

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

Environmental Impact Assessment Consent Decision

Project Title: Hywind Scotland Pilot Park

Applicant: Hywind (Scotland) Limited

Location: 25 km east of Peterhead

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 which an application have been submitted by Hywind (Scotland) Limited (the ‘Company’), to Marine Scotland (MS), the Licensing Authority on behalf of the Scottish Ministers, for:

- i. a Marine Licence under Part 4 of the Marine (Scotland) Act 2010 and under Part 4 of the Marine and Coastal Access Act 2009 to construct and operate the Hywind Scotland Pilot Park (“HSPP”), also referred to as the ‘Development’.

The Works described in this Consent Decision comprise a project listed in Annex II 3(i) of the Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (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 (which are all elements of the project other than the onshore infrastructure) of the Proposal, to be sited in:

The Buchan Deep, approximately 25 km off the coast at Peterhead, within the area bounded by joining the following points:

HSPP

57° 30.967' N	001° 47.361' W	57° 27.603' N	001° 22.797' W
57° 31.773' N	001° 44.466' W	57° 28.417' N	001° 23.762' W
57° 31.765' N	001° 41.780' W	57° 29.317' N	001° 24.430' W
57° 30.444' N	001° 37.620' W	57° 29.632' N	001° 32.779' W
57° 30.102' N	001° 35.383' W	57° 29.821' N	001° 35.447' W
57° 29.909' N	001° 32.783' W	57° 30.184' N	001° 37.804' W
57° 29.989' N	001° 23.573' W	57° 31.486' N	001° 41.889' W
57° 30.302' N	001° 23.033' W	57° 31.485' N	001° 44.102' W
57° 29.715' N	001° 19.542' W	57° 30.680' N	001° 46.571' W
57° 29.023' N	001° 18.691' W	57° 30.789' N	001° 47.013' W

The application made to Marine Scotland was supported by an environmental statement (“ES”) and supporting information as required by regulation 12 of the MWR.

2. Project Description

The Licensee is proposing to develop a Pilot Park which is to be located approximately 25 km off the coast at Peterhead, North East Scotland just outside the 12 nm territorial water limit. The Licensable Marine Activity in respect of the Works includes construction, installation, operation and maintenance activities.

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

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

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

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

3. The Environmental Statement

The principal potential impacts of the Development, as detailed in the ES, are / are upon:

- Physical Environment
- Benthic and Intertidal Ecology
- Fish and Shellfish Ecology
- Ornithology
- Marine Mammal Ecology
- Aviation and Radar
- Commercial Fisheries
- Shipping and Navigation
- Marine Historic Environment
- Other Sea Users
- Socio economics
- Seascape, Landscape and Visual
- Potential Hydrocarbon and Chemical Spill

3.1. Environmental sensitivities

The Company submitted a Habitats Regulations Appraisal (“HRA”) report along with their application. From the information provided in this report, the Statutory Nature Conservation Bodies (“SNCBs”) in their advice dated 3rd July 2015 identified likely significant effect (“LSE”) from the Development as follows:

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

Marine Scotland were therefore required to complete an AA against the sites’ conservation objectives. The SNCBs recognised that the Development on its own would not result in adverse effect on site integrity for any of the above SPAs, however raised some concerns due to the in-combination effects, particularly with the consented Forth and Tay offshore wind farm developments. The AA concluded that the Development would not adversely affect the integrity of any of the above European protected sites either alone or in-combination with other projects (see 3.2).

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

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

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

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

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

3.2. The appropriate assessment

The proposed works required an Appropriate Assessment (AA) under Regulation 25 of the Offshore Marine Conservation (Natural Habitats, &c.), Regulations 2007 and Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as the wind farm lies outwith 12 nm and the cable route to shore lies within 12 nm, therefore the AA was completed under both sets of regulations. The AA used the most up to date evidence, including the recently published Marine Scotland commissioned BTO report on avoidance rates and concluded that the Development would not adversely affect any of the above European protected sites alone or in-combination with the Forth and Tay offshore wind farms (Near na Gaoithe, Inch Cape, Seagreen Alpha and Seagreen Bravo) (or where appropriate for consideration, other developments already licenced). The SNCBs agreed with the conclusions of the AA for all species / site combinations except puffin from Forth Islands SPA. MS-LOT consider that the best available evidence has been used in the AA and that the assessment has been precautionary. A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA.

4. Consultation

This section summarises consultation on the Development undertaken by Marine Scotland in 2015.

4.1. Public consultation

In accordance with Regulation 16(1)(b) of the MWR Marine Scotland instructed the Company to place a public notice in relevant newspapers for two successive weeks. These public notices were ‘combined’ with those required under The Marine (Scotland) Act 2010 and The Marine and Coastal Access Act 2009. The public notice contained details of:

- the Applicant's name and address
- that an Application had been made under Part 4 of the Marine (Scotland) Act 2010 / Marine and Coastal Access Act 2009
- a statement of the nature and location of the Development
- the address details of where the Application and ES could be inspected during office hours
- notice that parties could make such requests and representations to Scottish Ministers on the ES by specified dates

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

- Fishing News 8th May 2015 & 19th May 2015
- The Buchan Observer 5th May 2015 & 18th May 2015
- The Gazette 5th May 2015 & 18th May 2015
- The Scotsman 5th May 2015 & 14th May 2015

No representations were received from members of the public.

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 on the ES opened on 5th May 2015 and closed on 16th June 2015. Extensions to provide comments were permitted to consultees if required.

On 28th May 2015 an additional email was sent to all consultees, containing the completed formal application form associated with the Hywind Pilot Park Application, as this had not been included in the information previously sent by the Company to the consultees. MS LOT (Marine Scotland Licensing Operations Team) also offered an extension of 10 working days upon request.

