

Marine Works (Environmental Impact Assessment) Regulations 2007 (Regulation 22)

Environmental Impact Assessment Consent Decision

Project Title: Beatrice Offshore Windfarm

Applicant: Beatrice Offshore Windfarm Limited (BOWL)

Location: Outer Moray Firth

1. Introduction

This document constitutes an environmental impact assessment (“EIA”) consent decision under regulation 22 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) (“MWR”), in respect of an application which has been submitted by: Beatrice Offshore Windfarm Limited (“BOWL”) to Marine Scotland, the licensing authority on behalf of the Scottish Ministers, for:

- i. A marine licence to be considered under the Marine (Scotland) Act 2010 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;
- ii. A marine licence to be considered under the 2010 Act and the Marine and Coastal Access Act 2009 (as amended) 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 works described in the applications comprises a project listed at Annex II of the Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (“the EIA Directive”). The EIA Directive has been transposed into UK law for marine works (including works requiring a marine licence) by the MWR. The project in this instance comprises the marine elements of the Beatrice Offshore Windfarm, outer Moray Firth..

The application made to Marine Scotland was supported by an Environmental Statement (“ES”) as required by regulation 12 of the MWR. BOWL were required to produce further information in support of their application and submitted a Supplementary Environmental Information Statement (“SEIS”) as required by regulation 14 of the MWR.

2. Project Description

An offshore wind turbine generating station (“the Development”) located in the outer Moray Firth, approximately 25 km from Wick, 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 8MW;
- for each wind turbine generator, a substructure (either a mono-tower 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
- inter array cabling to the connection point on the offshore sub-station platforms
- up to 3 offshore substation platforms
- up to 3 meteorological masts

The BOWL site is adjacent to the Moray Offshore Renewables Limited (“MORL”) Eastern Development Area (“EDA”), comprising the Telford Offshore Windfarm, the Stevenson Offshore Windfarm and the MacColl Offshore Windfarm.

3. The Environmental Statement

The principal potential impacts identified and discussed in the ES were:

- physical processes
- benthic ecology
- fish and shellfish ecology
- marine mammals
- ornithology
- seascape, landscape and visual impact
- marine archaeology and cultural heritage
- commercial fisheries
- airborne noise
- shipping and navigation
- aviation
- socio-economics, recreation and tourism

3.1 Environmental sensitivities

Scottish Natural Heritage (“SNH”) and the Joint Nature Conservation Committee (“JNCC”) advised that the Development has the potential to impact upon protected sites. On reviewing the original ES, SNH and the JNCC advised that the development would impact on qualifying interests of various Special Protection Areas (“SPAs”) and Special Areas of Conservation (“SACs”). SNH and the JNCC also advised that, as the competent authority, Marine Scotland would be required to undertake an Appropriate Assessment (“AA”) in view of the conservation objectives for the sites. Figure 1 below shows the protected sites which were subject to an AA.

