

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

### **Environmental Impact Assessment Consent Decision**

Project Title: Seagreen Alpha Offshore Wind Farm, Seagreen Bravo Offshore Wind Farm and the transmission Asset Project

Applicant: Seagreen Wind Energy Limited ("SWEL") on behalf of Seagreen Alpha Wind Energy Limited and Seagreen Bravo Wind Energy Limited.

Location: Firth of Forth Round 3 Zone

## **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 applications have been submitted by Seagreen Wind Energy Limited ("the Company") (on behalf of Seagreen Alpha Wind Energy Limited and Seagreen Bravo Wind Energy Limited) to Marine Scotland, the licensing authority on behalf of the Scottish Ministers, for:

- i. a marine licence under section (65 and) 66 of the Marine and Coastal Access Act 2009 for Seagreen Alpha Offshore Wind Farm;
- ii. a marine licence under section (65 and) 66 of the Marine and Coastal Access Act 2009 for Seagreen Bravo Offshore Wind Farm; and
- iii. a marine licence under section 20 of the Marine (Scotland) Act 2010 and section (65 and) 66 of the Marine and Coastal Access Act 2009 for the Transmission Asset Project.

to construct and operate the Seagreen Alpha Offshore Wind Farm ("SAWEL"), Seagreen Bravo Offshore Wind Farm ("SBWEL") and the Seagreen Transmission Asset ("STA") referred to collectively as the "Proposal".

The works described in this Consent Decision comprise part of a project listed at 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 SAWEL, the SBWEL and the STA, to be sited in:

The Firth of Forth Round 3 Zone within the area bounded by joining the following points:

### SAWEL

56° 30.803' N	001° 56.378' W	56° 39.837' N	001° 51.101' W
56° 30.923' N	001° 53.541' W	56° 39.847' N	001° 52.194' W
56° 38.138' N	001° 46.249' W	56° 40.157' N	001° 45.487' W
56° 38.383' N	001° 45.181' W	56° 40.606' N	001° 36.151' W
56° 39.417' N	001° 51.114' W	56° 40.631' N	001° 43.829' W
56° 39.512' N	001° 44.928' W	56° 40.648' N	001° 52.170' W
56° 39.729' N	001° 36.650' W	56° 40.653' N	001° 56.226' W

### SBWEL

56° 39.729' N	001° 36.650' W	56° 32.983' N	001° 34.195' W
56° 39.317' N	001° 36.884' W	56° 33.329' N	001° 34.059' W
56° 37.913' N	001° 36.151' W	56° 33.383' N	001° 35.298' W
56° 38.053' N	001° 35.475' W	56° 33.051' N	001° 35.583' W
56° 39.923' N	001° 34.627' W	56° 31.666' N	001° 35.352' W
56° 31.903' N	001° 29.311' W	56° 30.923' N	001° 53.541' W
56° 31.724' N	001° 33.882' W		

### STA

56° 29.074' N	002° 41.812' W	56° 34.861' N	001° 56.316' W
56° 29.074' N	002° 42.808' W	56° 35.100' N	002° 16.600' W
56° 29.195' N	002° 43.062' W	56° 35.219' N	002° 15.009' W
56° 29.357' N	002° 42.991' W	56° 35.415' N	002° 09.234' W
56° 29.605' N	002° 42.871' W	56° 35.497' N	002° 13.827' W
56° 29.614' N	002° 42.849' W	56° 35.608' N	002° 16.943' W
56° 29.633' N	002° 42.596' W	56° 35.757' N	002° 15.152' W
56° 29.639' N	002° 41.597' W	56° 35.766' N	002° 09.940' W
56° 29.733' N	002° 42.920' W	56° 35.961' N	002° 10.842' W
56° 29.733' N	002° 42.901' W	56° 36.195' N	002° 13.366' W
56° 29.738' N	002° 36.387' W	56° 36.421' N	002° 11.909' W
56° 30.249' N	002° 36.696' W	56° 36.766' N	001° 59.145' W

56° 30.803' N	001° 56.378' W	56° 37.056' N	001° 56.282' W
56° 30.818' N	002° 32.051' W	56° 37.128' N	002° 05.881' W
56° 31.286' N	002° 32.535' W	56° 37.913' N	001° 36.151' W
56° 31.666' N	001° 35.352' W	56° 38.053' N	001° 35.475' W
56° 31.724' N	001° 33.882' W	56° 38.138' N	001° 46.249' W
56° 31.903' N	001° 29.311' W	56° 38.383' N	001° 45.181' W
56° 32.398' N	002° 27.874' W	56° 39.317' N	001° 36.884' W
56° 32.850' N	002° 28.407' W	56° 39.417' N	001° 51.114' W
56° 32.983' N	001° 34.195' W	56° 39.512' N	001° 44.928' W
56° 33.051' N	001° 35.583' W	56° 39.836' N	001° 51.101' W
56° 33.329' N	001° 34.059' W	56° 39.846' N	001° 52.194' W
56° 33.383' N	001° 35.298' W	56° 39.923' N	001° 34.627' W
56° 34.037' N	002° 21.992' W	56° 40.157' N	001° 45.487' W
56° 34.121' N	002° 04.643' W	56° 40.606' N	001° 36.151' W
56° 34.138' N	002° 03.411' W	56° 40.630' N	001° 43.829' W
56° 34.395' N	002° 06.089' W	56° 40.648' N	001° 52.170' W
56° 34.542' N	002° 22.329' W	56° 40.653' N	001° 56.226' 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. SWEL were required to produce further information in support of their application and submitted a Supplementary Environmental Information Statement (“SEIS”).

## 2. Project Description

SWEL is proposing to develop two offshore wind farms (“OWF”) known as Seagreen Alpha and Seagreen Bravo both of which are to be situated in the Firth of Forth Round 3 Zone (see ANNEX A).

