~ 50 pairs and 140 individuals failing to breed
NCC	483 individuals displaced converted to 137 breeding adult mortalities	205 - 341 breeding adult mortalities	Between ~ 850 pairs and > 2000 individuals failing to breed
ECC/NCC combined	562 individuals displaced converted to 159 breeding adult mortalities	212 - 354 breeding adult mortalities	Between ~ 900 pairs and > 2140 individuals failing to breed

MSS advice is that the manner in which displacement effects have been quantified is highly precautionary for the following reasons:

- It has been assumed that 100% of displaced birds fail to breed successfully (outputs from the Centre for Ecology and Hydrology ("CEH") seabird displacement model indicate that this is a significant over estimate).
- The assumption that each displaced bird represents a discrete pair i.e. 1 displaced bird = 1 failed pair. This is unlikely and so represents an extreme view.
- The near doubling in WTG spacing resulting from BOWL's move from WCS of 277 WTGs to MLS of 140 WTGs has not been accounted for in the proportion of birds being displaced or the percentage of pairs failing to breed successfully. Nor has recent confirmation from MORL that the maximum number of WTGs has been reduced from 339 to 186 been considered. This would result in an increase in spacing and/or reduction in area occupied by WTGs. Evidence from Holland (Leopold et al 2012) suggests that displacement effects are greater in wind farms with higher turbine density i.e. smaller inter-turbine spacing, and the mitigating effects of increased turbine spacing is acknowledged in the SNCBs recommendations of 19<sup>th</sup> December 2013.
- Habituation of birds to the presence of WTGs during the 25 year life of the wind farms has not been considered.

- Evidence as summarised by MacArthur Green's Review of Evidence of Seabird Displacement from Offshore Windfarms (Oct, 2013) suggests that the displacement rate of 60% applied to the auk species is likely to be an overestimate.
- Birds on the water and in flight have both been assumed to be displaced and therefore fail to breed successfully.
- The mean seasonal peak abundance, rather than the mean abundance estimates have been used.

MSS advise that adopting a number of additional assumptions and further, more precise, quantification would reduce the estimated effects substantially. This has not been done, as MSS do not consider the additional quantification would substantively change the advice in relation to the overall conclusions.

#### Conclusion of puffin assessment

The population estimates underpinning the assessment methods used should be regarded as indicative. Although best available evidence has been used throughout, the inherent uncertainties are sufficiently great that the precise estimates of the effects and the acceptable thresholds should not be considered as absolute values. It is, however, reasonable to consider the lower calculated thresholds of acceptable change as being underestimates, and the estimated effects as being overestimates.

Following the SNCBs advice, overall conclusions in relation to site integrity should be based upon the population estimate for ECC and NCC combined. The SNCBs conclude that the BOWL and MORL WCSs will **not adversely affect site integrity** based upon their application of PBR to set a threshold and conversion of the PBR value to an "equivalent" productivity value. MSS have used the PVA models to assess effects on productivity and taken account of the precautionary nature of the estimation of the magnitude of effects. MSS advise that the estimated effects are typically within the range of values used to estimate the acceptable thresholds. A reasonable interpretation of best available evidence leads MSS to conclude no adverse effect on site integrity based upon the number of birds displaced and the thresholds described above.

MS-LOT are satisfied that the best available evidence has been used by the advisors in formulating their advice and consider, having assessed all the evidence provided and taking into account the reduction in design envelopes, that whilst it is clear that puffin as a SPA qualifying interest, appears the most sensitive to the displacement effect. MS-LOT concludes, taking into account the justification detailed above, that the MORL and BOWL MLSs will **not adversely affect site integrity based upon the current number of birds estimated to be displaced.**

#### East Caithness Cliffs SPA – Guillemot

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs indicate that based on an *f* value of 0.1-0.3 the population could sustain an additional annual mortality of 563-1689 breeding adults per year. The common

currency indicated that 3448 guillemots from this population may be displaced by both projects in combination. The SNCBs concluded in their advice dated 29<sup>th</sup> October 2013 that this figure lies within the acceptable thresholds predicted by PBR method and the ABC tool. MSS advised that they were in agreement with the conclusion. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **East Caithness Cliffs SPA – Razorbill**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs indicate that the population could sustain an additional annual mortality of 111-334 breeding adults per year. The common currency indicated that 822 razorbills from this population may be displaced by both projects in combination. The SNCBs advised on 29<sup>th</sup> October 2013 that the 822 birds displaced equated to approximately 339 adult mortalities. This figure is slightly higher than the PBR threshold advised by the SNCBs (based on an f value of 0.1-0.3), however the SNCBs also noted the precaution within the assumption regarding each displaced individual equating to a failed breeding pair and that the threshold is only marginally exceeded. The SNCBs concluded no adverse effect on site integrity. The figure also lies within the acceptable thresholds calculated by the ABC tool. MSS advised that they were in agreement with the conclusion. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **East Caithness Cliffs SPA and North Caithness Cliffs SPA – Northern Fulmar**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs using an f value of 0.3-0.5 indicate that the ECC SPA population could sustain an additional annual mortality of 190-317 breeding adults per year and the NCC SPA population could sustain an additional annual mortality of 187-312 breeding adults per year. No fulmar were observed flying at collision risk height (20-200m) in the MORL EDA (refer to section 4.1.6 of technical Appendix 4.5A of the MORL ES). For the BOWL WCS, the SNCBs estimated there would be ~5 collisions of breeding adults during the breeding season and ~23 collisions in the non-breeding season. The SNCBs used their (draft) apportioning method to consider how many of the estimated collisions should be assigned against each SPA population. This indicates that ~83% of the impact will be to the fulmar population of ECC SPA and ~11% to the population of NCC SPA. The SNCBs concluded that neither wind farm alone, or in combination, would affect the long-term maintenance of fulmar as a viable component of either SPA. MSS advised that the magnitude of the effects are sufficiently minor to safely conclude no adverse effect to integrity on a qualitative basis. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **East Caithness Cliffs SPA and North Caithness Cliffs SPA – Black-legged kittiwake**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs using

an f value of 0.1- 0.3 indicate that the ECC SPA population could sustain an additional annual mortality of 467-1400 breeding adults per year and the NCC SPA population could sustain an additional annual mortality of 117-352 breeding adults per year. The estimate for the MORL EDA is in the order of ~70 collisions of breeding adults during the breeding season and a further 26 collisions of SPA birds during the non-breeding season. Using their (draft) approach to apportioning, the SNCBs considered how many of the estimated collisions should be assigned against each SPA population. This indicates that ~95% of the impact will be on kittiwakes from the ECC SPA and ~3% on those from the NCC SPA. At these levels, it is clear that neither wind farm alone, or in combination, will affect the long-term maintenance of kittiwake as a viable component of either SPA. MSS advised that the magnitude of the effects are sufficiently minor to safely conclude no adverse effect to integrity on a qualitative basis. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **North Caithness Cliffs SPA – Guillemot**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs assuming a recovery factor of 0.1- 0.3 indicate that the NCC SPA population could sustain an additional annual mortality of 248-745 breeding adults per year. The combined developments are predicted to displace 332 birds from this population which is within the range of the PBR. The SNCBs concluded no adverse effect on site integrity. MSS advised that they were in agreement with the conclusion based on application of the ABC tool. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **North Caithness Cliffs SPA – Razorbill**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs assuming a recovery factor of 0.1-0.3 indicate that the NCC SPA population could sustain an additional annual mortality of 15-46 breeding adults per year. The 2 developments are predicted to displace 22 birds from this population which is within the range of the PBR. The SNCBs concluded no adverse effect on site integrity. MSS advised that they were in agreement with the conclusion based on application of the ABC tool. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

#### **Hoy SPA – Puffin**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that the PBR outputs assuming a recovery factor of 0.1-0.3 indicate that the Hoy SPA population could sustain an additional annual mortality of 4-12 breeding adults per year. The combined MORL and BOWL developments are predicted to displace 13 birds. The SNCBs advised that although these figures are just above the threshold there will be no adverse effect on site integrity as the PBR method has been used in a precautionary manner for considering the effects of displacement. MSS advised that they were in agreement with the conclusion based on application of the ABC

tool. MS-LOT concludes that the MORL and BOWL developments will **not adversely affect site integrity**.

### **Hoy SPA – Arctic Skua**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that they agreed with the conclusions reached in both the BOWL SEIS and the MORL ES, that there would be no adverse effect on site integrity (see [appendix 4.5A, volume 10 of the MORL ES](#) and [annex 3B, volume 4 of the BOWL SEIS](#)). MS-LOT concludes (based on the SNCBs advice) that the MORL and BOWL developments will **not adversely affect site integrity**.

### **Hoy SPA – Great Skua**

In their advice dated 8<sup>th</sup> July 2013 the SNCBs advised that they agreed with the conclusions reached in both the BOWL SEIS and the MORL ES that there would be no adverse effect on site integrity (see [appendix 4.5A, volume 10 of the MORL ES](#) and [annex 3B, volume 4 of the BOWL SEIS](#)). MS-LOT concludes (based on the SNCBs advice) that the MORL and BOWL developments will **not adversely affect site integrity**.

### **Other In-Combination Impacts**

When considering other projects to include in the in-combination assessment, MS-LOT have included projects which have already been given consent, where LSE has been identified on the same qualifying interests and protected sites as the BOWL and MORL proposal. Sufficient information on projects at earlier stages of the consenting process is not available to usefully inform quantitative assessment. The AAs completed for these early stage projects will consider the in-combination effects with BOWL and MORL before any consent is granted.

Therefore, MS-LOT considered the in-combination impacts with the MeyGen Phase 1 development. This is a tidal array located within the Inner Sound, Pentland Firth (approximately 40 km from the Moray Firth developments). Although consent is for a 61 turbine, 86 MW array, the first phase is limited to a maximum of 6 turbines through conditions attached to the consent. MeyGen was identified as having LSE on all the qualifying features from the sites above excluding herring gull and great black-backed gull. The AA concluded that the MeyGen development would **not adversely affect site integrity of any site** because of the minimal impacts from displacement and disturbance during construction. For some species collision risk with the tidal turbines was identified as a theoretical issue; however the limit of the first phase to 6 turbines will mitigate this. A further AA for additional phases of the MeyGen development will be required prior to consent being determined and this will evaluate the in-combination impacts from these additional phases with BOWL and MORL. **MS-LOT concludes that the BOWL development and MORL proposal in-combination with MeyGen will not adversely affect site integrity of the protected sites above.**

## SACs

### Dornoch Firth & Morrich More SAC – Common seal

A common seal [impact assessment framework](#) has been developed for the Moray Firth Offshore Wind Developers Group (“MFOWDG”). This framework considers whether any noise (and other) impacts to individuals would result in population level effects. These effects are all based on the assumption that disturbance will affect breeding success. No direct mortality is predicted as a result of construction.