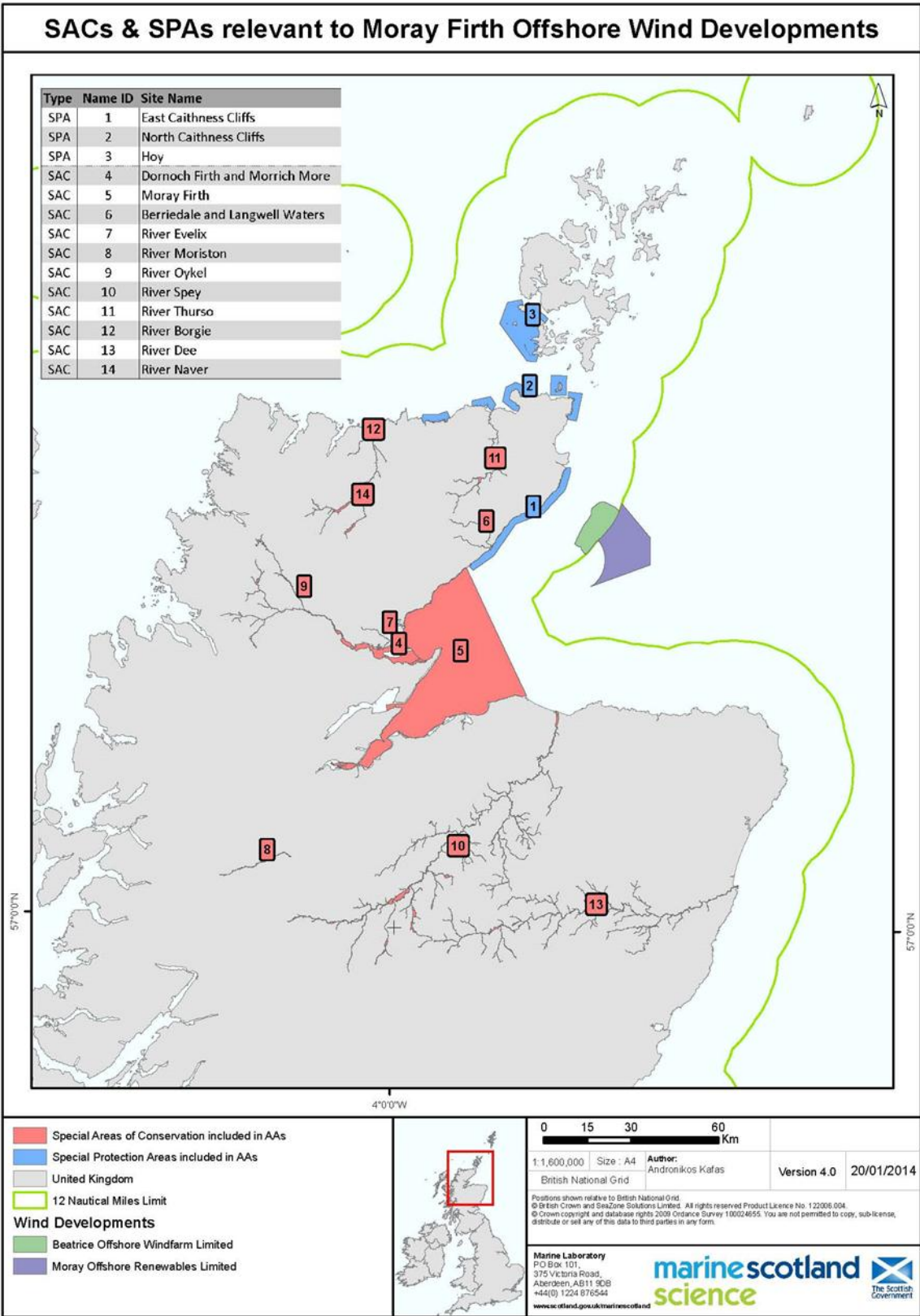


Figure 1. Location of the BOWL and MORL wind farm developments in the Moray Firth and the relevant SPAs and SACs.

3.2 The appropriate assessment

The proposed works did require an appropriate assessment under Section 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 and Section 25 of the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007. As the windfarm lies within 12 nm and part of the cable route is out with 12nm, and because the assessment is a cumulative assessment with the MORL EDA which is out with 12 nm, both sets of regulations apply. The appropriate assessment concluded, subject to appropriate conditions being attached to any consent, the BOWL development alone or in-combination with MORL would not adversely affect the integrity of the Natura sites that could be potentially impacted by the development.

4. Consultation

This section summaries the project consultation undertaken by Marine Scotland in 2012 (application and ES) and 2013 (SEIS)

4.1 Public consultation

In accordance with Regulation 16 (1) (b) of the MWR Marine Scotland instructed BOWL to place a public notice in newspapers for two successive weeks. These public notices were “combined” with those required under The Electricity Works (Environmental Impact Assessment) Regulations 2000 (as amended). Public notices were placed for the original application and ES and later the SEIS. The public notices contained details of:

- the applicant's name and address
- that an application had been made under the MWR and Part 4 of the Marine (Scotland) Act 2010/ Marine and Coastal Access Act 2009
- a statement of the nature and location of the project
- the address details of where the application and ES could be inspected during office hours
- notice that parties could make such requests and representations within 42 days of the first notice date

Notice of the application and ES appeared in the following publications:

Banffshire Journal	01.05.12 & 08.05.12
Edinburgh Gazette	01.05.12 & 08.05.12
Inverness Courier	04.05.12 & 11.05.12
Northern Scot	04.05.12 & 11.05.12
Northern Times	04.05.12 & 11.05.12
Press and Journal	30.04.12 & 07.05.12
The Scotsman	27.04.12 & 08.05.12
John O’Groat Journal	04.05.12 & 11.05.12
Caithness Courier	02.05.12 & 09.05.12

Notice of the SEIS appeared in the following publications:

Banffshire Journal	04.06.13 & 11.06.13
Edinburgh Gazette	04.06.13 & 11.06.13
Inverness Courier	07.06.13 & 14.06.13
Northern Scot	07.06.13 & 14.06.13
Northern Times	07.06.13 & 14.06.13
Press and Journal	06.06.13 & 13.06.13
The Scotsman	03.06.13 & 10.06.13
John O'Groat Journal	07.06.13 & 14.06.13
Caithness Courier	05.06.13 & 12.06.13

The application, ES and SEIS were made available for public inspection at the following locations:

The Highland Council
Planning Office
Glenurquhart Road
Inverness
IV3 5NX

Caithness Planning
Office
Market Square
Wick
KW1 4AB

Brora Library
Gower Street
Brora
KW9 6PD

Moray Council
Planning Office
High Street
Elgin
IV30 1BX

Helmsdale Library and
Service Point
Dunrobin Street
Helmsdale
KW8 6JX

Buckie Library
Cluny Place
Buckie
AB56 1HB

Marine Scotland received 2 public representations in support of the application and 45 public representations objecting to the application. 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, fishing industry, navigation, aviation and tourism. Negative visual impact and wind energy being unreliable and highly subsidised were also cited as a reasons for objecting in a number of representations received, as well as being non-compliant with the Aarhus Convention and the potential for the Development to cause the blue carbon effect..

4.2 Consultees

As part of the consideration of the application and ES, Marine Scotland conducted a consultation with advisory and regulatory bodies for comment on the validity of the ES document and the conclusions of environmental impact drawn. The consultation opened on the ES opened on the 27th April 2012 and closed on the 8th June 2012 with Local Authorities permitted additional time in accordance with The Electricity (Applications For Consent) Regulations 1990 (as amended). A second consultation

was undertaken on the SEIS and opened on the 4th June 2013 and closed on the 15th July 2013. Extensions to provide comments were permitted to consultees if required.