4.2.1. Consultee List

The Application, ES and accompanying documents were sent to:

Consultee	Consultee
Aberdeenshire Council	Northern Lighthouse Board
Association of Salmon Fishery Boards	Northlink Ferries (Serco)
Aberdeen International Airport	Peterhead Port Authority
BOND Helicopters	River Dee Trust
BP Exploration Operating Company Limited	River Don Trust
Bristow Helicopters	Royal Society Protection Birds (Scotland)
BT Network Radio Protection	Royal Yachting Association
Buchan Inshore Fishermen's Association	Scottish Canoe Association
Civil Aviation Authority	Scottish Fishermen's Federation

Chamber of Shipping	Scottish Fishermen's Organisation
CHC Helicopters	Scottish Government Planning
Dee District Salmon Fisheries Board	Scottish Natural Heritage
Don District Salmon Fisheries Board	Scottish Surfing Federation
East Coast - Inshore Fisheries Group	Scottish Wildlife Trust
East Grampian Coastal Partnership	Scottish Environment Protection Agency
Health and Safety Executive	Sport Scotland
Historic Scotland	Surfers Against Sewage
Joint Nature Conservation Committee	The Crown Estate
Joint Radio Company	Transport Scotland (Ports & Harbours)
Marine Safety Forum	Transport Scotland
Marine Scotland - Compliance (Peterhead)	Ugie District Salmon Fisheries Board
Marine Scotland - Science	Ugie Salmon
Maritime and Coastguard Agency	Whale & Dolphin Conservation Society
Ministry of Defence	Ythan District Salmon Fisheries Board
National Air Traffic Services (EnRoute) pic	

4.2.2. Consultee Responses

4.2.2.1. Statutory Consultees

Aberdeenshire Council ("AC") did not object to the Development and welcomed it as an innovative project which exploits natural resources offshore. AC broadly agreed with the findings of the ES and concluded that the Development would not have any significant visual effects, noise impacts, impacts on the offshore environment or the cultural heritage under its jurisdiction. However AC made a number of additional comments concerning the CO₂ pipeline, the White Fish sector and the Shipping Radar, which it requested to be considered during the assessment of the Development.

Visual issues

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

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

Noise

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

Archaeology

AC agreed with the methodology used on the ES for assessing direct and potential impacts the Development may have on the historic environment, and the recommended mitigation approach. Furthermore, AC considered the visible component part of the development, namely the turbines themselves where they appear above the waterline, are at a sufficient distance offshore as to not be considered as having a negative visual impact on any onshore designated sites.

Environment

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

Additional Comments

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

- **New CO₂ pipeline** – ensure that the new pipeline which is to be laid for the Carbon Capture Project from Peterhead Power Station to the existing gas pipeline that runs from the Goldeneye platform to St Fergus is taken into consideration. This has not been identified on “*Figure 17.1 Other sea Users in the vicinity of the project*” where an indicative location for the proposed North Connect cable is shown.
- **White Fish Sector** – during the summer months this area is believed to be fished intensively for both haddock and cod. The Development could therefore have a significant impact on this sector at certain times of year.
- **Shipping Radar** – this area has a large amount of traffic in terms of both fishing vessels and supply boats for the offshore sector. The wind turbines may cause clutter on shipping radar in addition to aviation radar.

The Company replied to the comments from the Buchan Area Committee in an email dated 14th August 2015, stating it is aware of the new CO₂ pipeline and that it had an ongoing dialogue with the developer. The Company confirmed that the pipeline will be taken into account in the cable laying plan which is to be completed before construction and installation starts.

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

On the subject of the Shipping Radar, the Company informed the Buchan Area Committee that a Navigational Risk Assessment (“NRA”) had been carried out for the Development, which included assessment of implications on marine navigation and communication equipment, including impacts on marine radar. The Company further informed that the NRA concluded that the reduction in sea room and re-routing is likely to result in an increase in the risk of collisions, but as the turbine locations occupy a relatively small footprint area of approximately 5 km², the increase is likely to be marginal. The Company confirmed that where necessary, relevant mitigating measures related to Shipping and Navigation had been identified in Chapter 15 of the ES and will be implemented by the Development.

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

Ornithology

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

Special Protection Areas (“SPAs”)

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

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

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

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

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

The SNCBs highlighted the high densities of auks during the post-fledging dispersal which were a prominent feature at the site of the Development, and raised some concerns regarding pollutant release and disturbance by shipping. A condition will be included in the marine licence for a Vessel Management Plan (“VMP”) to manage scheduled maintenance, construction and decommissioning traffic during July / August, when it is possible that post-breeding adult and chick dispersal is occurring and significant numbers of birds are at risk of being disturbed around the structures.

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

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

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

For kittiwake the SNCBs advised that there is a difference in the predictions between the BTO and SNCB avoidance rates. The use of the SNCB avoidance rates for the Collision Risk Model (“CRM”), as well as consideration of the displacement effects, means that the predicted impacts are above previously advised thresholds. The SNCBs were therefore

unable to conclude that there would not be an adverse effect on site integrity to kittiwake at Fowlsheugh SPA.

The SNCBs also noted that there had been no reassessment of the Forth and Tay projects with respect to puffin. However, the impact of the Development had been revised downward by reducing the proportion of breeding adults in the population (due to the site being close to the mean-max foraging limit and that it attracts fewer breeding birds). The SNCBs acknowledged that this had merit and also suggested that puffins at Seagreen (furthest of the Forth and Tay sites from Forth Islands SPA) may also experience lower mortality / breeding failure rate than puffins at developments nearer to the SPAs. However, as the puffin impacts for Forth and Tay have not been reassessed in this account, the SNCBs concluded that adverse effect on site integrity for the Forth Islands SPA could not be ruled out.