As presented by BOWL and MORL in their ESs (see [appendix 7.3A, volume 10 of the MORL ES](#) and [annex 12B, volume 4b of the BOWL ES](#)), the framework makes a base assumption that noise and other impacts from wind farm construction will reduce the breeding success of the common seal population to zero for the duration of construction. While this results in population-level effects during wind farm construction (a construction phase of up to 6 years for BOWL and MORL together), the population is predicted to recover in the long-term once this construction is complete. The modelling is for a ‘worst case’ that considers the construction impacts of both developments together on common seals.

The framework assessment demonstrates that disturbance from underwater noise from wind farm construction will not result in any long-term effects on the common seal population. The relevant conservation objective to consider is the maintenance of the common seal population as a viable component of a SAC. This encompasses any significant disturbance to individuals while they are out with the SAC, such as underwater noise impacts arising from wind farm construction.

Advice from the SNCBs and MSS is that this framework constitutes an appropriate approach to impact assessment for common seals. It sets out a process for considering the outcomes of noise disturbance and behavioural displacement as a reduction in the individual fitness of animals and then models the consequences of this for the population, using reproductive success as the key parameter that is affected. Key areas of scientific uncertainty are highlighted, including their significance to the assessment framework. The SNCBs advised that disturbance from underwater noise will not result in any long-term effects on the common seal population and that the MORL and BOWL developments would **not adversely affect site integrity provided that the conditions listed in 3d are complied with.**

### In-Combination Impacts

The potential for in-combination effects with port developments in the inner Moray Firth was suggested in the MORL ES but not taken any further because at the time of their submission there were too few details about what work would be undertaken. Three proposals are now at different stages in the planning system; at Nigg (Global Energy Nigg), Ardersier (Port of Ardersier Limited) and Invergordon (the Cromarty Firth Port Authority). The development at Ardersier is the only one within 50 km of the Dornoch Firth and Morrich More SAC, and has applied to the Scottish Ministers only to use vibro-piling, which is not predicted to impact upon common seals.



Further discussions have been underway regarding the potential for corkscrew injuries to harbour seals from construction and operation of the port at Ardersier. MSS currently do not have enough information to be able to make a quantitative assessment of the likely numbers of animals affected because the mechanism by which these injuries occur is not known. Discussions surrounding Ardersier have centred on increased monitoring to detect whether seals using that area are in fact impacted through these corkscrew injuries. Much of the concern has centred around vessels using the port once it is operational, which is not a regulated activity. There have been a small number of reports of corkscrew seals in the inner Moray Firth, but the area is not considered to be a hotspot for this currently (Thompson et al. 2013).

**Having considered advice from the SNCBs and MSS, MS-LOT concludes that the MORL proposal and BOWL development alone, and in-combination with other regulated activities, will not adversely affect the integrity of the Dornoch Firth & Morrich More SAC.**

### **Moray Firth SAC – Bottlenose dolphin**

#### **Summary conclusion**

The principal conservation objective to consider is the maintenance of the bottlenose dolphin population as a viable component of the Moray Firth SAC. This encompasses any significant disturbance to individuals while they are outside the SAC, such as underwater noise impacts arising from wind farm construction. More qualitative consideration is given to other conservation objectives.

MORL and BOWL have modelled potential underwater noise impacts to bottlenose dolphins during construction. Predicted zones of disturbance from the noisiest construction activities (associated with pile-driving the turbine foundations) could slightly extend into areas used by bottlenose dolphins transiting along the coast in the Moray Firth: this is for a 'worst case' of piling activity at MORL and BOWL wind farm sites together (see [appendix 7.3F, volume 10 of the MORL ES](#) and [annex 7A, volume 4a of the BOWL ES](#)).

Further modelling of whether any resulting disturbance to individuals could lead to population level effects was undertaken (see [appendix 7.3A, volume 10 of the MORL ES](#) and [annex 6A, volume 4 of the BOWL SEIS](#)). This concludes that there are no long-term effects from underwater noise disturbance on the bottlenose dolphin population of the Moray Firth SAC. As such the MORL and BOWL developments will **not adversely affect site integrity of the Moray Firth SAC**. Conditions to further mitigate the effects of noise are identified in Section 3(d).

#### **In-combination effects**

The potential for in-combination disturbance to bottlenose dolphin from construction activities associated with the Forth and Tay offshore wind developments has not been included in this assessment, but will be included in the AA of those projects. The modelling work for the Forth and Tay developments is

still being considered and MS-LOT are awaiting advice from the SNCBs on the predicted impacts, therefore MS-LOT do not consider it appropriate to assess the in-combination impacts in this AA.

The potential for disturbance from, for example, the installation of export cable routes, may if necessary be managed through construction programming for BOWL and for MORL.

Other developments have been identified as having LSE on bottlenose dolphins from the Moray Firth SAC:

1. Aberdeen Bay Offshore Wind Farm - Installation and operation of a European Offshore Wind Deployment Centre consisting of 11 turbines, inter-array and export cables. To be located 2-4.5 km off the coast at Blackdog, Aberdeenshire, and likely to be constructed in 2016-2017. The licensee predicts that the installation of the 11 turbines will take place over a period of approximately 2 weeks and at most 4 turbines might be installed using piling techniques. A section 36 consent has been issued. The AA completed for the proposal concluded that it would **not adversely affect site integrity of the Moray Firth SAC**.

2. Global Energy Nigg Ltd ("GEN") : South quayside proposal, Nigg – The south quayside extension will comprise of a solid berthing structure, with structural steel combi sheet piles forming the external perimeter and in-filled with material dredged from the seabed local to the proposed works. Most of the piling will be undertaken with vibro-piling and the remainder undertaken through impact piling. The construction will extend the south quayside some 135m to 155m into the adjacent Cromarty Firth, and provide an additional 750m to 800m of berthing facilities for vessels. In addition, a new frontage replacing the existing quayside will be constructed from interlocking structural steel piles, with this repair extending some 5m into the adjacent Cromarty Firth. The enclosed berthing area will be dredged to an approximate depth of -10m Chart Datum, with the approach to the new quayside also typically dredged to -10m Chart Datum. Locally, and approximately mid-length along the outer perimeter of the new quayside, an area will be dredged to -16m Chart Datum. The dredge burden associated with the south quayside extension amounts to approximately 240,000m<sup>3</sup> - 250,000m<sup>3</sup>. Dredge material is targeted for offshore disposal at the long established disposal ground at the "Sutors". The marine licence for this development has recently been issued and work is expected to commence imminently. The AA for the proposal concluded that it would **not adversely affect site integrity of the Moray Firth SAC**.

3. CFPA: Berth development, Invergordon

The proposal involves the construction of an additional deep water berth and lay-down area by widening of the existing finger of the Queen's Dock and construction of a 150m berth structure for the south end of the finger. The project involves dredging of approximately 20,000 – 25,000m<sup>3</sup> with disposal at "Sutors"; vibro and impact piling; 3.48 hectares of land reclamation and block paving. Construction works are provisionally scheduled to begin in March 2014. The marine licence for this development has recently been issued. The AA for the proposal concluded that it would **not adversely affect site integrity of the Moray Firth SAC**.

#### 4. POAL: Port development, Ardersier

The proposal involves the construction of new deep water quay facilities and an associated dredged access channel. The new quay wall will comprise of a combi-wall construction, a combination of tubular and sheet piling, driven to the required design depth. All piling works are to take place using vibro-piling techniques. Dredge depth of the new access channel will be in the region of -8.5 m Chart Datum. The amount of material from the capital dredge will be in the region of 2,000,000m<sup>3</sup>. Proposals for the use of this material are currently under consideration and are likely to involve all, or the vast majority of the dredge material, being brought ashore. The details of the method of construction are not known at this time. Dredging was provisionally scheduled to commence in September 2013, but at the current time a revision to the marine licence application is pending.

#### Details of assessment

The conservation objectives for the Moray Firth SAC in relation to the bottlenose dolphin feature are stated as follows:

*“To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, 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:*

- (i) Population of the species as a viable component of the site*
- (ii) Distribution of the species within site*
- (iii) Distribution and extent of habitats supporting the species*
- (iv) Structure, function and supporting processes of habitats supporting the species*
- (v) No significant disturbance of the species”*

The proposals under discussion may potentially affect objectives (i), (ii) and (v) and these points are addressed below.

#### MSS advice on assessment

##### *a) Reference population*

The SNCBs advice is that the relevant population unit for bottlenose dolphins is the “Coastal East Scotland” unit, which extends to 12 nm, from the north coast of the Scottish mainland (including Orkney) to the border with England (UK SNCRB 2013). This is because there is strong evidence of a large degree of connectivity between animals in the SAC and animals regularly using other areas, extending to the Forth.

This is consistent with the approach taken in relation to other proposals (e.g. offshore wind farms, seismic surveys, harbour maintenance works) where assessments are routinely made at the whole east coast population scale.

*b) Level of effect*

Consideration has been made of the combined effects of all the projects in the Moray Firth that are considered by Lusseau (2013), and previously considered for the Moray offshore wind farms alone under the Habitats Regulations Appraisal (“HRA”) and EIA process. The most up to date assessment is the one by Lusseau, and more than 50% (i.e. the median) of model runs in that assessment returns to baseline after 5 or 6 years when the whole east coast population was considered. Based on the results of noise modelling presented in MORL’s ES and BOWL’s SEIS, it is not considered likely that construction operations will cause direct disturbance to dolphins within the SAC. MSS therefore conclude that there will be no effect on the distribution of bottlenose dolphins within the site. It is likely that dolphins using the south coast of the Moray Firth, closer to the development than the SAC, will receive noise levels sufficient to cause some disturbance. However, noise propagation modelling presented by the developers shows that in coastal areas, the predicted noise level does not breach 75 dB<sub>ht</sub> (*Tursiops truncatus*). At this level, most individuals in a population are expected to exhibit a mild avoidance response. Such a response would not be considered to be significant and MSS therefore conclude that there will be no significant disturbance of bottlenose dolphins. Based on these assessments, MSS have advised that the combined effects from these projects will not have an adverse effect on site integrity, subject to the adoption of appropriate mitigation measures.