4.2.1 Consultee List

The application, the ES, and later the SEIS were sent to:

Consultee	Consultee
Association of Salmon Fishing Boards	Marine Scotland Compliance
Bond Offshore Helicopters	Marine Scotland Science
Bristows Helicopters	Moray Council
British Telecom	MORL
Chamber of Shipping	National Air Traffic Services
Civil Aviation Authority	Northern Lighthouse Board
CHC Helicopters	PA Resources UK LTD
Cromarty Firth Port Authority	Royal Yachting Association (Scotland)
Crown Estate	Royal Society for the Protection of Birds
Defence Infrastructure Organisation	Scallop Association
Health & Safety Executive	Scottish Canoe Association
Highland Council	Scottish Environment Protection Agency
Highlands and Islands Airports	Scottish Fisherman's Federation
Historic Scotland	Scottish Fisherman's Organisation
Inshore Fisheries Group	Scottish Natural Heritage & Joint Nature Conservation Committee
Ithaca Energy	Scottish Wildlife Trust
Joint Radio Company	Surfers Against Sewage
Maritime and Coastguard Agency	Transport Scotland (Including Ports & Harbours Branch)
Marine Safety Forum	University of Aberdeen
Moray Firth Partnership	Whale & Dolphin Conservation Society
Moray Firth Sea Trout Project	

4.2.2 Consultee Responses

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 Wind Turbine Generators (“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 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. Where appropriate, enforceable conditions will be attached to any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 setting up of this Group will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

Scottish Natural Heritage (“SNH”) and the Joint Nature Conservation Committee (“JNCC”), statutory consultees, provided a joint interim response to the Application on 19th 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 puffin is 62 km) 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 8th 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 development;
- **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 development;
- **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 development;
- **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 development;
- **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 development;
- **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 development.

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 MORL wind farms) 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 29th 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 31st October 2013. Clarification was sought on the great black-backed gull threshold of 6 birds during a teleconference on the 21st 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”) will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted. 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 windfarm 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 development being 22 km from shore. SNH suggested that the BOWL and MORL developments are likely to be perceived as one 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 BOWL, rather than MORL 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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/or any marine licence granted

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 and will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 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 developers be conditioned to participate in a national level strategy at a local level to their developments, or by agreement, part fund larger projects. The yet to be formed "Moray Firth Regional Advisory Group" ("MFRAG") will have a function in advising and approving the monitoring of 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" will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 the 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 included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

The **Crown Estate** 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 prepared to withdraw their objection subject to conditions being attached on any consent. These conditions will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted. 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 included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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. MS-LOT will approve monitoring plans for impacts on fish species, the requirement for which will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 position of the cable route has been captured in the conditions for the transmission works 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 more reliable cumulative impact assessment and comparison between the Development and MORL proposals. Following these meetings, MSS provided advice having considered the final 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 advice was based on the population model outputs provided by the Company and MORL. The Acceptable Biological Change (“ABC”) method was used to identify acceptable levels of change, with PBR being used to “sense check” 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 31st October 2013 having considered the advice provided by SNH and the JNCC on 29th 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 method gave a threshold of 15 to 20, therefore 10 is precautionary (to align more closely with figure of 6 advised by SNH and the JNCC)
- Herring gull at East Caithness Cliffs SPA – agree with SNH and the JNCC that there will be no adverse effect on site integrity.
- Guillemot at East Caithness Cliffs SPA – agree with SNH and the JNCC that there will be no adverse effect on site integrity.
- Razorbill at East Caithness Cliffs SPA - agree with SNH and the JNCC 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 SNH and the JNCC and consider that the displacement effects were overestimated and highly precautionary.
- Puffin at North Caithness Cliffs SPA – agree with SNH and the 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 the AA completed which will be available on Marine Scotland Licensing webpage following determination of the application.

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 within 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 would recover following the end of construction. Advice from the 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 monitoring plan 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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 the Fisheries Working Group to address the concerns of the fishing industry. The 'Commercial Fisheries Working Group' has since been established and met for the first time on the 18th April 2013. Mitigating the construction, operational and decommissioning impacts of the Proposal, in combination with the adjacent proposed MORL development, was identified as the key aim for the Group. A condition for BOWL to continue its involvement in the Commercial Fisheries Working will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989)

and/ or any marine licence granted. MSS welcome the commitment by the Company for continued engagement with the fishing industry and participation in the Commercial Fisheries Working Group within the Moray Firth area. MSS recommend a 1m minimum cable burial depth, cable protection and over trawl surveys post installation, and these requirements will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 larval 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 larval survey data. The survey requirements will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 will be captured in the Marine Licence Conditions for the export cable. 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 for the Company to commit to participation in the monitoring strategy at a local level (the Moray Firth) will be included in any consent

granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted

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”) are content with the Development so far as there is continued consultation with fisheries interests. This will be achieved through the Commercial Fisheries Working Group 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 on any consent. In their initial response the MCA requested the submission of the bathymetry data to support the Navigational Risk Assessment. 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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

Moray Offshore Renewables Limited (MORL), who are developing three offshore windfarms adjacent to the site of the BOWL proposal, initially opposed the proposed route for the export cable from the Development as it transited the MORL Western Development Area (“WDA”). MORL argued would reduce the maximum capacity that could be achieved within their development area and also lead to health and safety issues as well as delays in construction work.

The Crown Estate, as the owners of the seabed and being responsible for lease agreements, informed MS-LOT that the Western area of the MORL zone, 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 Crown Estate have 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 The Crown Estate 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.

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 between the companies whereby the objection from NATS Safeguarding could be removed subject to conditions being attached on any consent. These conditions will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 agreed. 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 proposals and that although the scale of these impacts are 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 publically available. RSPB Scotland have also raised concerns regarding the use of the extended Band (2012) model for the estimation 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 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 (BOWL and MORL 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 and MORL developments 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 AA.