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

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

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

Marine Mammals

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

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

Fish of Conservation Concern

In advice received on 3rd July 2015, the SNCBs advised that there would be no significant impacts from the Development if certain mitigation was included. No piling will take place and increased turbidity due to construction would be of short duration and reduce quickly in the high energy environment. In relation to Electromagnetic Fields (“EMF”), the Department of Energy and Climate Change (“DECC”) has recommended that cables be buried to at least 1.5 m, depending on the suitability of the substrates. The SNCBs would welcome the burial of the cable to this depth where possible, particularly in shallow waters (below 20 m).

Benthic and Intertidal Ecology

In advice received on 3rd July 2015, the SNCBs noted that the footprint of the project had been estimated as 0.273 km², while the export cable footprint would be 0.21 km². The worst case scenario assumes of the 35 km of cable route up to 2 km will require protective materials, and for the inter-array cables up to 7.5 km will require protective materials. The SNCBs concluded that impacts on inshore Priority Marine Features (“PMFs”) will be minor and / or of short duration. No offshore PMFs occur in the development area. Three types of Annex I reef habitat were identified along the cable route: stony reefs, bedrock reefs and *Sabellaria spinulosa* reefs. The *Sabellaria* reef is classed as “low grade” (based on height and % coverage) and patchily distributed. Although the cable trench will cut through some of this reef habitat, the impacts will be localised and the Company have committed to routing the export cable in order to minimise damage to the *Sabellaria* reef (although it will not be possible to avoid all reef areas). Moreover, the majority of the export cable is expected to be buried, which could allow for some recovery of benthic habitats after the installation phase.

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

Seascape, Landscape and Visual Impacts

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

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

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

MCA noted that hydrographic survey data, required to validate the NRA, had not been provided at the time of application. The Company subsequently confirmed, in an email dated 20th August 2015, that the latest version of the MCA’s *“Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind Farms”* had been followed in the work with the NRA, performed by Anatec Limited (John Beattie) on behalf of Statoil. The Company also accounted to the MCA about a meeting with the United Kingdom Hydrographic Office (“UKHO”) in March 2015 where questions about survey data were discussed. It confirmed that the results from the surveys had been submitted to The Crown Estate (“TCE”) and made available on their Marine Data Exchange Portal, and subsequently the requested data had been submitted to the UKHO on 20th March 2015.

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

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

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

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

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

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

The Company also stated its intention to have a monitoring plan ready for approval prior to construction phase.

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

In a second email dated 11th August 2015, the MCA recognised that additional information would be provided in the safety zone application and other plans such as the ERCoP, however it felt there were some points that remained open, namely its concern on possible wear and tear on the export cable resulting from the movement of the turbines from waves, tides and currents, as well as the need for clarification of risks and mitigation of two or three line failure. The MCA informed that in the event of any failure, the UKHO and Her Majesty's Coastguard ("HMCG") would need to be notified to promulgation of navigation warnings and that the relevant authority for updating Sailing Directions is the UKHO. Lastly, the MCA made a reference to the *"The Crown Estate Guidance Note March 2010: Dealing with munitions in marine sediments"*.

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

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

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

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

In general, NLB advised that:

- Appropriate means of ensuring the necessary International Association of Lighthouse Authorities ("IALA") Availability target for Category 1 Aids to Navigation ("AtoN") is achieved through redundancy, monitoring and repair are in place, and arrangements are made to warn the mariner promptly of any AtoN fault and its

subsequent return to fully operational service. NLB expected that the Company will co-operate fully in this matter.

- All navigational marking and lighting required for the site or its associated marine infrastructure, will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment.
- The marking and lighting of the wind turbines and the subsea infrastructure should include all three phases of the wind farm deployment.

Construction Phase

For the construction phase, NLB required:

- Regular Notice(s) to Mariners and Radio Navigation Warnings to be promulgated stating the nature and duration of any marine operation within the site. The site area to be charted including a chart note describing the nature of the Works, and that the Company informs the UKHO and provides all relevant information to the Hydrographer.
- Any vessel engaged in the works of the construction phase to be marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the Standard Marking Schedule for Offshore structures if secured to the seabed.

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

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

Operational Phase

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

- The tower of every wind generator should be painted yellow all round from the waterline to 15 metres or the height of the Aid to Navigation, whichever is greater.
- The structures shall have lights visible from all directions in the horizontal plane. These lights should all be synchronised to display a character of one yellow flash every 5 seconds, with a range of not less than 5 nautical miles.
- All lights shall be placed not less than 6 metres and not more than 30 metres above the waterline.
- Given the small number of turbines and the small area of deployment a sound signal shall be attached to turbine HS2 as to be audible upon approaching the wind farm from any direction. The sound signal should be placed not less than 6 metres and not more than 30 metres above the waterline and should have a range of at least 2 nautical miles. The character shall be rhythmic blasts corresponding to Morse letter ‘U’ every 30 seconds. The minimum duration of the short blast shall be 0.75 seconds. The sound signal shall be operated when the meteorological visibility is two nautical miles or less.

- Each tower shall display identification panels with black letters or numbers one metre high on a yellow background visible in all directions. These panels shall be easily visible in daylight as well as at night, by the use of illumination or retro-reflecting material.
- All navigation lights should have an availability of not less than 99.8% (IALA Category 1) over a rolling three year period. The sound signal should have an availability of not less than 97% (IALA Category 3) over a rolling three year period.
- Automatic Identification System (“AIS”) as an Aid to Navigation should be fitted to turbines HS1 and HS3. Appropriate Maritime Mobile Service Identity (“MMSI”) numbers will be allocated by OFCOM.