The SNCBs have advised that impacts arising from the offshore wind farms in the Moray Firth will **not adversely affect site integrity**.

*c) Mitigation and monitoring*

It is likely that bottlenose dolphins will experience disturbance as a result of each project independently, and cumulatively. Developers should therefore take steps to mitigate this where possible. Cetacean (and in particular bottlenose dolphin) absence from the area prior to piling should be monitored both visually and acoustically.

Monitoring of both noise levels and bottlenose dolphin responses to the noise should be undertaken to confirm the assessment of the extent to which dolphins may be disturbed and to improve the knowledge base to inform future licensing decisions. This should preferentially be undertaken with acoustic methods for detecting dolphins, since they will provide greater power to detect change than visual methods (e.g. Thompson et al. 2013).

**MS-LOT concludes that BOWL and MORL in-combination with the projects already consented, namely – Aberdeen Bay Offshore Wind Farm, GEN South Quayside, Nigg and CFPA berth development, Invergordon – will not adversely affect the site integrity of the Moray Firth SAC with respect to bottlenose dolphins.** The assessment framework for the Moray Firth wind farms shows no long-term impacts, as does the Lusseau assessment of Nigg combined with the Moray Firth wind farms. In addition the consents issued for Nigg, Invergordon and Aberdeen Bay contain several conditions to mitigate the impacts.

### **Moray Firth SAC – subtidal sandbanks**

Concerns had been raised by the SNCBs over the dredging and disposal of sediments which would be required if gravity bases were to be used as foundations. MS-LOT has agreed with both BOWL and MORL that if these foundations are to be used this will be subject to a further marine licence application to cover the dredging and disposal, and any impacts will be assessed in the AA for these applications. The SNCBs have welcomed this approach and concluded that in relation to the current project there would be no adverse effect on site integrity for habitat interests. **MS-LOT concludes (based on the SNCBs advice) that the MORL proposal and BOWL development will not adversely affect the site integrity of the Moray Firth SAC with respect to subtidal sandbanks.**

### **Atlantic Salmon SACs**

**Berriedale & Langwell Waters, River Moriston, Spey, Oykel, Thurso, Borgie, Dee and Naver**

The relevant conservation objective to consider is whether or not the wind farm proposals in the Moray Firth would alone, or in combination, result in any impacts on the viability of Atlantic salmon populations supported by the above SACs.

Due to the closer proximity to shore of the BOWL development the SNCBs advised that impacts from BOWL were likely to be greater than impacts from MORL. Also the BOWL cable comes ashore close to mouth of the River Spey SAC.

It is considered that **underwater noise** from piling foundations for WTGs and OSPs would be the most significant effect. However, due to lack of knowledge concerning migratory movements of Atlantic salmon in Scottish waters, and the effects of underwater noise on Atlantic salmon behaviour, it is not considered feasible to ascertain whether any noise disturbance to individual salmon could result in population level change at SACs. It should be noted that these knowledge gaps could not reasonably be remedied by scientific research for the purpose of these applications. It is considered feasible to avoid adversely affecting site integrity of any sites by agreement of working practice and mitigation that relate to the effects via conditions on any consents, as follows:

1. Soft start for piling work could be expected to help mobile fish move out of the area and thereby assist in mitigating against noise disturbance to individuals during construction.
2. Piling schedules and construction programmes should be further discussed, post-consent, between MS-LOT, MSS, the Association of Salmon Fishery Boards (“ASFB”), the SNCBs and developers, once WTG layouts, numbers and foundation choices and have been confirmed. It is noted that the zone of predicted noise impacts for Atlantic salmon is based on a ‘worst case’ scenario which may not occur.
3. Strategic monitoring and research will help to improve the knowledge base on salmon population ecology and migratory movements in Scottish waters and may help inform mitigation proposals.

The installation of the export cables close to shore could take a matter of days so that mitigation, or avoidance, of impacts to smolts could be possible by timing the work to avoid peak smolt runs (if the timing of these can be established). This mitigation should be progressed in post-consent discussions between MS-LOT, MSS, the ASFB, the SNCBs and developers. In relation to potential cumulative impacts arising from the **EMF** around intra-array and export cables, proposed mitigation to shield / bury cables will help to reduce EMF. For Atlantic salmon, it is recommended that deeper burial depth or directional drilling removes the risk of any operational effect (the SNCBs advised up to 3m, where possible) i.e. for export cables in shallower water approaching landfall (water depths of up to ~20m). Where cable burial or directional drilling is not possible, rock armouring or a similar protective layer should be considered.

It is considered that potential impacts from cable installation can be reduced or avoided and that while there may be some noise disturbance to individual salmon, the effects do not risk the integrity of SAC populations; but do merit further research and quantification. The SNCBs have advised that operational noise will not result in likely significant effects to salmon.

**Having considered advice from the SNCBs and MSS, MS-LOT concludes that the BOWL development and MORL proposal, in combination or individually, will not adversely affect site integrity of these eight SACs with respect to Atlantic salmon provided that conditions detailed in 3d are complied with.**

#### In-combination Impacts

MS-LOT has also considered the in-combination impacts with the MeyGen Phase 1 development. MeyGen was identified as having LSE on the qualifying features from the river SACs identified above. The AA concluded that the MeyGen development **will not adversely affect site integrity** if conditions designed to reduce impacts were adhered to. Collision risk with the tidal turbines was identified as an issue; however the limit of the first phase to 6 turbines will mitigate this. **MS-LOT concludes that the BOWL development and MORL proposal in-combination with MeyGen will not adversely affect site integrity of the protected sites above with respect to Atlantic salmon provided that the conditions detailed in section 3d are complied with.** A further AA for additional phases of the MeyGen development will be required prior to any consent being determined. This will evaluate in the in-combination impacts from these additional phases with BOWL and MORL.

Due to the limited knowledge surrounding Atlantic salmon migration routes and behaviour there is some uncertainty regarding the natal rivers that potentially affected Atlantic salmon belong to. For the purposes of this assessment, MS-LOT have followed the advice of the SNCBs and consider that in showing that the proposed developments will not adversely affect site integrity for the rivers closest to the developments, this addresses Natura concerns which other consultees may have regarding further afield River SACs.

### **Freshwater Pearl Mussel SACs**

#### **River Evelix, Moriston, Oykel, Spey, Borgie, Dee and Naver**

Potential indirect impacts to FWPM populations will be addressed via mitigation to avoid adverse impacts to Atlantic salmon populations as outlined above. As there will not be population level effects to Atlantic salmon, nor significant effects to other salmonid species, the SNCBs advised that there will be no indirect effects on FWPM in the Rivers Evelix, Moriston, Oykel and Spey SACs.

**Having considered advice from the SNCBs and MSS, MS-LOT concludes that the BOWL development and MORL proposal, in combination or individually, will not adversely affect site integrity of the seven River SACs with respect to the FWPM provided that the conditions detailed in section 3d are complied with.**

#### **In-Combination Impacts**

MS-LOT have also considered the in-combination impacts with the MeyGen Phase 1 development and due to the reasons detailed above concludes that **the BOWL development and MORL proposal in-combination with MeyGen will not adversely affect site integrity of the protected sites above with respect to FWPM provided that the conditions detailed in section 3d are complied with.**

#### **River Spey SAC – Sea Lamprey**

The assessment considers the commitment from MORL and BOWL to adopt soft-start piling methods to help mitigate any noise disturbance during construction and burial of cables to reduce EMF during operation. These mitigation methods will further reduce impacts to individuals. The relevant conservation objective to consider is whether or not the proposed MORL and BOWL developments would result in any impacts on the viability of the sea lamprey population of the River Spey SAC. While there may be some level of noise disturbance to individuals during construction, and the potential for EMF to be detectable by sea lamprey, it is concluded that the MORL and BOWL developments will not adversely affect site integrity with respect to sea lamprey once the mitigation measures are incorporated. MS-LOT is satisfied that operational noise would not result in likely significant effects to sea lamprey.

**Having considered advice from the SNCBs and MSS, MS-LOT concludes that the BOWL development and MORL proposal, in combination or individually, will not adversely affect site integrity of the River Spey SAC with respect to sea lamprey, either alone or in combination with other regulated activities provided that the conditions detailed in section 3d are complied with.**

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*In the light of the assessment, ascertain whether the proposal will not adversely affect the integrity of the site for the European interests. If SAC and/or SPA and/or Ramsar site, give separate conclusions. If conditions required, proceed to 3d.*

The proposed Beatrice Offshore Wind Farm, in the Outer Moray Firth, will not adversely affect site integrity of the ECC SPA, NCC SPA, Hoy SPA, Dornoch Firth & Morrich More SAC, Moray Firth SAC, Berriedale & Langwell Waters SAC, River Evelix SAC, River Moriston SAC, River Oykel SAC, River Spey SAC, River Thurso SAC, River Borgie SAC, River Dee SAC and River Naver SAC, either alone or in combination with the MORL proposal, and other projects which have already been consented provided that the conditions detailed in section 3d are complied with.

### **3d. Conditions proposed.**

*Indicate conditions/modifications required to ensure adverse effects are avoided, & reasons for these.*

<i>Condition:</i>	<i>Reason:</i>
<p>1.) The Company must, no later than 6 months prior to the Commencement of the Development, submit a Construction Programme ("CoP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CoP must be in accordance with the ES. The Development must, at all times, be constructed in accordance with the approved CoP (as updated and amended from time to time by the Company). Any updates or amendments made to the CoP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.</p> <p>The CoP must set out:</p> <ul style="list-style-type: none"> <li>a. The proposed date for Commencement of Development;</li> <li>b. The proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;</li> <li>c. The proposed timings and sequencing of construction work for all elements of the Development infrastructure;</li> <li>d. Contingency planning for poor weather or other unforeseen delays; and</li> <li>e. The scheduled date for Final Commissioning of the Development.</li> </ul>	<p>To confirm the timing and programming of construction.</p>

<p>2.) The Company must, no later than 6 months prior to the Commencement of the Development submit a Construction Method Statement ("CMS"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CMS must set out the construction procedures and good working practices for installing the Development. The CMS must be in accordance with the construction methods assessed in the ES and must include details of how the construction related mitigation steps proposed in the ES are to be delivered. The Development must, at all times, be constructed in accordance with the approved CMS (as updated and amended from time to time by the Company). Any updates or amendments made to the CMS by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.</p> <p>The CMS must, so far as is reasonably practicable, be consistent with the DS, the EMP, the VMP, the NSP, the PS, the CaP and the LMP.</p>	<p>To ensure the appropriate construction management of the Development, taking into account mitigation measures to protect Natura interests.</p>
<p>3.) In the event that pile foundations are to be used, the Company must, no later than 6 months prior to the Commencement of the Development, submit a Piling Strategy ("PS"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH and any such other advisors as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed in accordance with the approved PS (as updated and amended from time to time by the Company). Any updates or amendments made to the PS by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.</p> <p>The PS must include:</p> <ul style="list-style-type: none"> <li>a. Full details of the proposed method and anticipated duration of pile-driving at all locations;</li> <li>b. Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and</li> </ul>	<p>To mitigate the underwater noise impacts arising from piling activity</p>

- c. Details of mitigation and monitoring to be employed during pile-driving, as agreed by the Scottish Ministers.