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 ongoing 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 will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 ‘Moray Firth Offshore Wind Developers Group – Commercial Fisheries Working Group’ (“MFOWDG-CFWG”) has now been set up. A condition to ensure the Company continues its membership of the Working Group and its commitment to the mitigation strategy will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

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 Environmental Statement

Whale and Dolphin Conservation (“WDC”) expressed concern at, but not limited to, 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 is 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 development;
- 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, will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and/ or any marine licence granted.

MS-LOT have 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.

5. Conditions

Following consideration of all relevant information, including the ES, SEIS, supporting documents and consultation responses, Marine Scotland consider that the following conditions must be included in the marine licence:

5.1 Conditions applicable to all phases of the works

5.1.1 Project Environmental Monitoring Programme ("PEMP")

The licensee must, no later than 6 months prior to the commencement of the works, submit a PEMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, WDC, the 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 licensee must monitor the environmental impacts of the works. Monitoring is required throughout the lifespan of the works where this is deemed necessary by the 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 works. 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 licensing authority may agree that monitoring may cease before the end of the lifespan of the works.

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

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

1. Cod;
2. Herring;
3. Sandeels;
4. Diadromous fish;
5. Benthic communities; and
6. Seabed scour and local sediment deposition.

- b) The participation by the licensee in surveys to be carried out in relation to marine mammals as set out in the Marine Mammal Monitoring Programme.

All the initial methodologies for the above monitoring must be approved, in writing, by the licensing authority and, where appropriate, in consultation with the Moray Firth Regional Advisory Group (“MFRAG”), referred to in condition 5.1.3 of this licence. Any pre-consent surveys carried out by BOWL 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 licensing authority, at timescales to be determined by the licensing authority, in consultation with the MFRAG to identify the appropriateness of on-going monitoring. Following such reviews, the licensing authority may, in consultation with the MFRAG, require the licensee to amend the PEMP and submit such an amended PEMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation with MFRAG and any other ecological, or such other advisors as may be required at the discretion of the licensing authority. The PEMP, as amended from time to time, must be fully implemented by the licensee at all times.

The licensee must submit written reports of such monitoring surveys to the licensing authority at timescales to be determined by the licensing authority 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 licensing authority, or by such other party appointed at their discretion.

5.1.2 Environmental Management Plan (“EMP”)

The licensee must, no later than 6 months prior to the commencement of the works, submit an EMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, SEPA and any such other advisors or organisations as may be required at the discretion of the licensing authority. The works must, at all times, be constructed and operated in accordance with the approved EMP (as updated and amended from time to time by the licensee). Any updates or amendments made to the EMP by the licensee must be submitted, in writing, by the licensee to the licensing authority for their written approval.

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

- a) all construction as required to be undertaken before the final commissioning of the works; and

- b) the operational lifespan of the works from the final commissioning of the works until the cessation of electricity generation (Environmental management during decommissioning is addressed by condition 5.2.2).

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 licensee personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and operation of the works. It must address, but not be limited to, the following over-arching requirements for environmental management 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 Construction Method statement (“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 licensing authority and relevant stakeholders (including, but not limited to, the JNCC, SNH, SEPA, MCA and the NLB) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The licensee must, no later than 3 months prior to the final commissioning of the works, submit an updated EMP, in writing, to cover the operation and maintenance activities for the works to the licensing authority for their written approval. Such approval may be given only following consultation with the JNCC, SNH, SEPA and any such other advisors or organisations as may be required at the discretion of the licensing authority. The EMP must be regularly reviewed by the licensee and the MFRAG (refer to condition 5.1.3) over the lifespan of the works, and be kept up to date (in relation to the likes of construction methods and operations of the works in terms of up to date working practices) by the licensee in consultation with the 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.

5.1.3 Moray Firth Regional Advisory Group (“MFRAG”)

The licensee must participate in any MFRAG established by the licensing authority for the purpose of advising the licensing authority 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 5.1.4), the responsibilities and obligations being delivered by the MFRAG will be subsumed by the SSMEG at a timescale to be determined by the licensing authority.

5.1.4 Scottish Strategic Marine Environment Group (“SSMEG”)

The licensee must participate in any SSMEG established by the licensing authority for the purpose of advising the licensing authority on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish.

5.1.5 Atlantic salmon, sea trout and European eel Monitoring Strategy

The licensee must, to the satisfaction of the licensing authority, 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 licensee’s participation is to be agreed by the licensing authority in consultation with the MFRAG.

5.1.6 Moray Firth Offshore Wind Developers Group - Commercial Fisheries Working Group (“MFOWDG-CFWG”)

The licensee must continue its membership in the MFOWDG-CFWG, or any successor group formed to facilitate commercial fisheries dialogue to define and finalise a Commercial Fisheries Mitigation Strategy (“CFMS”). As part of the finalised CFMS, the licensee must produce and implement a mitigation strategy for each commercial fishery that can prove to the licensing authority that they will be adversely affected by the works. 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 licensing authority. The licensee must implement all mitigation measures committed to be carried out by the licensee within the CFMS, so far as is applicable to the works. Any contractors, or sub-contractors working for the licensee, must co-operate with the fishing industry to ensure the effective implementation of said CFMS.

5.1.7 Health and safety incident

If any serious health and safety incident occurs on the site requiring the licensee to report it to the Health and Safety Executive, then the licensee must also notify the licensing authority of the incident within 24 hours of the incident occurring.

5.1.8 Bunding and storage facilities

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

5.1.9 Restoration of the Site to its original condition

The licensee must take all reasonable, appropriate and practicable steps to restore the Site to its original condition before the licensed activities were undertaken, or to as close to its original condition as is reasonably practicable, to the satisfaction of the licensing authority, should the licensed activities be discontinued.