Decommissioning Phase

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

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

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

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

General standing advice

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

- [Water Framework Directive Mitigation Measures Manual](#)
- [Estuary Edges: Ecological Design Guidance](#)

SEPA’s standing advice states that given that the accidental introduction of Marine Non-Native Species (“MNNS”) has been highlighted as a risk for water body degradation, SEPA recommends that controls should be included in development planning and marine licensing for Marine Non-Native Species in line with WFD and Marine Strategy Framework Directive objectives, and [EU Biodiversity Strategy](#) targets. SEPA supports the [GB Non-Native Species Secretariat](#) recommendation to put in to place effective biosecurity measures to prevent

introduction and to stop their spread. The standing advice from SEPA further states that accidental introduction of MNNS can also occur via attachment to construction plant, specialised equipment and moorings as these are moved from one area to another. SEPA therefore also recommends that method statements produced as part of the marine licence or Electricity Consents application process also include measures that will be adopted to minimise these risks before the constructional, operational or decommissioning phases of a project commence. Reference is made to the following guidance that may be drawn upon:

- [The alien invasive species and the oil and gas industry guidance](#) produced by the Oil and Gas industry;
- SNH web-based advice on [Marine non-native species](#);
- Marine non-native guidance from the GreenBlue (recreation advice), for which the link provided on the standing advice was broken.

Specific standing advice

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

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

4.2.2.2. Non Statutory Consultees

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

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

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

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

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

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

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

- There could be a loss of about \$50 million per day (based on the combined losses of all shippers at oil and gas prices current at the time of BP's letter). Further, because a pipeline break would take several months to repair, the aggregate loss could run to between \$5 billion and \$10 billion, a significant proportion of which would comprise government tax income.
- There would be release of hydrocarbons into the environment constituting a pollution incident, the volume of which could be significant and would be expected by BP to be in excess of 110,000 bbls. The location where the rupture would occur is close enough to shore that oil may wash up on the shoreline, where there are areas designated as Site of Special Scientific Interest ("SSSI") (Sands of Forvie, Foveran Links).

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

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

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

In light of the potential magnitude of the economic, environmental and security of gas supply consequences of a rupture of the FPS arising out of a mooring failure at the Development, BP considered that it would be inappropriate for permission to be granted in respect of this

application without imposing conditions to address the identified risks, the probability and consequence of which are accepted by the Company. BP accordingly objected to the application.

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

1. The Company to obtain the appropriate permits for and agree to pay for the cost of mechanically protecting the FPS against damage or rupture from collision between a free floating wind turbine and the Forties Pipeline. BP have offered to cap the amount of such costs to the Company at £30 million; and
2. The Company to enter into a proximity agreement with BP to cover the construction and installation of the Development. This would be based on standard oil and gas industry terms; and
3. The design of the Development to be amended to include High Safety Class Moorings (BP might waive this if point 1 above was put in place, and the Company demonstrate the quality control assumed in the DNV GL report); and
4. The draft emergency response plan to be successfully demonstrated, including successful trials of the equipment designed to arrest and control a free floating wind turbine in sea states up to those where it is assumed to work in the DNV GL report.

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

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

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

In response to OGA's advice, the Company informed that it had been in dialogue with BP regarding the Forties pipeline since the project for the Development started in 2013. The Company accounted that the Development had undertaken several risk assessments and it had continuous dialogue with BP on how to reduce the risk of impacting the Forties pipeline. Various mitigation measures had been identified and implemented and the risk was at the

time, in the Company's opinion, according to the ALARP ("as low as reasonably practicable") principle. Third party design verification done by DNV GL confirmed, in May 2015, that the Development mooring design is in accordance to the relevant standard. The Company stated it will ensure a continued involvement with BP as the Development moves forward.

OGA subsequently acknowledged that discussions may have moved on since the Company prepared the ES and requested for a summary of the position at the time regarding mitigation measures: which had been adopted, which had been considered and dismissed, and whether any further measures were still under consideration. This has been provided by the Company in correspondence dated 9th July 2015.

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

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

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

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

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

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

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

protected under the UKBAP priority list. Eels are a UKBAP priority species, critically endangered under the IUCN red list and protected under CITES.

The DeeDSFB noted that the most significant impacts associated with the construction phase were deemed to be noise and vibration and that these can arise from increased boat traffic, construction activities such as pile driving and dredging for the cable channel. DeeDSFB considered this needed to be more fully understood prior to the Proposal being consented.

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

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

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

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

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

Conditions are being implemented, as part of the licence, to address the DeeDSFB concerns, in particular, a condition requesting a Project Environmental Monitoring Programme. In an email dated 26th October the DeeDSFB stated their agreement with this condition.

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

The CoS requested to be consulted, together with other commercial shipping stakeholders, on any proposals to apply operational safety zones. The CoS does not support the application of operational safety zones around traditional turbine structures (based on a lack

of existing safety justification) but may consider them appropriate for floating turbines due to the presence of mooring systems and the ability of the turbines to move. The CoS requested any proposal to be supported by a full NRA justifying the need for safety zones, and stated that would not support designation of the site as an Area to be Avoided.

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

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

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

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

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

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

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

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

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

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

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

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

Socio-economics

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

Physical environment

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

Fish ecology and commercial fisheries

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

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

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

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

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

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

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

MSS noted that discussions around safety zones and/or fishing prohibition were still ongoing with regulators and stakeholders, and further noted that the Company is in the process of establishing a project with the objective to look at what activities can be carried out within a floating wind farm and how the area can be used positively in a biological and commercial manner. In light of future (potentially larger) floating wind developments, MSS advised that MS should be involved in these discussions and suggested the Fishing Liaison with Offshore

Wind and Wet Renewables (“FLOWW”) Group, of which MS is a member, might be an appropriate forum to present initial outputs from this project.

Diadromous fish

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

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

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

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

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

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

Aquaculture

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

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

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

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

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

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

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

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

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

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

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

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

The **Scottish Fishermen's Federation (“SFF”)** objected to the Development on behalf of its nine member associations, the Anglo-Scottish Fishermen's Association, the Clyde Fishermen's Association, the Fishing Vessel Agents & Owners Association (Scotland) Limited, the Mallaig and North-West Fishermen's Association Ltd, the Orkney Fishermen's Association, Scallop Association, the Scottish Pelagic Fishermen's Association Ltd, the

Scottish Whitefish Producers' Association Ltd and the Shetland Fishermen's Association, until they are convinced that their concerns over various aspects of the project are assuaged or mitigated.