The PS must be in accordance with the ES and reflect any surveys carried out after submission of the Application. The PS must demonstrate how the exposure to and / or the effects of underwater noise have been mitigated in respect of the following species: bottlenose dolphin; harbour seal; Atlantic salmon; cod; and herring.

The PS must, so far as is reasonably practicable, be consistent with the EMP, the PEMP and the CMS.

4.) The Company must, no later than 6 months prior to the Commencement of the Development, submit an Environmental Management Plan ("EMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, RSPB Scotland and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed and operated in accordance with the approved EMP (as updated and amended from time to time by the Company). Any updates or amendments made to the EMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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

- a. all construction as required to be undertaken before the Final Commissioning of the Development; and
- b. the operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation.

The EMP must be in accordance with the ES as it relates to environmental management measures. The EMP must set out the roles, responsibilities and chain of command for the Company personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the

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

Development. It must address, but not be limited to, the following over-arching requirements for environmental management during construction:

- a. Mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the ES and pre-consent and pre-construction surveys, and include the relevant parts of the CMS;
- b. Pollution prevention measures and contingency plans;
- c. Management measures to prevent the introduction of invasive non-native marine species;
- d. Measures to minimise, recycle, reuse and dispose of waste streams; and
- e. The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders (including, but not limited to, the JNCC, SNH, SEPA, RSPB Scotland, MCA and NLB) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

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

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

5.) The Company must, no later than 6 months prior to the Commencement of the Development, submit a Vessel Management Plan ("VMP"), in writing, to the Scottish Ministers for their written approval. Such

To mitigate disturbance or impact to marine mammals and birds

approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The Development must, at all times, be constructed and operated in accordance with the approved VMP (as updated and amended from time to time by the Company). Any updates or amendments made to the VMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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 the unnecessary use of ducted propellers;
- c. How vessel management will be co-ordinated, particularly during construction but also during operation; and
- 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.

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

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

6.) The Company must, no later than 3 months prior to the Commissioning of the first WTG, submit an Operation and Maintenance Programme ("OMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, SEPA, MCA, NLB, RSPB Scotland, the Planning Authority and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The OMP must set out the procedures and

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

good working practices for the operations and maintenance of the WTG's, substructures, and inter-array cable network of the Development. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

Operation and maintenance of the Development must, at all times, proceed in accordance with the approved OMP (as updated and amended from time to time by the Company). Any updates or amendments made to the OMP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

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.

7.) The Company must, no later than 6 months prior to the Commencement of the Development, submit a Cable Plan ("CaP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, MCA and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CaP must be in accordance with the ES. The Development must, at all times, be constructed and operated in accordance with the approved CaP (as updated and amended from time to time by the Company). Any updates or amendments made to the CaP by the Company must be submitted, in writing, by the Company to the Scottish Ministers for their written approval.

The CaP must include the following:

- a. Details of the location and cable laying techniques for the inter array cables;
- b. The results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c. Technical specification of inter array cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- d. A burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures

To ensure Natura issues are considered for the location and construction of the inter array cables.

<p>must be provided;</p> <ul style="list-style-type: none"> <li>e. Methodologies for over trawl surveys of the inter array cables through the operational life of the wind farm where mechanical protection of cables laid on the sea bed is deployed; and</li> <li>f. Measures to address exposure of inter array cables.</li> </ul> <p>8.) The Company must, no later than 6 months prior to the Commencement of the Development, submit a Project Environmental Monitoring Programme (“PEMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the JNCC, SNH, RSPB Scotland, WDC, ASFB and any other ecological advisors as required at the discretion of the Scottish Ministers. The PEMP must be in accordance with the ES as it relates to environmental monitoring.</p> <p>The PEMP must set out measures by which the Company must monitor the environmental impacts of the Development. Monitoring is required throughout the lifespan of the Development where this is deemed necessary by the Scottish Ministers. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.</p> <p>Monitoring should be done in such a way as to ensure that the data which is collected allows useful and valid comparisons as between different phases of the Development. Monitoring may also serve the purpose of verifying key predictions in the ES. Additional monitoring may be required in the event that further potential adverse environmental effects are identified for which no predictions were made in the ES.</p> <p>The Scottish Ministers may agree that monitoring may cease before the end of the lifespan of the Development.</p> <p>The PEMP must cover, but not be limited to the following matters:</p> <ul style="list-style-type: none"> <li>a. Pre-construction, construction (if considered appropriate by the Scottish Ministers) and post-construction monitoring surveys as relevant in terms of the ES and any subsequent surveys for: <ul style="list-style-type: none"> <li>1. Birds;</li> </ul> </li> </ul>	<p>To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken.</p>
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<p>2. Cod; 3. Herring; 4. Sandeels; 5. Diadromous fish; 6. Benthic communities; and 7. Seabed scour and local sediment deposition.</p> <p>b. The participation by the Company in surveys to be carried out in relation to marine mammals as set out in the Marine Mammal Monitoring Programme ("MMMP"); and c. The participation by the Company in surveys to be carried out in relation to regional and strategic bird monitoring.</p> <p>All the initial methodologies for the above monitoring must be approved, in writing, by the Scottish Ministers and, where appropriate, in consultation with the MFRAG. Any pre-consent surveys carried out by the Company to address any of the above species may be used in part to discharge this condition.</p> <p>The PEMP is a live document and must be regularly reviewed by the Scottish Ministers, at timescales to be determined by the Scottish Ministers, in consultation with the MFRAG to identify the appropriateness of on-going monitoring. Following such reviews, the Scottish Ministers may, in consultation with the MFRAG, require the Company to amend the PEMP and submit such an amended PEMP, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation with MFRAG and any other ecological, or such other advisors as may be required at the discretion of the Scottish Ministers. The PEMP, as amended from time to time, must be fully implemented by the Company at all times.</p> <p>The Company must submit written reports of such monitoring surveys to the Scottish Ministers at timescales to be determined by the Scottish Ministers in consultation with the MFRAG. Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Scottish Ministers, or by such other party appointed at their discretion.</p> <p>9.) The Company must participate in any Moray Firth Regional Advisory Group ("MFRAG") established by the</p>	<p>To ensure effective environmental monitoring and</p>
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<p>Scottish Ministers for the purpose of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish. Should a SSMEG be established, the responsibilities and obligations being delivered by the MFRAG will be subsumed by the SSMEG at a timescale to be determined by the Scottish Ministers.</p>	<p>mitigation is undertaken at a Regional scale.</p>
<p>10.) The Company must participate in any Scottish Strategic Marine Environment Group ("SSMEG") established by the Scottish Ministers for the purpose of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish.</p>	<p>To ensure effective environmental monitoring and mitigation is undertaken at a National scale.</p>
<p>11.) Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with the JNCC and SNH, appoint an Ecological Clerk of Works ("ECoW"). The term of appointment for the ECoW shall be from no later than 9 months post consent until the Final Commissioning of the Development.</p>	<p>To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken</p>
<p>The responsibilities of the ECoW must include, but not be limited to:</p> <ul style="list-style-type: none"> <li>a. Quality assurance of final draft version of all plans and programmes required under this consent;</li> <li>b. Provide advice to the Company on compliance with consent conditions, including the conditions relating to the CMS, the EMP, the PEMP, the PS (if required), the CaP and the VMP;</li> <li>c. Monitor compliance with the CMS, the EMP, the PEMP, the PS (if required), the CaP and the VMP;</li> <li>d. Provide reports on point c) above to the Scottish Ministers at timescales to be determined by the Scottish Ministers; and</li> <li>e. Inducting site personnel on site / works environmental policy and procedures.</li> </ul>	
<p>12.) The Company must, to the satisfaction of the Scottish Ministers, participate in the monitoring</p>	<p>To ensure effective monitoring of the effects on migratory fish at a</p>

<p>requirements as laid out in the ‘Scottish Atlantic Salmon, Sea Trout and European Eel Monitoring Strategy’ so far as they apply at a local level (the Moray Firth). The extent and nature of the Company’s participation is to be agreed by the Scottish Ministers in consultation with the MFRAG.</p> <p>13.) The Development must be constructed in accordance with the following wind turbine parameters except to the extent approved, in writing, by the Scottish Ministers under the second part of this condition:</p> <ul style="list-style-type: none"> <li>a. up to a total of 125 turbines;</li> <li>b. a hub height of between 104.64 metres and 115.9 metres (measured from LAT);</li> <li>c. a rotor diameter of up to 154 metres;</li> <li>d. a blade speed of up to 11 revolutions per minute;</li> <li>e. a blade width of up to 5 metres; and</li> <li>f. a maximum blade pitch of 20 degrees.</li> </ul> <p>Should the turbine parameters exceed any of those listed in a. to f. above, but remain within the limits of Annex 1, then the Development must only be constructed following approval by the Scottish Ministers, in writing, within 28 days. The Company must demonstrate that any proposed alterations to parameters a. to f. above would not, taken together, increase the predicted annual collision mortality rate of the East Caithness Cliffs SPA great black-backed gull population attributable to the Development above a predicted 7 per annum, calculated using the agreed Collision Risk Model using the data gathered to prepare the Application.</p>	<p>local level (the Moray Firth).</p> <p>To ensure there is no adverse effect on the integrity of the East Caithness Cliffs SPA in relation to great black-backed gulls.</p>
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#### 4. RESPONSE

##### a) Marine Scotland's Comments

For Marine Scotland advice to other authorities:

Will not adversely affect integrity of the sites
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For Marine Scotland response to request for opinion on effects of permitted development:

Will not adversely affect integrity of the sites
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For Marine Scotland response to application:

Licence process will continue
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<b>Name of assessor:</b>	Finlay Bennet
<b>Date:</b>	29/01/2014
<b>Name of approver:</b>	Gayle Holland
<b>Date:</b>	04/02//2014

## Appropriate Assessment Appendix 1

### Collision Risk – Common Currency by species

GBBGU = great black backed gull, HERGU = herring gull

1		GBBGU, ECC		GBBGU, ECC		HERGU, ECC		HERGU, ECC	
2	CRM	MORL		BOWL		MORL		BOWL	
3	Bird Parameters								
4	Bird Length	0.71		0.71		0.61		0.61	
5	Wing span	1.575		1.575		1.44		1.44	
6	Flight speed	13.7		13.7		12.8		12.8	
7	Noct Activity	2		2		2		2	
8	Flap/Glide	Flapping		Flapping		Flapping		Flapping	
9	Option 1, 2, 3	3		3		3		3	
10	Breeding season	May-Aug		May-Aug		May-Aug		May-Aug	
11	Avoidance Rate	98%		98%		98%		98%	
12	Windfarm scenario	S3.6, M&T 5MW		MLS		S3.6, M&T 5MW		MLS	
13	Annual Collisions	105.2		109.3		136.1		182.09	
14	Breeding Season Collisions	22.6		25.43		20.4		12.72	
15	Non breeding season Collisions	82.6		83.87		115.7		169.37	
16									
17	Collision Apportioning (summer)	morl	Running Tot	bowl	Running Tot	morl	Running Tot	bowl	Running Tot
18	CRM collisions (breeding season)	22.6	22.56	25.43	25.43	20.4	20.40	12.72	12.72
19	Boat-based bias	2	11.28	2	12.72	2	10.20	2	6.36
20	Prop from SPA	0.5	5.64	0.633	8.05	0.375	3.83	0.851	5.41
21	Prop immature birds	0.51	2.88	0.625	5.03	0.43	1.64	0.625	3.38
22	Prop adults	0.49	2.76	0.375	3.02	0.57	2.18	0.375	1.32
23	exclude sabatical adults	0.35	1.80	0.35	1.96	0.35	1.42	0.35	0.46
24	Sub-Total SPA birds (breeding season)	5.64		8.0		3.83		5.41	
25									
26	Collision Apportioning (winter)	morl	Running Tot	bowl	Running Tot	morl	Running Tot	bowl	Running Tot
27	CRM collisions (non-breeding season)		82.63	83.87	83.87		115.70	169.37	169.37
28	Boat-based bias	2	41.32	2	41.94	2	57.85	2	84.69
29	Prop from SPA	0.0136	0.56	0.0136	0.57	0.375	36.16	0.139	11.77
30	Prop immature birds	0.51	0.29	0.625	0.36	0.43	15.55	0.43	5.06
31	Prop adults	0.49	0.28	0.375	0.14	0.57	20.61	0.57	4.36
32	exclude sabatical adults	0.35	0.18	0.35	0.05	0.35	13.40	0.35	1.53
33	remove winter influx adults	1	0.18	1		0.2	2.68	1	
34	remove winter influx immatures	0.5	0.14	0		0.5	7.77	0	
35	Sub-Total SPA birds (breeding season)	0.56		0.57		11.90		11.77	
36	Total (SPA birds, all age classes)	6.20		8.62		15.72		17.18	
37									
38	For use with BOWL PVA outputs		6.20		8.62		15.72		17.18
39	For use with MORL PVA outputs		4.03		5.60		7.19		11.17
40									
43	SUMMARY								
		Project total (all SPA birds, all age classes)	Cummulative total (all SPA birds, all age classes)	Project total (adults excluding sabaticals)	cummulative total (adults excluding sabaticals)	Comparison with PBR values (assuming PBR calculations are based on adult breeding birds excluding sabaticals) should be made with cummulative values in grey cells			
44									
45	BOWL (MLS) GBBGU	8.62	14.82	2.01					
		6.20		1.94	3.95				
46	MORL GBBGU								
47	BOWL (MLS) HERGU	17.18	32.90	1.99	11.18				
48	MORL HERGU	15.72		9.19					

### Displacement - Common Currency by species

GU = guillemot, RA = razorbill, PU = puffin

ECC = East Caithness Cliffs SPA, NCC = North Caithness Cliffs

[illegible]

## **Appropriate Assessment Appendix 2** **Explanation of Common Currency Appraisal**

### **Ornithology assessment**

The common currency approach was developed iteratively, as part of a process to inform the assessment of those species at sites where initial consideration of WCSs indicated a concern. The common currency approach is used to assess the magnitude of effects where a range of potential values could influence the outcome of the assessment. This approach involved MORL and BOWL, JNCC, SNH, and MSS agreeing the parameters which were most appropriate when predicting the levels of impact that MORL and BOWL were likely to have on the bird populations. The common currency allowed numbers to be generated for collision and displacement effects for each species of concern giving a cumulative impact from the two developments. The approach informed changes from WCS to scenarios with lesser effects.

This assessment draws together the key conclusions reached as part of the iterative appraisal process including the development of a 'common currency' for BOWL and MORL.

MSS led on the development of a 'common currency' for these projects and as such the below summarises MSS advice in relation to this approach.

### ***Displacement Effects***

The wind farm location coincided with areas regularly used by a range of seabird species; this includes birds on the surface (and therefore assumed to be using the site for foraging or other maintenance activities), and birds in flight. The SNH and JNCC advice on 8 July 2013 identified a number of outstanding issues relating to displacement effects and these were addressed during the common currency discussions between MORL, BOWL, SNH, JNCC and MSS. Based on the SNH advice of 8 July 2013, species and SPAs of concern due to potential displacement effects were common guillemot at East Caithness Cliffs, razorbill at East Caithness Cliffs and Atlantic puffin at both East Caithness Cliffs and North Caithness Cliffs.

### **Breeding season**

As the SPAs are protected for the breeding populations it is important to establish when the breeding season is. Whilst no differences in approach were identified between the developers and SNCBs, it became apparent that the inclusion of August within the breeding season for puffin was not appropriate due to cessation of provisioning of chicks by adults prior to August and the influx of non-breeding individuals to breeding colonies during August. This increase in numbers was apparent from the at sea abundance estimates during August, and so it was agreed that August should be excluded from the breeding season. Therefore the breeding season was agreed to be April – July for puffin for the purposes of this assessment.

### **Mean seasonal peak**

Both developers used the mean abundance estimates in their assessment rather than the mean seasonal peak advised by the SNCB's. whilst the latter is likely to

overestimate abundance, it provides a precautionary estimate that also aims to address the issue of turnover (see below) and mean seasonal peak has therefore been used in this assessment.

#### All birds vs birds on the water

There were different opinions between the developers and SNCBs as to the most appropriate number to be used in the assessment. The developers argument being that birds in flight are not subject to displacement. The SNCBs advised that all birds should be used in the displacement assessment whilst BOWL and MORL considered that birds on the water or birds “using the water” would be more appropriate. Due to difficulties in objectively assigning birds in flight to ‘using the water’ or transiting, the precautionary value of all birds have been used in this assessment.

#### Turnover

It was agreed that there is no clear method for accounting for turnover of individuals at sea in any assessment (i.e. the number of individuals using a site and therefore potentially displaced as opposed to the ‘snap-shot’ abundance estimate derived from the boat based surveys. Instead, the precautionary mean seasonal peak and all birds values are used.

#### Proportion displaced

The displacement values advised by the SNCBs have been used in this assessment. This has not taken account of the near doubling of turbine spacing associated with BOWL moving from WCS to MLS, nor of the effects of habituation to the presence of turbines that is expected to occur over the lifetime of the wind farm. These levels of displacement are therefore viewed as precautionary. Owing to conflicting advice on the displacement rate, with advice being 50% and 60% at different points in time, the higher displacement rate is used in the assessment. This makes no difference to the overall conclusions.

#### Proportion SPA

BOWL applied an apportioning tool similar to that being developed by SNH to assign effects to colonies whilst MORL used bird flight data. These methods both have merit and have been used in the assessment. However, the approach used by MORL makes it more difficult to assign birds to non-SPA colonies in comparison to the approach being developed by SNH and used by BOWL in the common currency. For puffin, MSS therefore advised MS-LOT that approximately 25% of displacement effects at MORL should be assigned to non-SPA populations following the approach being developed by SNH.

#### Proportion of birds that fail to breed successfully

This has been assumed to be 100% as an absolute worst case scenario.

### **Barrier Effects**

The wind farm location coincided with areas regularly used by a range of seabird species; this includes birds on the surface (and therefore assumed to be using the site for foraging or other maintenance activities), and birds in flight. Due to the difficulties in assessing barrier effects and the difficulty in disentangling them from

displacement effects, they are being dealt with as part of the assessment of displacement .

### ***Collision Effects***

Based on the SNCB advice of 8th July 2013, collision risk to great black-backed gull and herring gull at East Caithness Cliffs were still of concern. A number of outstanding issues relating to collision effects were identified in the SNCB advice and these were addressed during the common currency discussions between MORL, BOWL, SNH, JNCC and MSS. Most of these were captured in the MSS advice to LOT dated 4th September 2013.

#### ***Bird parameters***

There was agreement on the bird parameters (wingspan, flight speed etc.) used in the collision risk models, as detailed in the collision risk common currency spreadsheet above.

#### ***Nocturnal activity***

Differences in opinion between the SNCBs and BOWL and MORL existed in the degree of nocturnal activity exhibited by the two gull species. The approach taken in this assessment is that set out and justified in the MSS advice of 4th September 2013, with nocturnal activity levels of 2 used (this equates to 25% of the daytime values being at risk from collision). This reduction in nocturnal activity is due to fewer individuals being present in the vicinity of the wind farms at night or spending more time on the water at night and therefore at less risk from collision.

#### ***Extended Band Model (Option 3) and Avoidance Rates***

As per the Renewables Scientific Advisory Group (RSAG) (SNCB & MSS) advice, this assessment is based on the use of the extended version of the Band collision risk model (option 3).

Arguments presented by the developers for increasing avoidance rates were considered but RSAG do not consider that the case for increasing avoidance rates is currently merited.

#### ***Breeding season***

The breeding seasons for both gulls of May-August used in the common currency are those used in the ES submitted by BOWL and MORL. This reflects the median date of laying of mid-May and also ensures that birds wintering or passing through the region during April are not assigned to the breeding population.