5.2 Prior to the commencement of the works

5.2.1 Commencement date of licensed activities

The licensee must, prior to and no less than 1 month before the commencement of the licensed activities, notify the licensing authority, in writing, of the date of commencement of the licensed activities authorised under this licence.

5.2.2 Decommissioning Programme

Where the Secretary of State has, following consultation with the licensing authority, given notice requiring the licensee to submit to the Secretary of State a decommissioning programme, pursuant to section 105(2) and (5) of the Energy Act 2004, then construction may not begin on the site of the works until after the licensee has submitted to the Secretary of State a decommissioning programme in compliance with that notice.

5.2.3 Construction Programme (“CoP”)

The licensee must, no later than 6 months prior to the commencement of the works, submit a CoP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, SEPA, MCA, NLB, the Highland Council, Moray Council and any such other advisors or organisations as may be required at the discretion of the licensing authority. The CoP must be in accordance with the ES.

The CoP must set out:

- a) The proposed date for commencement of works;
- b) The proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;
- c) The proposed timings and sequencing of construction work for all elements of the works infrastructure;
- d) Contingency planning for poor weather or other unforeseen delays; and
- e) The scheduled date for final commissioning of the works.

5.2.4 Construction Method Statement (“CMS”)

The licensee must, no later than 6 months prior to the commencement of the works submit a CMS, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, SEPA, MCA, NLB, the Highland Council, Moray Council and any such other advisors or organisations as may be required at the discretion of the licensing authority. The CMS must set out the construction procedures and good working practices for installing the works. 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 CMS must, so far as is reasonably practicable, be consistent with the Design Statement (“DS”), the EMP, the Vessel Management Plan (“VMP”), the Navigational

Safety Plan (“NSP”), the Piling Strategy (“PS”) (if required), the Cable Plan (“CaP”) and the Lighting and Marking Plan (“LMP”).

5.2.5 Piling Strategy (“PS”)

In the event that pile foundations are to be used, the licensee must, no later than 6 months prior to the commencement of the works, submit a PS, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH and any such other advisors as may be required at the discretion of the licensing authority.

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 licensing authority.

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.

5.2.6 Development Specification and Layout Plan (“DSLPL”)

The licensee must, no later than 6 months prior to the commencement of the works, submit a DSLP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the MCA, NLB, the CoS, the JNCC, SNH, the SFF and any such other advisors or organisations as may be required at the discretion of the licensing authority.

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

- a) A plan showing the proposed location of each individual OSP, seabed conditions, bathymetry, confirmed foundation type for each OSP 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 OSP, this should also be provided as a geographic information system (“GIS”) shape file using World Geodetic System 84 (“WGS84”) format;
- c) A table or diagram of each OSP;
- d) The finishes for each OSP; and
- e) The length and proposed arrangements on the seabed of all cables.

5.2.7 Design Statement ("DS")

The licensee must, prior to the commencement of the works, submit a DS, in writing, to the licensing authority that includes representative visualisations from key viewpoints agreed with the licensing authority, based upon the DSLP, as approved by the licensing authority (as updated and amended from time to time by the licensee). The DS must be provided, for information only, to the Highland Council and Moray Council and the JNCC, SNH and any such other advisors or organisations as may be required at the discretion of the licensing authority. The DS must be prepared and signed off by at least one qualified landscape architect, instructed by the licensee prior to submission to the licensing authority.

5.2.8 Vessel Management Plan ("VMP")

The licensee must, no later than 6 months prior to the commencement of the works, submit a VMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, and any such other advisors or organisations as may be required at the discretion of the licensing authority.

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

- a) The number, types and specification of vessels required;
- b) Working practices to minimise 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 VMP must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the NSP, and the LMP.

5.2.9 Operation and Maintenance Programme ("OMP")

The licensee must, no later than 3 months prior to the commissioning of the first OSP, submit an OMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, SEPA, MCA, NLB, the Highland Council, Moray Council and any such other advisors or organisations as may be required at the discretion of the licensing authority. The OMP must set out the procedures and good working practices for the operations and maintenance of the OSPs, substructures, and cable network of the works. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

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

5.2.10 Navigational Safety Plan (“NSP”)

The licensee must, no later than 6 months prior to the commencement of the works, submit a NSP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with MCA, NLB and any other navigational advisors or organisations as may be required at the discretion of the licensing authority. The NSP must include, but not be limited to, the following 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 co-ordination arrangements for the construction, operation and decommissioning phases of the works; and
- g) Buoyage.

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

5.2.11 Cable Plan (“CaP”)

The licensee must, no later than 6 months prior to the commencement of the works, submit a CaP in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with the JNCC, SNH, MCA, and the SFF and any such other advisors or organisations as may be required at the discretion of the licensing authority. The CaP must be in accordance with the ES.

The CaP must include the following:

- a) Details of the location and cable laying techniques for the cables;
- b) The results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing
- c) a pre-construction survey for Priority Marine Features (“PMFs”) to inform cable micro-siting and installation methods in consultation with licensing authority and their advisors;
- d) Technical specification of all cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- e) A burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures must be provided;
- f) Methodologies for over trawl surveys of the cables through the operational life of the works where mechanical protection of cables laid on the sea bed is deployed; and
- g) Measures to address exposure of any cables.

5.2.12 Traffic and Transportation Plan (“TTP”)

The licensee must, no later than 6 months prior to the commencement of the works submit a TTP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with Transport Scotland, the Highland Council and Moray Council, and any such other advisors as may be required at the discretion of the licensing authority. The TTP must set out a mitigation strategy for the impact of road based traffic and transportation associated with the works.