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

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

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

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

The SFF agreed with the developers that fishing is unlikely to resume within the Development, but stated that the closure will amount to the total area of turbines and moorings, the 15 km², not 7.5 km², as there is not likely to be any safe way of using mobile gear within the matrix of anchors and mooring lines. The SFF stated this impact will need mitigation.

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

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

In correspondence dated 19th June 2015, the Company highlighted that the on-going dialogue with the SFF since 2013 to that date had contributed with important input to the decisions made in relation to important areas such as surveys, location of turbines within the

Agreement for Lease (“AFL”) area, export cable corridor, type of safety arrangements during construction and operation, and reaffirmed its ambition to continue this positive and open dialogue also after consent is given. The Company accompanied this email with a summary of the communications / correspondence it had had with the SFF during the scoping phase and the consenting process.

The Company noted the issues of concern raised by SFF’s consultation response, regarding potential impact on commercial fisheries, method of burial of export cable, possible non-buried area and the installation of cable prior to WTG units. The Company declared it has a strong focus on Health, Safety and Environment and agreed that consultation with the SFF is absolute necessary to succeed in finding the best solution for all parties. The Company found the knowledge and advice SFF had shared with the Development to that date were very valuable and were looking forward to continuing this cooperation with the aim of identifying relevant mitigation measures.

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

Concerning the reference to the size of the area which will be occupied and excluded from fishing activities, the Company agreed that the way this had been presented may give rise to confusion on whether the total area where fisheries will be restricted is 7.5 km² or 15 km² and clarified that on commercial fisheries, and specifically on loss of access to fishing grounds, the ES concluded that fisheries will be restricted from an area of up to 15 km² over a 20 year period.

The Company acknowledged that fisheries may vary and change over time and an area which is important for fisheries today may become less important in the future and vice versa. It elucidated that the assessment had been based on available fisheries statistics. The Company also clarified that the percentages of the Peterhead (72%) and Fraserburgh (47%) fleets having fished in the wider area were for the ICES rectangles 43E8 and 44E8 and not only for the 15 km² where fisheries will be restricted. Based on the available fisheries statistics presented on commercial fisheries in the ES, the Company however maintained that relative distribution of fishing effort and value of catches show lower activity and catches in the actual turbine deployment area compared to other parts of the two ICES rectangles (referred to as the wider area). Still, the Company recognised that there may be some fishing taking place in the turbine deployment area, and more so along the cable corridor.

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

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

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

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

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

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

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

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

native species management and eliminate the potential risk of introducing any undesired species to a new location.

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

With regards to SWT's comments on non-native species, the Company emphasised that its base case is that there will be no discharge of ballast water from the WTG structures on Buchan Deep and that all ballasting operations will be completed before start of tow from the assembly site on the west coast of Norway. The Company stated it generally follows the International Convention for the Control and Management of Ship's Ballast Water and Sediments and will adhere to relevant regulations and guidance on ballast water and transfer of non-native marine species, including the Association of Oil and Gas Producers ("OGP") / International Petroleum Industry Environmental Conservation Association ("IPIECA") guidance "*Alien invasive species and the oil and gas industry – Guidance for prevention and management*", which the Company also had contributed to and had been involved in preparing.

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

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

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

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

5. Conditions

Following consideration of all relevant information, including the ES, supporting documents and consultation responses, Marine Scotland consider that the following conditions must be included in a Marine Licence to cover the Development. Marine Scotland are satisfied that the conditions included in this Marine Licence will sufficiently address environmental concerns to allow a positive EIA consent decision

5.1. General conditions

5.1.1. Licence conditions binding other parties

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

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

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

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

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

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

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

5.1.3. Force Majeure

Should the Licensee or any of their agents, contractors or sub-contractors, by any reason of *force majeure* deposit anywhere in the marine environment any substance

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

5.1.4. Material alterations to the licence application

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

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

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

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

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

5.1.6. Submission of reports to the Licensing Authority

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

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

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

5.1.7. Chemical usage

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

5.1.8. Environmental protection

The Licensee must ensure that all reasonable, appropriate and practicable steps are taken at all times to minimise damage to the Scottish marine area and the United Kingdom ("UK") marine licensing area caused by the Licensable Marine Activity authorised under this licence.

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

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

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

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

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

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

5.1.9. Availability of the licence for inspection

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

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

5.1.10. Inspection of the Works

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

5.1.11. Emergencies

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

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

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

5.2. Conditions specific to the Works

5.2.1. Conditions applicable to all phases of the Works

5.2.1.1. Project Environmental Monitoring Programme (“PEMP”)

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

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

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

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

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

- a) Pre-construction, construction (if considered appropriate by the Licensing Authority) and post-construction monitoring surveys as relevant in terms of the Application and any subsequent surveys for:
 1. birds;
 2. non-native species;
 3. diadromous fish;
 4. benthic communities; and
 5. seabed scour and local sediment deposition.

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

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

All initial methodologies for the above monitoring must be approved, in writing, by the Licensing Authority and, where appropriate, in consultation with the Forth and Tay Regional Advisory Group (“FTRAG”), referred to in condition 5.2.1.4 of this licence. Any pre-consent surveys carried out by the Licensee to address any of the above species may be used in part to discharge this condition subject to the written approval by the Scottish Ministers.

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

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

5.2.1.2. Environmental Management Plan (“EMP”)

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

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

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

- a) all construction as required to be undertaken before the Final Commissioning of the Works; and

- b) the operational lifespan of the Works from the Final Commissioning of the Works until the cessation of electricity transmission (environmental management during decommissioning is addressed by condition 5.2.2.3).