#### ***Wind farm scenario***

Initial advice was based only on BOWL and MORL WCS but the common currency spreadsheet results are based on BOWL MLS combined with MORL WCS.

#### ***Boat based bias***

Gulls and other opportunistic seabird species often utilise discards from fishing activities, with large numbers of gulls and other species often occurring in close proximity to fishing vessels. There is also evidence that a range of seabird species are attracted to survey vessels, presumably due to the perception of foraging



opportunities, and that abundance estimates can therefore be artificially inflated. The developers estimated that a correction factor of 4 should be applied to account for this based on comparisons between boat based and aerial survey data. For this assessment a correction factor of 2 is used to account for gull attraction to survey vessels as although the bias is highly likely to occur the magnitude of any overestimate is based on limited data. MSS therefore recommended a correction value of 2.0. This halves the original estimate and is seen as precautionary.

#### Apportioning to breeding colony

BOWL applied an apportioning tool similar to that being developed by SNH to assign effects to colonies whilst MORL used bird flight data. These methods both have merit and have been used in the assessment. For gulls, both developers assigned effects to SPA and non-SPA colonies.

#### Accounting for sabbatical birds

Both MORL and BOWL had included 'sabbatical' birds i.e. adult birds within the population that did not breed each year. The common currency process enabled calculation of an "all breeding birds" metric for comparison against PBR values and a metric of "birds of all age classes" for comparison against PVA/ABC values.

#### Winter influx birds

Large numbers of birds from northern Europe and Russia move into the area for the winter period and this was accounted for by both developers. An appropriate proportion of collisions during the non-breeding season were therefore assigned to this influx population.

#### Bird Metric Note

A note confirming that the impacts predicted from the common currency spread sheet on the great black backed gull East Caithness Cliffs SPA population was within the thresholds set using both PBR and ABC was agreed between MSS, SNH and JNCC on 22<sup>nd</sup> November 2013.

### **Appropriate Assessment Appendix 3**

#### **Outline of the Acceptable Biological Change (“ABC”) method for using population model forecasts to inform assessment of managed effects upon populations**

Author: Finlay Bennet, MSS

##### **Introduction**

This document outlines a tool called Acceptable Biological Change that uses probabilistic forecasts from population models to inform management decisions. ABC is a risk based approach to the management of populations, allowing managers to demonstrate a consistent and transparent approach to risk in the context of the best available evidence and the associated inherent scientific uncertainty. ABC ensures that managers’ actions will not result in significant additional risk to the populations of concern.

##### **The ABC Method**

Effects of managed activities can be assessed for their impacts on populations by the construction of models. Data on the historical changes to the population’s size and vital rates (productivity and survival) are processed through the model to provide forecasts of future population change. The additional change as a consequence of any effect can also be forecast. Forecasts can be presented as either a deterministic output (in year  $x$  the population size will be  $y$ ) or as a probabilistic output (in year  $x$  the probability that the population size will be  $y$  is  $z$ ).

ABC requires probabilistic outputs from population models and is a risk based approach that is informed by the inherent uncertainty associated with population forecasts and the consequences of managed activities. Population models provide managers with the following outputs that are used in the ABC tool:

- A baseline forecast i.e. the forecast for the population that is as likely as not. This will have a probability of 0.5 (how 0.5 has been calculated being a matter of statistical preference).
- A forecast for the population’s management objective, and a probability estimate for that objective.

Consistent treatment of uncertainty for any given outcome is of importance to managers. ABC is based upon guidance produced by the Intergovernmental Panel on Climate Change (“IPCC”) on the consistent use of language in relation to the treatment of uncertainties <http://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf> (Mastrandrea *et al*, 2010).

There are two factors in any assessment using the probabilistic outputs of population models that need to be clearly agreed:

1. the management objective for the population must be defined (as a quantity over a timescale), and

2. the acceptable change in the likelihood of the objective occurring can be considered.

Each of these steps are considered in turn below.

1. The management objective requires a specified quantity and timescale. This allows assessment using ABC. The appropriate point in time is contained within the period forecast by the population model. It could be when the managed activity ceases, or some agreed point in time after to account of any recovery towards baseline conditions, or some other point within the forecast period. The rationale for the choice of objective timescale should be agreed and presented. The management objective also needs to be quantified e.g. in terms of any level above x, or below y at the appropriate timescale. These targets might be based on a historic population size, or a forecast size. As with timescale, the rationale behind the choice of quantity should be presented.
2. Use can then be made of the IPCC guidance on consistent use of terms that describe uncertainty. The risk of not meeting the management objective would be considered on the basis of the likelihood changing beyond a level considered acceptable, as defined by the ABC tool.

Table 1. IPCC calibrated language for describing and quantifying uncertainty

Likelihood Scale	
Term	Probability (P)
<i>Virtually certain</i>	>0.991
<i>Extremely likely</i>	0.951-0.990
<i>Very likely</i>	0.901-0.950
<i>Likely</i>	0.668-0.900
<i>About as likely as not</i>	0.333-0.667
<i>Unlikely</i>	0.101-0.332
<i>Very unlikely</i>	0.051-0.100
<i>Extremely unlikely</i>	0.011-0.050
<i>Exceptionally unlikely</i>	<0.01

The simplest form of undertaking ABC is to define a management objective using the outputs of the population model. The population size that is as likely as not over the defined forecast period will be identified in the model outputs as the scenario with a probability of 0.5. The probability of the forecast population moving into another likelihood outcome as a consequence of the managed activity can then be considered. The ABC tool allows up to a one third change in probability of the agreed objective to occur, with the probability of decline with the addition of a managed activity remaining in the “about as likely as not” likelihood category i.e. effects that change the probability of decline from 0.5 to anywhere in the range up to 0.667 would be considered acceptable.

The ABC tool also allows managers to select a management objective that is different to the baseline forecast population size. The reasons for doing this should always be clearly presented, given the important influence the choice of objective has on the outcome of an assessment.

When the probability of achieving an agreed management objective differs from the “as likely as not” 0.5 forecast for the population, the need to consistently treat the acceptable level of change arises. Managers would need to accept increasingly less change if an objective is already unlikely to occur, and would be expected to accept greater levels of risk if an objective is highly likely to occur. If the starting point for identifying an acceptable level of change is to accept a one third additional change when the probability of the objective occurring is 0.5 (e.g. the change from 0.5 to 0.667), then we can formally express this relationship as:

$$ABC = P + (1 - P) / 3$$

Where P is the probability of the management objective. If P is 0, then ABC = 0.333

Table 2 below outlines use of the ABC tool when the management objective differs from 0.5. The method enables a consistent and seamless transition across risk categories as defined by IPCC.

Table 2. ABC in relation to an objective\*

<b>Likelihood Terminology</b>	<b>Probability (P) range for management objectives</b>	<b>P range for the Acceptable Biological Change</b>
Virtually certain	>0.991	>0.994
Extremely likely	0.951-0.990	0.967-0.993
Very likely	0.901-0.950	0.934-0.967
Likely	0.668-0.900	0.779-0.933
About as likely as not	0.333-0.667	0.555-0.778
Unlikely	0.101-0.332	0.401-0.555
Very unlikely	0.051-0.100	0.367-0.400
Extremely unlikely	0.011-0.050	0.341-0.367
Exceptionally unlikely	<0.01	<0.340

\* the ABC equation of  $P + (1 - P) / 3$  assumes the IPCC terminology are being applied in relation to the risk of an outcome not occurring e.g. in table 1 applying ABC to the “likely” category using  $P + (1 - P) / 3$  would mean that it was considered “likely” the objective would not be achieved. The equation can be reversed to  $ABC = P - (P / 3)$  if the IPCC likelihood terms are reversed e.g. the same outcome is then derived as above based an objective that is “unlikely” to occur.

## **ANNEX F – PUBLIC REPRESENTATIONS**

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED**

### **SUMMARY**

A total of forty seven (47) valid public representations were received by Marine Scotland during the course of the public consultation exercise. Of these, two (2) representations were in support; and forty five (45) representations objected to the Development.

### **Representations Supporting**

Representations in support of the application were received from the Royal Burgh of Tain Community Council and one member of the public.

Representations which noted support for the project were of the belief that the Development would help to reduce global warming and support Scottish Government's policy for renewable energy. The potential for job creation was highlighted and the point was made that the Development should provide work for all of the Fabrication yards in Scotland in particular the old Mcdermott yard, the Nigg and Isle of Lewis fabrication yards. Emphasis was put on the importance of fabricating the windfarm components in Scotland.

### **Representations Objecting**

Representations objecting to the application were received from 41 members of the public, four from groups with salmon interests (Ness & Beaully Fisheries Trust, Moray & Pentland Firth Salmon Protection Group, Beaully District Fishery Board, and Wellbeck Estates who are owners and managers of Langwell and Braemore Estates).

Objections to the development cited concerns regarding: effects on marine life including disturbance of marine mammals, impacts on seabirds, migratory geese and benthic ecology; effects on Atlantic salmon and sea trout; hazards to fishing; the potential for the blue carbon effect; hazards to DIO, shipping and aviation in the area; visual impacts and impacts on tourism and cumulative presence in the Moray Firth with the MORL proposal

Other concerns raised included issues such as wind being an unreliable and expensive form of energy; subsidies to the industry being too high, the failure to meet

the requirements of the Aarhus convention, and a potential cause of the blue carbon effect.