5.2.13 Ecological Clerk of Works (“ECoW”)

Prior to the commencement of the works, the licensee must at its own expense, and with the approval of the licensing authority in consultation with the JNCC and SNH, appoint an ECoW. The term of appointment for the ECoW shall be from no later than 9 months post the issue of this licence until the final commissioning of the works.

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

- a) Quality assurance of final draft version of all plans and programmes required under this licence;
- b) Provide advice to the licensee on compliance with licence conditions, including the conditions relating to the CMS, the EMP, the PEMP, the 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 licensing authority at timescales to be determined by the licensing authority; and
- e) Inducting site personnel on site / works environmental policy and procedures.

5.2.14 Fisheries Liaison Officer (“FLO”)

Prior to the commencement of the works, a FLO, approved by licensing authority, must be appointed by the licensee for the period from commencement of the works until the final commissioning of the works. The licensee must notify the licensing authority of the identity and credentials of the FLO before commencement of the works by including such details in the EMP (refer to condition 5.1.2). The FLO must establish and maintain effective communications between the licensee, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the works, and ensure compliance with best practice guidelines whilst doing so.

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

- a) Establishing and maintaining effective communications between the licensee, any contractors or sub-contractors, fishermen and other users of the sea concerning the 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 works; and

- c) Ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

5.2.15 Herring surveys

In the event that pile foundations are to be used, the licensee must undertake herring surveys every year during the months of August and September commencing the first August and September following the date of this licence, up until, and including, the last August and September prior to commencement of the works, unless otherwise agreed in writing by the licensing authority. The methodology of the herring surveys must be agreed, in writing, by the licensing authority, 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 licensee to devise mitigation options to minimise noise impacts from piling activity on all life stages of herring and to inform the licensee's PS (if PS required).

Following the results of the herring surveys undertaken in the last August and September prior to the commencement of the works, the licensee must submit, in writing, its mitigation strategy to minimise the noise impacts on herring from piling activity, to the licensing authority, for their written approval.

5.2.16 Cod surveys

Any baseline cod survey undertaken between February and March in any given year prior to commencement of the works will remain valid as a pre-construction baseline cod survey provided the commencement of the works 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 licensing authority within 3 months following completion of the baseline cod survey for approval, in writing, by the licensing authority.

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

5.2.17 Sandeel surveys

Any baseline sandeel survey undertaken between February and March in any given year prior to commencement of the works will remain valid as a pre-construction baseline sandeel survey provided the commencement of the works 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 licensing authority within 3 months

following completion of the baseline sandeel survey for approval, in writing, by the licensing authority.

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

5.2.18 Navigational safety

The licensee must, as soon as reasonably practicable prior to commencement of the works, notify the UKHO to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must, as soon as reasonably practicable prior to the commencement of the works, ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Shetland, are made fully aware of the licensable marine activity through local Notice to Mariners or any other appropriate means. The licensee must consult with Buckie Harbour Master where appropriate, who may wish to issue local warnings to alert those navigating in the vicinity to the presence of the works during construction.

The licensee must ensure that details of the works are promulgated in the Kingfisher Fortnightly Bulletin, as soon as reasonably practicable prior to commencement of the works to inform the sea fish industry of the vessel routes, the timings and the location of the works and of the relevant operations.

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

The licensee must, prior to commencement of the works, ensure that the location of all OSPs and cables are made available for inclusion in the Clyde Cruising Club Sailing Directions and Anchorages.

The licensee must, no later than 6 months prior to the commencement of the works, submit a LMP, in writing, to the licensing authority for their written approval. Such approval may only be granted following consultation by the licensing authority with MCA, NLB, the CAA, DIO and any such other advisors as may be required at the discretion of the licensing authority. The LMP must provide that the works be lit and marked in accordance with the current MCA, CAA and DIO navigational and aviation lighting policy and guidance that is in place as at the date of the licensing authority approval of the LMP, or any such other documents that may supersede said guidance prior to the approval of the LMP. The LMP must also detail the navigational

lighting requirements detailed in International Association of Marine Aids to Navigation and Lighthouse Authorities (“IALA”) Recommendations O-139 or any other documents that may supersede said guidance prior to approval of the LMP.

The licensee 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 licensing authority.

5.2.19 Aviation safety and Nautical Charting

The licensee must, prior to the commencement of the works, and following confirmation of the approved DSLP by the licensing authority, provide the precise location and maximum heights of all OSPs and construction equipment (above highest astronomical tide (“HAT”)), and details of any lighting fitted to all OSPs, to the UKHO for aviation and nautical charting purposes.

5.2.20 Pre-construction survey

Prior to the commencement of the works, the licensee must undertake a side scan sonar survey in grid lines (within operational and safety constraints), across the area of the works to include the wind farm, cable route, and any vessel access routes from local service port(s) to the construction site. The results of this survey must be made available to licensing authority within 4 weeks of the completion of the survey, and will be used as the baseline survey should a further side scan sonar survey be necessary in accordance with condition 5.3.2.

5.2.21 Third Party Verification (“TPV”)

The licensee must, no later than 3 months prior to the commencement of the works, provide the licensing authority with a covering certificate detailing TPV of the works. Commencement of the works must not occur until the licensing authority has been provided with the covering certificate detailing TPV.

5.2.22 Marine Pollution Contingency Plan (“MPCP”)

The licensee must, no later than three months prior to the commencement of the works, submit in writing to the licensing authority for their written approval, a MPCP.