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

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

The Licensee must, no later than 3 months prior to the Final Commissioning of the Works, submit an updated EMP, in writing, to cover the operation and maintenance activities for the Works to the Licensing Authority for their written approval. Such approval may be given only following consultation with the JNCC, SNH, SEPA, AC and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The EMP must be regularly reviewed by the Licensee and the FTRAG (refer to condition 5.2.1.4) over the lifespan of the Works, and be kept up to date (in relation to the likes of construction methods and operations of the Works in terms of up to date working practices) by the Licensee in consultation with the FTRAG.

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

5.2.1.3. Fisheries Management and Mitigation Strategy (“FMMS”)

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a Fisheries Management and Mitigation Strategy (“FMMS”), in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the SFF and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The Works must, at

all times, be constructed in accordance with the approved FMMS (as updated and amended from time to time by the Licensee). Any updates or amendments made to the FMMS by the Licensee must be submitted, in writing, by the Licensee to the Licensing Authority for their written approval.

5.2.1.4. Forth and Tay Regional Advisory Group (“FTRAG”)

The Licensee must participate in the FTRAG established by the Licensing Authority for the purpose of advising the Licensing Authority on research, monitoring and mitigation programmes for, but not limited to, non-native species, ornithology, marine mammals and commercial fish species. Should a Scottish Strategic Marine Environment Group (“SSMEG”) be established (refer to condition 5.2.1.5), the responsibilities and obligations being delivered by the FTRAG will be subsumed by the SSMEG at a timescale to be determined by the Licensing Authority.

5.2.1.5. Scottish Strategic Marine Environment Group (“SSMEG”)

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

5.2.1.6. National Research and Monitoring Strategy for Diadromous Fish (“NRMSD”)

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

5.2.1.7. Health and safety incident

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

5.2.1.8. Bunding and storage facilities

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

5.2.1.9. Restoration of the Site to its original condition

The Licensee must take all reasonable, appropriate and practicable steps to restore the Site to its original condition before any Licensable Marine Activity was undertaken, or to as close to its original condition as is reasonably practicable, in accordance with the PEMP and the Decommissioning Programme (“DP”) to the satisfaction of the Licensing Authority. Should the Licensed Marine Activity be discontinued prior to Completion of the Works, the Licensee must inform the

Licensing Authority in writing of the discontinuation of the Works. This licence will be varied under section 30(3) of the 2010 Act following procedures laid out under section 31 of the 2010 Act, and under section 72(3) of the 2009 Act to allow the removal of Works already installed.

5.2.1.10. Emergency Response Co-operation Plans (“ERCoP”)

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

5.2.2. Prior to the Commencement of the Works

5.2.2.1. Commencement date of the Works

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

5.2.2.2. Bathymetry surveys

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

5.2.2.3. Decommissioning Programme (“DP”)

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

5.2.2.4. Construction Programme (“CoP”)

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

The CoP must set out:

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

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

5.2.2.5. Construction Method Statement (“CMS”)

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

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

5.2.2.6. Development Specification and Layout Plan (“DSLPL”)

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

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

- a) a plan showing the proposed location of each individual WTG (subject to any required micro-siting), including information on WTG spacing, WTG identification / numbering, location of the substation platforms, seabed conditions, bathymetry, confirmed mooring type for each WTG and any key constraints recorded on the Site;
 - b) a list of latitude and longitude coordinates accurate to three decimal places of minutes of arc for each WTG. This should also be provided as a Geographic Information System (“GIS”) shape file using WGS84 format;
 - c) the generating capacity of each WTG used on the Site and a confirmed generating capacity for the Site overall;
 - d) the finishes for each WTG (see condition 5.2.2.11 Lighting and Marking Plan);
 - e) the length and proposed arrangements on the seabed of all inter-array cables;
- and

- f) the mooring system: a list of latitude and longitude coordinates accurate to three decimal places of minutes of arc for each anchor point, this should also be provided as a GIS shape file using WGS84 format.

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

5.2.2.7. Vessel Management Plan (“VMP”)

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

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

- a) the number, types and specification of vessels required;
- b) working practices to minimise disturbance to auk species during July / August;
- c) how vessel management will be coordinated, particularly during construction but also during operation;
- d) location of working port(s), how often vessels will be required to transit between port(s) and the Site and indicative vessel transit corridors proposed to be used; and
- e) any required aviation lighting fitted to turbines during tow to site.

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

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

5.2.2.8. Navigational Safety Plan (“NSP”)

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

- a) navigational safety measures;
- b) construction safety zones;

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

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

5.2.2.9. Operation and Maintenance Programme (“OMP”)

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

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

5.2.2.10. Cable Plan (“CaP”)

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

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

- a) details of the location and cable laying techniques for the export cable and inter-array cable;
- b) the results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c) a pre-construction survey for Annex 1 habitat and priority marine features to inform cable micro-siting and installation methods in consultation with the Licensing Authority and their advisors;

- d) technical specification of all cables, including a desk based assessment of attenuation of electromagnetic field strengths and shielding;
- e) a burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures must be provided;
- f) methodologies for surveys of the cables through the operational life of the Works where mechanical protection of cables laid on the sea bed is deployed. Suitable mitigation should be put in place where hazards have been identified caused by cable burial or protection, i.e., over trawling;
- g) methodologies for inter array cable inspection with measures to address and report to the Licensing Authority any exposure of any cables; and
- h) ensure that the new pipeline which is to be laid for the Carbon Capture Project from Peterhead power station to the existing gas pipeline that runs from the Goldeneye platform to St. Fergus is taken into consideration.