## **ANNEX G – DEVELOPMENT LOCATION**

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE CONSTRUCTION AND OPERATION OF THE BEATRICE OFFSHORE WIND FARM ELECTRICITY GENERATING STATION, OUTER MORAY FIRTH, APPROXIMATELY 25 KM SOUTH EAST OF WICK, CAITHNESS.**

**APPLICATION FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA WHERE STRUCTURES FORMING PART OF THE OFFSHORE WIND FARM ARE TO BE LOCATED**

See figure overleaf: Figure 1. Beatrice Offshore Wind Farm and Export Cable Location

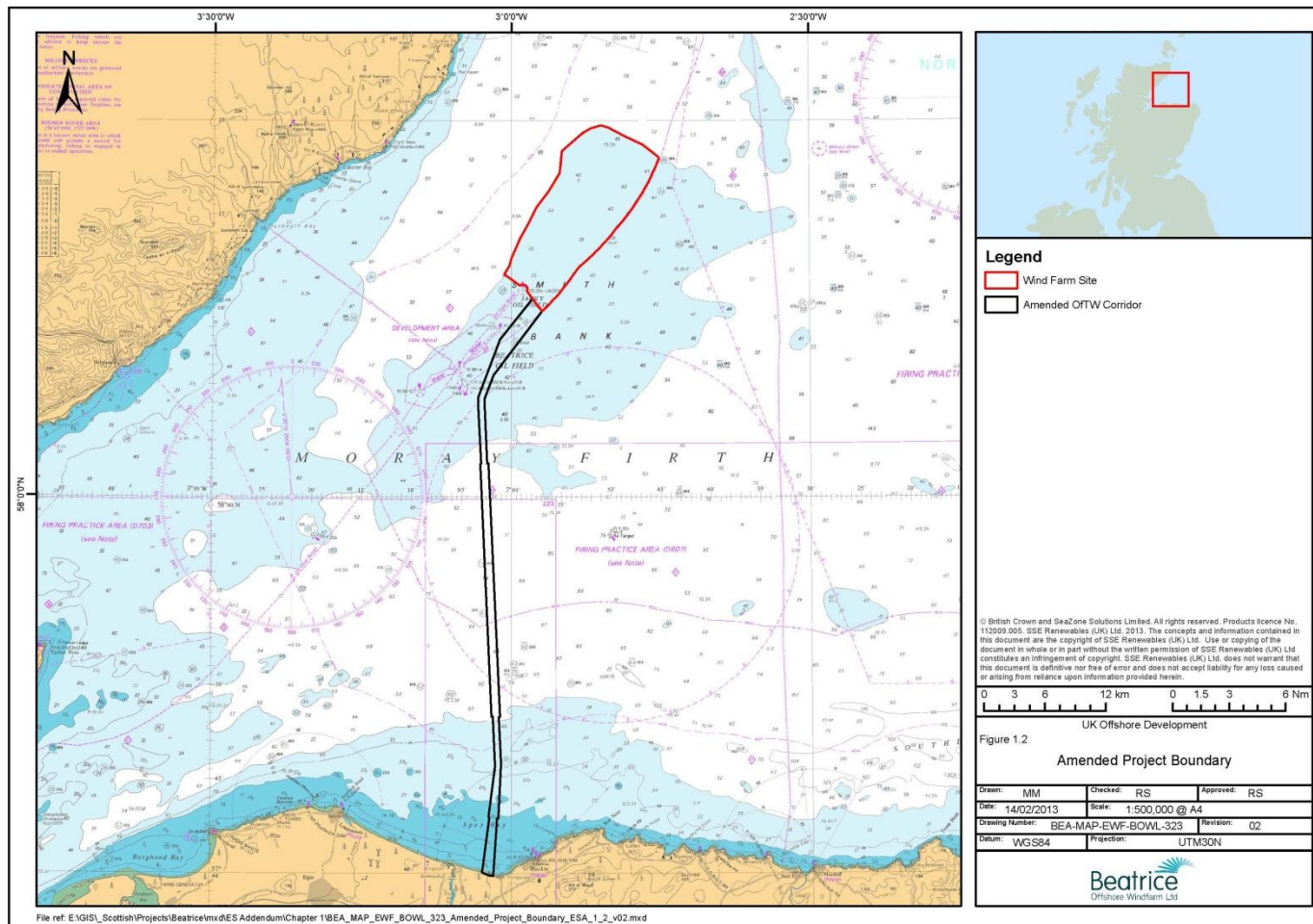


Figure 1. Beatrice Offshore Wind Farm and Export Cable Location



## **ANNEX H – SECTION 36A DRAFT DECLARATION**

### **DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 RELATING TO PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THE LOCATIONS IN THE SEA WHERE THOSE STRUCTURES FORMING PART OF THE BEATRICE OFFSHORE WIND FARM GENERATING STATION ARE TO BE PLACED**

The Scottish Ministers, in exercise of the powers conferred on them by section 36A of the Electricity Act 1989 (“the Electricity Act”) and all other powers enabling them to do so, make the following declaration.

In accordance with section 36A(1) and 36A(2) of the Electricity Act, the application for this declaration was made to the Scottish Ministers at the same time as an application was made to them by Beatrice Offshore Windfarm Limited (“the Company”) under section 36 of the Electricity Act for the construction and operation of the Beatrice Offshore Wind Farm generating station, which is to comprise of renewable energy installations. This declaration is made at the same time as consent is granted under section 36 of the Electricity Act for the construction and operation of the Beatrice Offshore Wind Farm generating station.

In this declaration the “plan folio” means the plan folio number BEA-MAP-SSER-313, entitled “Indicative Turbine Layout”, and signed with reference to this declaration and attached hereto. The Beatrice Offshore Wind Farm generating station is to be constructed within the area delineated on the plan folio by a solid red line, as more specifically described by a line joining the co-ordinates listed at lines 1 – 98 in the table attached to this declaration (the “Area”).

Consent under section 36 of the Electricity Act is granted by the Scottish Ministers for the construction and operation of the Beatrice Offshore Wind Farm generating station in the Area, subject to the following parameters:

- a) the total number of turbines shall be up to 140;
- b) the total number of sub-stations shall be up to 3;
- c) the total number of meteorological masts shall be up to 3; and
- d) the distance between turbines shall be not less than 924 metres.

The wind turbines, sub-stations and meteorological masts to be constructed in accordance with the consent are identified, for the purposes of section 36A(5)(a) of the Electricity Act, as the proposed renewable energy installations by reference to which this declaration is made (the “Renewable Energy Installations”).

The Scottish Ministers declare that, in accordance with section 36A(3) of the Electricity Act, the public rights of navigation in the Area in so far as they pass through the locations where the Renewable Energy Installations are to be situated, are extinguished.

It is a requirement of the consent (conditions 10 and 13 at **DECISION LETTER AND CONDITIONS, Annex 2**) that the Company must submit to the Scottish Ministers, for their approval, a Construction Programme which must set out, amongst other

matters, the proposed date for the commencement of the construction of the generating station and a Development Specification and Layout Plan for the Renewable Energy Installations ("the Plan"), both no later than 6 months prior to the commencement of the construction of the generating station. In accordance with section 36A(5)(b) of the Electricity Act this declaration shall come into force on a date to be publicised by the Company, the publication of which must be as soon as reasonably practicable following the approval by the Scottish Ministers of the Plan.

Subscribed by [                      ]

being an officer of the Scottish Ministers

at [Edinburgh]

on the [   ] day of [March] 2014

before this witness

*[name and place of signing witness]*

## TABLE OF CO-ORDINATES FOR THE OUTER BOUNDARY OF THE BEATRICE OFFSHORE WIND FARM GENERATING STATION

Coordinates supplied in World Geodetic System  
1984, latest revision.

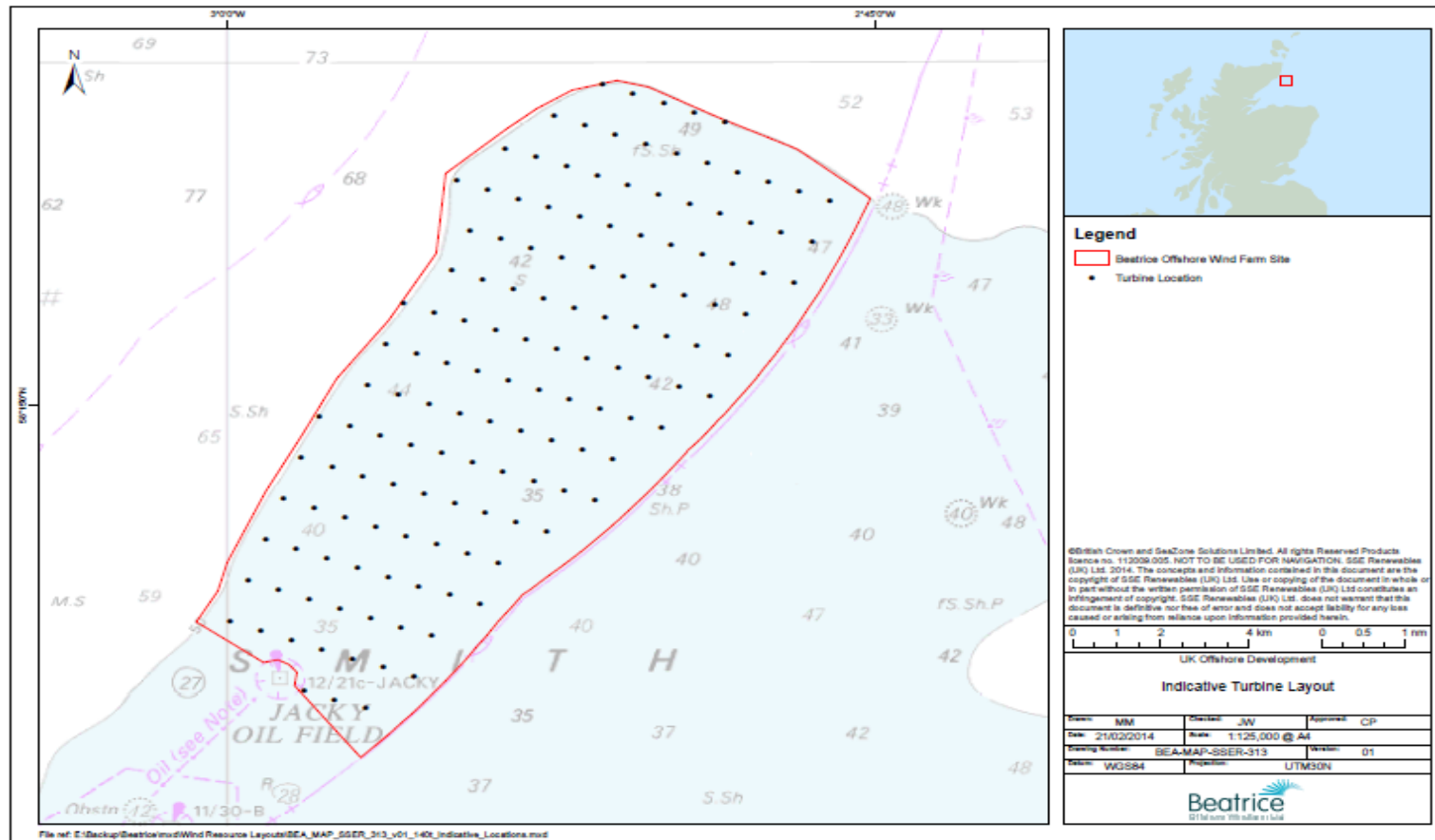
ID	Latitude (dd)	Longitude (dd)	Latitude (ddm)	Longitude (ddm)	Easting (m) UTM30N	Northing (m) UTM30N
1	58.164902	-2.949725	58 9.894' N	2 56.984' W	502958.041309	6447070.551340
2	58.167034	-2.952803	58 10.022' N	2 57.168' W	502776.774241	6447307.788820
3	58.167048	-2.952824	58 10.023' N	2 57.169' W	502775.537643	6447309.346660
4	58.167685	-2.953744	58 10.061' N	2 57.225' W	502721.362020	6447380.230220
5	58.173027	-2.961458	58 10.382' N	2 57.687' W	502267.187245	6447974.702250
6	58.173041	-2.961479	58 10.382' N	2 57.689' W	502265.951054	6447976.260250
7	58.181887	-2.974260	58 10.913' N	2 58.456' W	501513.748328	6448960.782190
8	58.185072	-2.973510	58 11.104' N	2 58.411' W	501557.715899	6449315.405450
9	58.187022	-2.976460	58 11.221' N	2 58.588' W	501384.168536	6449532.447010
10	58.188113	-2.980767	58 11.287' N	2 58.846' W	501130.879266	6449653.834690
11	58.187513	-2.986268	58 11.251' N	2 59.176' W	500807.440119	6449586.953780
12	58.197335	-3.012053	58 11.840' N	3 0.723' W	499291.480395	6450680.481830
13	58.204833	-3.003938	58 12.290' N	3 0.236' W	499768.558662	6451515.227340
14	58.211750	-3.000218	58 12.705' N	3 0.013' W	499987.190349	6452285.336980
15	58.229033	-2.985400	58 13.742' N	2 59.124' W	500857.477206	6454209.666770
16	58.242790	-2.971430	58 14.567' N	2 58.286' W	501677.304302	6455741.595970
17	58.256492	-2.958090	58 15.390' N	2 57.485' W	502459.527893	6457267.551620
18	58.270627	-2.938010	58 16.238' N	2 56.281' W	503636.493364	6458842.218680
19	58.286938	-2.919581	58 17.216' N	2 55.175' W	504715.417606	6460659.394710
20	58.306273	-2.915872	58 18.376' N	2 54.952' W	504930.207831	6462812.385590
21	58.317048	-2.892585	58 19.023' N	2 53.555' W	506292.996596	6464013.998740
22	58.322068	-2.880738	58 19.324' N	2 52.844' W	506986.072417	6464574.086880
23	58.326500	-2.867120	58 19.590' N	2 52.027' W	507782.806567	6465069.033570