The plan must make provision in respect of spills and collision incidents occurring during the construction and operation of the works and where such spills or collisions occur then the plan must be adhered to in full. The plan must take into account existing plans for all operations, including offshore installations, that may have an influence on the plan. Practices used to refuel vessels at sea must conform to industry standards and to relevant legislation. The plan must set out how any oil leaks within the turbine nacelle are to be remedied and that such relevant repairs are required to be undertaken without undue delay.

Commencement of the works must not occur until the licensing authority has given its written approval to the plan.

5.2.23 Marine Archaeology Reporting Protocol

The licensee must, no later than 6 months prior to the commencement of the works, submit a reporting protocol which sets out what the licensee must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the works, in writing, to the licensing authority for their written approval. Such approval may be given only following consultation by the licensing authority with any such advisors as may be required at the discretion of the licensing authority. The reporting protocol must be implemented in full, at all times, by the licensee.

5.2.24 Noise registry

The licensee must, in the event that pile foundations are to be used, submit a noise reduction form (MS Application Noise Details (Form 1)) to the licensing authority and the JNCC stating the proposed date(s), location(s) and nature of the piling activities under authority of this licence.

5.3 During the works

5.3.1 Amendments to approved plans

The licensee must, at all times, construct the works in accordance with the approved CoP, CMS, PS (if required), DSLP, VMP, NSP, CaP, TTP and LMP (as updated and amended from time to time by the licensee).

Any updates or amendments made to the CoP, CMS, PS (if required), DSLP, VMP, NSP, CaP, TTP, and LMP by the licensee, must be submitted, in writing, by the licensee to the licensing authority for their written approval.

5.3.2 Transportation audit sheet

The licensee must, on the first working day of the month, create, maintain and submit to the licensing authority a detailed transportation audit sheet for each month during the period when the construction of the works is undertaken for all aspects of the construction of the works. The audit sheet must include information on the loading facility, vessels, equipment, shipment routes, schedules and all materials listed in the licence to be deposited (e.g. piles, cables and chemicals). Where, following the submission of an audit sheet to the licensing authority, any alteration is made to the component parts of the sheet the licensee must notify the licensing authority of the alteration as soon as practicable following the making of the alteration.

If the licensee becomes aware of any materials on the audit sheet that are missing, or an accidental deposit, they shall contact the licensing authority as soon as practicable after becoming aware to advise the licensee on the appropriate remedial action. If the licensing authority is of the view that any accidental deposits associated with the construction works are present then the deposits must be removed by the licensee as soon as is practicable and at the licensee's expense.

5.3.3 Nature and quantity of deposited substances and objects

In addition to the audit sheets required to be submitted to the licensing authority under condition 5.3.2, the licensee must, following the commencement of the works, submit audit reports to the licensing authority stating the nature and quantity of all substances and objects deposited below MHWS under the authority of this licence. Such audit reports must be submitted by the licensee at 6 monthly intervals, with the first such report being required to be submitted on a date no later than 6 months following the commencement of the works. Where appropriate, nil returns must be provided.

5.3.4 Navigational safety

The licensee must notify the UKHO of the progress of the works to permit promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must notify from, Kirkwall to Peterhead, local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Shetland, of the progress of the works through local Notice to Mariners or any other appropriate means.

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

The licensee must ensure the process of removing the infrastructure, or such alterations made, within one month of notice being given by the licensing authority at any time it is considered necessary or advisable for the safety of navigation, and not replaced without further consent of the licensing authority. The licensee will be liable for any expense incurred.

The licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands are installed or used on the works without the prior written approval of the licensing authority.

The works shall be marked and/or lighted as required by the NLB and the marking to be continued unless and until the licensing authority rescind this direction.

If it is desired to display any marks or lights not required by this licence then details must be submitted to the NLB and their ruling complied with. The display of unauthorised marks or lights is prohibited.

The licensee must ensure the safety of navigation is not compromised by the works. The navigable depth must not be altered by more than 5% of stated chart datum unless otherwise agreed, in writing, with the licensing authority in consultation with the MCA and NLB.

5.3.5 Markings, lighting and signals of the works

The licensee must ensure that the works are marked and lit in accordance with the requirements of the NLB and the CAA at all times and such marking and/or lighting must be continued unless and until such time as the licensing authority, by notice, relevantly varies this licence under section 30 of the 2010 Act and section 72 of the 2009 Act.

The licensee must ensure that no marks or lights, other than those required by virtue of this licence, are displayed unless they have been approved, in writing, by the NLB, CAA and the licensing authority.

The licensee must ensure site boundaries are marked by Cardinal Mark buoys (number to be determined when final layout is known). The Cardinal Mark buoys shall be a minimum of 3 metres in diameter at the waterline, have a focal plane of at least 3 metres above the waterline and be of suitable construction for the sea conditions commonly experienced in the Outer Moray Firth. The light range on these buoys shall be 5 nautical miles. All required buoyage shall remain in place until completion of this phase.

5.3.6 Markings, lighting and signals of jack up barges and vessels

The licensee must ensure that any jack up barges, when jacked up, or vessels used during the works, exhibit signals in accordance with the UK Standard Marking Schedule for Offshore Installations.

5.3.7 Emergencies

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

- a) the failure to mark and light the works as required by this licence;
- b) the maintenance of the works; or
- c) the drifting or wreck of the works,

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

5.3.8 Horizontal Directional Drilling (“HDD”)

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

5.3.9 Beatrice Oil Field

The licensee must ensure that no OSPs or cables are laid or positioned within 1.5 km of the of Beatrice Alpha, Bravo, Charlie or Jacky platforms.