5.2.2.11. Lighting and Marking Plan (“LMP”)

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

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

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

5.2.2.12. Compliance with and amendments to approved plans

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

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

5.2.2.13. Environmental Clerk of Works (“ECoW”)

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

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

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

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

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

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

5.2.2.14. Fisheries Liaison Officer (“FLO”)

Prior to the Commencement of the Works, a FLO, approved by the Licensing Authority in consultation with the SFF, must be appointed by the Licensee for the period from Commencement of the Works until the Final Commissioning of the Works. The Licensee must notify the Licensing Authority of the identity and credentials of the FLO before Commencement of the Works by including such details in the EMP (refer to condition 5.2.1.2). The FLO must establish and maintain effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Works, and ensure compliance with best practice guidelines whilst doing so.

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

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

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

5.2.2.15. Navigation and Aviation Safety and Charting

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

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

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

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

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

5.2.2.16. Air Defence Radar Mitigation Scheme

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

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

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

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

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

5.2.2.17. Primary Radar Mitigation Scheme

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

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

For the purposes of this condition:

- a) "Operator" means NATS (En Route) plc, incorporated under the Companies Act (4129273) whose registered office is 4000 Parkway, Whiteley, Fareham, Hants PO15 7FL or such other organisation licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services to the relevant managed area (within the meaning of section 40 of that Act); and
- b) "Primary Radar Mitigation Scheme" or "Scheme" means a detailed scheme agreed with the Operator which sets out the measures to be taken to avoid at all times the impact of the development on the Perwinnes primary radar and air traffic management operations of the Operator.

5.2.2.18. Third Party Certification or Verification (“TPC” or “TPV”)

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

5.2.2.19. Marine Archaeology Reporting Protocol (“MARP”)

The Licensee must, no later than 6 months or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works, submit a MARP which sets out what the Licensee must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the Works, in writing, to the Licensing Authority for their written approval. Such approval may be given only following consultation by the Licensing Authority with Historic Scotland and any such other advisors as may be required at the discretion of the Licensing Authority. The MARP must be implemented in full, at all times, by the Licensee.

5.2.2.20. Forties Pipeline System Mitigation

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

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

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

5.2.3. During the construction of the Works

5.2.3.1. Transportation audit sheet

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

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

5.2.3.2. Nature and quantity of deposited substances and objects

The Licensee must, in addition to the transportation audit sheets required to be submitted to the Licensing Authority under condition 5.2.3.1, following the Commencement of the Works, submit audit reports, in writing, to the Licensing Authority, stating the nature and quantity of all substances and objects deposited below MHWS under the authority of this licence. Such audit reports must be submitted in writing to the Licensing Authority, by the Licensee, at 6 monthly intervals, with the first such report being required to be submitted on a date no later than 6 months following the Commencement of the Works. Where appropriate, nil returns must be provided.

5.2.3.3. Navigational safety

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

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

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

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

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

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

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

5.2.3.4. Horizontal Directional Drilling (“HDD”)

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

5.2.4. Conditions upon Completion of the Works

5.2.4.1. Date of Completion of the Works

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

5.2.4.2. Nature and quantity of deposited substances and objects

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

5.2.4.3. Final Commissioning of the Works

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

5.2.4.4. Navigational safety

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

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

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

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

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

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

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

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

5.2.4.5. Environmental protection

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

5.2.4.6. Decommissioning

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

6. Regulatory Evaluation

6.1. Conclusions

In considering the Application, in particular the ES and accompanying documents, and the relevant provisions of the Marine (Scotland) Act 2010 and the Marine Coastal Access Act 2009, a full and detailed assessment has been made of the potential direct and indirect effects of the Development 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 Appropriate Authority, consider that, having taken account of the information provided by the Company, the responses of the consultative bodies and members of the public, there are no outstanding concerns with regards to the effects on the environment which would require a Marine Licence to be withheld.

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 adequately addresses all environmental issues in relation to the Hywind Scotland Pilot Park subject to the conditions referred to above being included in the relevant Marine Licence subsequently issued by Marine Scotland.