24	58.328830	-2.849720	58 19.730' N	2 50.983' W	508801.347763	6465330.595900
25	58.327282	-2.837565	58 19.637' N	2 50.254' W	509513.636509	6465159.897020
26	58.319608	-2.809798	58 19.176' N	2 48.588' W	511142.330017	6464309.744560
27	58.313116	-2.784348	58 18.787' N	2 47.061' W	512635.542849	6463591.429860
28	58.312692	-2.782690	58 18.762' N	2 46.961' W	512732.841003	6463544.534780
29	58.312067	-2.780240	58 18.724' N	2 46.814' W	512876.620610	6463475.414300
30	58.300934	-2.754206	58 18.056' N	2 45.252' W	514406.577715	6462241.161600
31	58.300928	-2.754193	58 18.056' N	2 45.252' W	514407.342112	6462240.496350
32	58.300067	-2.752181	58 18.004' N	2 45.131' W	514525.622740	6462145.066620
33	58.300062	-2.752170	58 18.004' N	2 45.130' W	514526.269539	6462144.512310
34	58.299334	-2.752694	58 17.960' N	2 45.162' W	514495.853629	6462063.345400
35	58.296100	-2.755164	58 17.766' N	2 45.310' W	514352.383914	6461702.749690
36	58.292892	-2.757711	58 17.574' N	2 45.463' W	514204.363144	6461345.037940
37	58.289707	-2.760382	58 17.382' N	2 45.623' W	514049.035964	6460989.866870
38	58.286547	-2.763164	58 17.193' N	2 45.790' W	513887.162206	6460637.462660
39	58.284852	-2.764695	58 17.091' N	2 45.882' W	513798.049724	6460448.430610
40	58.283009	-2.766399	58 16.981' N	2 45.984' W	513698.840790	6460242.887450
41	58.279897	-2.769382	58 16.794' N	2 46.163' W	513525.098306	6459895.801890
42	58.276819	-2.772462	58 16.609' N	2 46.348' W	513345.623025	6459552.490430
43	58.273764	-2.775650	58 16.426' N	2 46.539' W	513159.772838	6459211.726990
44	58.270743	-2.778931	58 16.245' N	2 46.736' W	512968.422387	6458874.740070
45	58.267754	-2.782306	58 16.065' N	2 46.938' W	512771.512886	6458541.307590
46	58.264790	-2.785791	58 15.887' N	2 47.147' W	512568.107204	6458210.648030
47	58.261866	-2.789370	58 15.712' N	2 47.362' W	512359.137767	6457884.435380
48	58.258967	-2.793042	58 15.538' N	2 47.583' W	512144.667736	6457561.000630
49	58.256109	-2.796807	58 15.367' N	2 47.808' W	511924.690857	6457242.126070
50	58.253284	-2.800667	58 15.197' N	2 48.040' W	511699.091833	6456926.921570
51	58.250491	-2.804621	58 15.029' N	2 48.277' W	511467.928985	6456615.276910
52	58.247740	-2.808668	58 14.864' N	2 48.520' W	511231.257178	6456308.306590
53	58.246356	-2.810777	58 14.781' N	2 48.647' W	511107.891049	6456153.866350
54	58.245020	-2.812809	58 14.701' N	2 48.769' W	510989.020687	6456004.786730

55	58.242343	-2.817028	58 14.541' N	2 49.022' W	510742.154600	6455706.056930
56	58.239706	-2.821340	58 14.382' N	2 49.280' W	510489.778968	6455411.781710
57	58.238882	-2.822715	58 14.333' N	2 49.363' W	510409.289188	6455319.826750
58	58.238346	-2.823481	58 14.301' N	2 49.409' W	510364.469882	6455260.032010
59	58.235594	-2.827529	58 14.136' N	2 49.652' W	510127.572478	6454953.017020
60	58.232882	-2.831655	58 13.973' N	2 49.899' W	509886.046550	6454650.458410
61	58.230203	-2.835874	58 13.812' N	2 50.152' W	509639.012829	6454351.575520
62	58.227565	-2.840186	58 13.654' N	2 50.411' W	509386.468658	6454057.260060
63	58.225406	-2.843827	58 13.524' N	2 50.630' W	509173.176481	6453816.382380
64	58.224788	-2.844890	58 13.487' N	2 50.693' W	509110.897179	6453747.432000
65	58.222232	-2.849359	58 13.334' N	2 50.962' W	508849.032061	6453462.259570
66	58.219717	-2.853922	58 13.183' N	2 51.235' W	508581.597081	6453181.657440
67	58.217243	-2.858579	58 13.035' N	2 51.515' W	508308.591996	6452905.626730
68	58.214811	-2.863298	58 12.889' N	2 51.798' W	508031.896527	6452634.283740
69	58.212419	-2.868096	58 12.745' N	2 52.086' W	507750.512448	6452367.404610
70	58.210077	-2.872987	58 12.605' N	2 52.379' W	507463.615003	6452106.102120
71	58.207784	-2.877940	58 12.467' N	2 52.676' W	507173.026285	6451850.269440
72	58.205532	-2.882971	58 12.332' N	2 52.978' W	506877.808018	6451599.015030
73	58.204039	-2.886409	58 12.242' N	2 53.185' W	506676.036571	6451432.443870
74	58.203907	-2.886582	58 12.234' N	2 53.195' W	506665.893646	6451417.730320
75	58.201119	-2.890534	58 12.067' N	2 53.432' W	506434.127699	6451106.939990
76	58.198363	-2.894582	58 11.902' N	2 53.675' W	506196.676688	6450799.717310
77	58.197596	-2.895722	58 11.856' N	2 53.743' W	506129.797373	6450714.218000
78	58.197382	-2.896004	58 11.843' N	2 53.760' W	506113.257264	6450690.366390
79	58.197134	-2.896332	58 11.828' N	2 53.780' W	506094.018717	6450662.725240
80	58.196878	-2.896645	58 11.813' N	2 53.799' W	506075.663033	6450634.194850
81	58.194016	-2.900410	58 11.641' N	2 54.025' W	505854.810517	6450315.216780
82	58.191193	-2.904270	58 11.472' N	2 54.256' W	505628.330805	6450000.585360
83	58.188404	-2.908208	58 11.304' N	2 54.492' W	505397.223648	6449689.746230
84	58.185647	-2.912256	58 11.139' N	2 54.735' W	505159.607227	6449382.475080
85	58.182932	-2.916381	58 10.976' N	2 54.983' W	504917.419950	6449079.888820

86	58.180258	-2.920584	58 10.815' N	2 55.235' W	504670.602960	6448781.876880
87	58.177617	-2.924897	58 10.657' N	2 55.494' W	504417.274954	6448487.547330
88	58.175016	-2.929289	58 10.501' N	2 55.757' W	504159.257818	6448197.682680
89	58.172456	-2.933757	58 10.347' N	2 56.025' W	503896.727771	6447912.395330
90	58.169947	-2.938321	58 10.197' N	2 56.299' W	503628.507163	6447632.798460
91	58.167695	-2.942526	58 10.062' N	2 56.552' W	503381.345398	6447381.851150
92	58.167691	-2.942533	58 10.061' N	2 56.552' W	503380.933949	6447381.405450
93	58.167469	-2.942946	58 10.048' N	2 56.577' W	503356.656993	6447356.668230
94	58.165042	-2.947664	58 9.903' N	2 56.860' W	503079.292712	6447086.230630
95	58.164529	-2.948696	58 9.872' N	2 56.922' W	503018.616394	6447029.068610
96	58.164529	-2.948696	58 9.872' N	2 56.922' W	503018.616394	6447029.068610
97	58.164414	-2.948928	58 9.865' N	2 56.936' W	503004.975714	6447016.254620
98	58.164898	-2.949718	58 9.894' N	2 56.983' W	502958.453502	6447070.106300

# PLAN FOLIO NUMBER BEA-MAP-SSER-313



Subscribed by [ ] being an officer of the Scottish Ministers at [Edinburgh ] on the [ ] day of [March] 2014