5.3.10 Herring surveys

The licensee must deploy any herring mitigation strategy approved by the licensing authority, 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 16 days within the months of August and September will take place across the whole works in any year of construction involving piling. The 16 days are not necessarily to be consecutive. The relevant 16 days of piling restrictions will be notified to the licensee by the licensing authority, in writing, at least 90 days prior to the first day of piling restriction.

5.3.11 Noise registry

The licensee must, in the event that pile foundations are to be used, and piling is to be carried out for a prolonged period of time, at quarterly intervals, or after each phase of the piling activity on the Site, submit a noise reduction form (MS Closeout Pulseblock days (Wind Farm)) to the licensing authority and the JNCC stating the date(s), location(s) and nature of such activities under authority of this licence.

5.4 Conditions upon completion of the works

5.4.1 Date of completion of the works

No more than one month following the completion of the works the licensee must notify the licensing authority, in writing, of the date of completion of the licensed activities.

5.4.2 Amendments to approved plans

The licensee must, at all times, operate the works in accordance with the approved VMP, OMP, NSP, CaP, TTP and LMP (as updated and amended from time to time by the licensee).

The license must, at all times, maintain the works in accordance with the approved OMP (as updated and amended from time to time by the licensee).

Any updates or amendments made to the VMP, OMP, NSP, CaP, TTP, and LMP by the licensee, must be submitted, in writing, by the licensee to the licensing authority for their written approval.

5.4.3 Navigational safety

The licensee must notify the UKHO of the completion of the works to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must, within 1 month of the final commissioning of the works, provide the “as-built” positions and maximum heights of all OSPs to the UKHO for aviation and nautical charting purposes.

The licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Shetland, are made fully aware of the completion of the works.

The licensee must ensure that the completion of the works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.

The licensee must ensure the process of removing any structure, or such alterations made, within one month of notice being given by the licensing authority at any time it is considered necessary or advisable for the safety of navigation, and not replaced without further consent of the licensing authority. The licensee will be liable for any expense incurred.

The licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands are installed or used on the works without the prior written approval of the licensing authority.

5.4.4 Nature and quantity of deposited substances and objects

The licensee must no later than 28 days following completion of the works, submit a final audit report to the licensing authority stating the nature and quantity of all substances and objects deposited below MHWS under the authority of this licence. Where appropriate, nil returns must be provided.

5.4.5 Markings, lighting and signals of the works

The licensee must ensure that the works are marked and lit in accordance with the requirements of the NLB and the CAA at all times and such marking and/or lighting must be continued unless and until such time as the licensing authority, by notice, relevantly varies this licence under section 30 of the 2010 Act and section 72 of the 2009 Act.

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

The licensee must ensure that lit Cable Marker Boards are positioned as near as possible to the shoreline so as to mark the points at which the cables come ashore. The Cable Marker Boards shall be diamond shaped, with dimensions 2.5 metres

long and 1.5 metres wide, background painted yellow with the inscription 'Cables' painted horizontally in black. The structures shall be mounted at least 4 metres above ground level, with a navigation light flashing yellow once every five seconds (Fl Y 5s) mounted on the upward apex of the board. The nominal range of these lights should be 3 nautical miles, and they should have an availability of not less than 97% (IALA Category 3) over a rolling three year period.

5.4.6 Environmental protection

The licensee shall ensure the beach and foreshore is returned to the original profile, or as close as reasonably practicable, following the completion of the works.

5.4.7 Cod surveys

The licensee 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 works. This cod survey must be undertaken in an area, to be agreed with the licensing authority, unless prior written approval is sought and obtained from the licensing authority. A full survey report and data set must be submitted, in writing, to the licensing authority within 3 months following completion of any post-construction cod survey for approval, in writing, by the licensing authority.

5.4.8 Sandeel surveys

The licensee 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 works. This sandeel survey must be undertaken in an area, to be agreed with the licensing authority, unless prior written approval is sought and obtained from the licensing authority. A full survey report and data set must be submitted, in writing, to the licensing authority within 3 months following completion of any post-construction sandeel survey for approval, in writing, by the licensing authority.

5.4.9 Noise registry

The licensee must, in the event that pile foundations were used, within 12 weeks of completion of the works on the Site, submit a noise reduction form (MS Closeout Pulseblock days (Wind Farm)) to the licensing authority and the JNCC stating the actual date(s), location(s) and nature of piling activities carried out under authority of this licence.

6. Regulatory Evaluation

6.1 Conclusions

In considering the application, in particular the ES and the relevant provisions of the Marine (Scotland) Act 2010 and Marine and Coastal Access Act 2009, a full and detailed assessment has been made of the potential direct and indirect effects of the proposal on human beings, fauna and flora, soils, water, air climate, the landscape,

material assets, the cultural heritage and the interaction between any two or more of these factors.

Marine Scotland, as the regulator, are satisfied with the findings of the ES and subject to the inclusion of the conditions referred to above in the marine licence that they may grant in due course, are of the opinion that the marine elements of the project will not have a significant adverse effect on the environment.

6.2 Recommendations

Having carried out assessments of the potential environmental impacts of the proposed project, the reviewer acting on behalf of Marine Scotland makes the recommendations below:

Marine Scotland are satisfied that the ES and SEIS adequately addresses all environmental issues in relation to the Beatrice Offshore Windfarm, subject to the conditions referred to above being included in the relevant marine licence subsequently issued by Marine Scotland.

The reviewer acting on behalf of Marine Scotland recommends that a favourable EIA consent decision is given in respect of the project, subject to the inclusion of the above conditions being attached to any relevant marine licence.

Reviewed by:	Gayle Holland
Date:	03/03/2014
Approved by:	Robert Main
Date:	18/03/2014
The Licensing Authority:	Marine Scotland