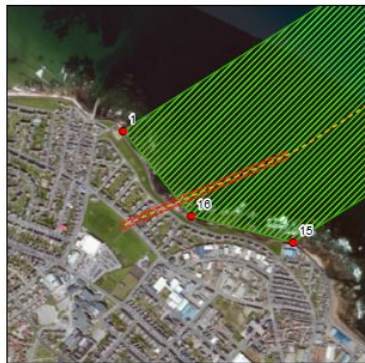
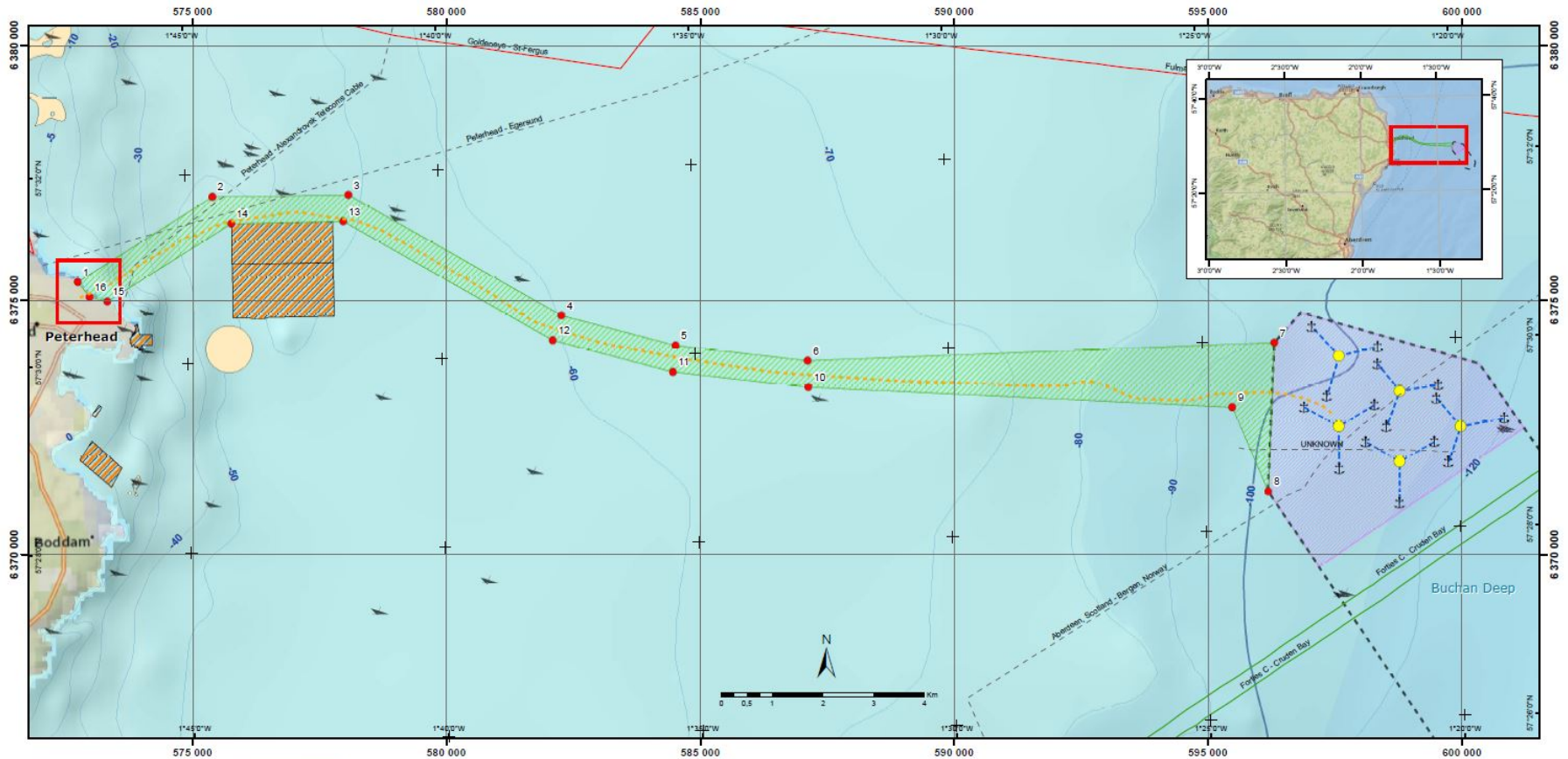
The reviewer acting on behalf of Marine Scotland recommends that a favourable EIA consent decision is given in respect of the Hywind Scotland Pilot Park, subject to the inclusion of the above conditions being attached to any relevant Marine Licence.

6.3. Environmental Impact Consent Decision

Having considered the analysis and recommendations of the environmental impact assessment process above, an environmental impact assessment consent decision is given **in favour of** the Hywind Scotland Pilot Park in accordance with Regulation 22 of the MWR.

Reviewed by:	Joao Queiros
Date:	23 rd October 2015
Approved by:	Gayle Holland
Date:	27 th October 2015
The Licensing Authority:	Marine Scotland

ANNEX A. LOCATION OF THE HYWIND SCOTLAND PILOT PARK



Coordinates for Proposed AFL Export Route Corridor
 Datum: WGS84
 Projection: UTM zone 30N

Point ID	Eastg°	Northing	Lon	Lat
1	572 521	6 375 486	1° 47' 21,676" W	57° 30' 58,010" N
2	575 383	6 377 035	1° 44' 27,989" W	57° 31' 46,394" N
3	578 065	6 377 069	1° 41' 46,777" W	57° 31' 45,870" N
4	582 265	6 374 701	1° 37' 37,201" W	57° 30' 26,625" N
5	584 512	6 374 113	1° 35' 23,000" W	57° 30' 06,142" N
6	587 116	6 373 810	1° 32' 47,009" W	57° 29' 54,561" N
7	596 311	6 374 165	1° 23' 34,389" W	57° 29' 59,351" N
8	596 191	6 371 243	1° 23' 45,722" W	57° 28' 24,992" N
9	595 484	6 372 898	1° 24' 25,813" W	57° 29' 19,022" N
10	587 131	6 373 294	1° 32' 46,741" W	57° 29' 37,895" N
11	584 459	6 373 590	1° 35' 26,829" W	57° 29' 49,285" N
12	582 091	6 374 214	1° 37' 48,246" W	57° 30' 11,020" N
13	577 965	6 376 549	1° 41' 53,360" W	57° 31' 29,135" N
14	575 757	6 376 507	1° 44' 06,104" W	57° 31' 29,123" N
15	573 320	6 374 969	1° 46' 34,246" W	57° 30' 40,824" N
16	572 874	6 375 162	1° 47' 00,802" W	57° 30' 47,330" N

Legend

- - - Inactive cable
- ⚓ Planned WTG Mooring Anchors
- Planned WTG Locations
- - - Planned WTG Mooring Lines
- Planned Export Cable
- AFL_Export_Cable_Route_Points_wgs84utm30n
- ▨ Proposed AFL Export Cable Route Corridor
- ▨ AFL - Pilot Park Area
- ▨ Planned Turbine Deployment Area
- ⚓ Wrecks
- ⚓ Foul Ground
- ⚓ Dumping Grounds

Pipelines, Operating, Global (IHS)

- Gas
- Oil
- Unknown

02	17.10.2014	ISSUED FOR INFORMATION	HEHAGN	AVF	
01	14.10.2014	ISSUED FOR INFORMATION	HEHAGN	AVF	
rev.	date	status	prepared	checked	approved
Hywind Scotland Proposed AFL Export Cable Route Corridor			produced by Org.: TPD TEX SMT HMG MGI		
Scotland / Buchan Deep			coordinate reference system Datum: WGS84 Projection: UTM zone 30N		
1:75 000			sheet no. A3		
scale of site			drawing no. Hywind_2_Scotland_AFL_Export_Route_Corridor		
			01		

CAUTION
 Data in this map are collected from a variety of sources. The accuracy and reliability may vary. The user should refer to the relevant location in the relative location of features.