Both proposed OWF will comprise of up to 75 wind turbine generators (“WTG”) with the potential to generate up to 525 Megawatts (MW) of power. The maximum tip height of the WTG above lowest astronomical tide (“LAT”) is approximately 210 metres.

In addition to the OWF infrastructure, supporting transmission infrastructure is also required including offshore platforms, high voltage export cables, inter array cabling and cable landfall up to Mean High Water Springs (“MHWS”) at Carnoustie.

SAWEL is to be located approximately 27 km from the shore at its closest point. The total area of the lease boundary, awarded to SWEL by The Crown Estate, is approximately 197 km<sup>2</sup>. Water depth on the wind turbine locations ranges from 40 to 60 metres below LAT. SAWEL also includes array cabling connecting the WTG to Offshore Substation Platforms (“OSP”), any necessary scour and cable protection, up to three meteorological masts and up to three wave buoys.

SBWEL is to be located approximately 38 km from the shore at its closest point. The total area of the lease boundary, awarded to SWEL by The Crown Estate, is approximately 194 km<sup>2</sup>. Water depth on the wind turbine locations ranges from 40 to 60 metres below LAT. SBWEL also includes array cabling connecting the WTG to OSP, any necessary scour and cable protection, up to three meteorological masts and up to three wave buoys.

The STA Consists of up to five OSP and supporting structures for SAWEL and SBWEL, a maximum of six export cables to shore with an indicative total cable length of 530 km, including all high voltage cables, as well as any necessary scour and cable protection.

### **3. The Environmental Statement**

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

- Physical Environment
- Water and Sediment Quality
- Nature Conservation Designations
- Ornithology
- Benthic Ecology and Intertidal Ecology
- Natural Fish and Shellfish Resource
- Marine Mammals
- Commercial Fisheries
- Shipping and Navigation
- Seascape, Landscape and Visual Amenity
- Archaeology and Cultural Heritage
- Military and Civil Aviation
- Socio economics, Tourism and Recreation
- Mitigation and Monitoring

#### **3.1 Environmental sensitivities**

The Joint Nature Conservation Committee (“the JNCC”) and Scottish Natural Heritage (“SNH”) advised that the proposal is likely to have a significant effect upon several European protected sites (see ANNEX B). On reviewing the original ES, SNH advised that the proposal would likely have a significant effect upon certain qualifying interests of various Special Protection Areas (“SPAs”) and Special Areas of Conservation (“SACs”). SNH also advised that, as the Competent Authority, Marine Scotland would be required to undertake an Appropriate Assessment (“AA”) in view of the conservation objectives for the sites.

The JNCC and SNH cited a number of SPAs that should be considered in any appraisal. These were Fowlsheugh SPA, Buchan Ness to Collieston Coast SPA and the Forth Islands SPA. The qualifying interests where likely significant effect was identified were kittiwake, gannet, puffin, razorbill, guillemot, herring gull, lesser black-backed gull, fulmar, and common and Arctic tern.

The JNCC and SNH also advised that a number of SACs' qualifying interests could, directly or indirectly, be adversely impacted upon by the proposal. SNH identified the proposal as likely to have a significant effect upon the Moray Firth, Firth of Tay and Eden Estuary, Isle of May, Berwickshire & North Northumberland Coast, River South Esk, River Tay, River Teith SACs, (the River Dee and River Tweed SACs were also included in the AA due to concerns raised by other consultees). The JNCC and SNH advised that the following qualifying interests could be adversely affected by the proposal: bottlenose dolphins, grey seals, common (harbour) seals, Atlantic salmon and freshwater pearl mussels and lamprey species. These interests are not present at all of the aforementioned SACs.

### **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. The AA completed was a regional assessment for the Forth and Tay wind farms and included the Proposal, Neart na Gaoithe Offshore Wind Limited ("NNGOWL") and Inch Cape Offshore Limited ("ICOL"). The NNGOWL and ICOL developments lie within 12 nm, therefore the AA was completed under both sets of regulations. The AA concluded, subject to appropriate conditions being attached to any consent, that the SAWEL and SBWEL developments alone or in-combination with NNGOWL and ICOL (or where appropriate for consideration, other developments already licenced) would not adversely affect the integrity of the Natura sites that could be potentially impacted by the Proposal. The JNCC and SNH did not agree with all the conclusions of the AA with respect to some of the SPAs. However, Marine Scotland – Licencing Operation team ("MS-LOT") consider that the most up to date and best scientific evidence available has been used in reaching the conclusion that the Forth and Tay offshore wind farm developments will not adversely affect the integrity of the Natura sites and are satisfied that no reasonable scientific doubt remains. Full details are provided in the AA.

## **4. Consultation**

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

### **4.1 Public consultation**

In accordance with Regulation 16(1)(b) of the MWR Marine Scotland instructed SWEL to place a public notice in relevant newspapers for two successive weeks. These public notices were "combined" with those required under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended). 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 project
- the address details of where the application and ES could be inspected during office hours
- notice that parties could make such requests and representations to Scottish Ministers on the ES (and later SEIS) by specified dates

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

- |                                  |   |
|----------------------------------|---|
| • The Scotsman                   | 26 <sup>th</sup> October 2012 & 2 <sup>nd</sup> November 2012 |
| • The Arbroath Herald            | 26 <sup>th</sup> October 2012 & 2 <sup>nd</sup> November 2012 |
| • The Carnoustie Guide & Gazette | 26 <sup>th</sup> October 2012 & 2 <sup>nd</sup> November 2012 |
| • The Saint Andrews Herald       | 26 <sup>th</sup> October 2012 & 2 <sup>nd</sup> November 2012 |
| • The Press & Journal            | 29 <sup>th</sup> October 2012 & 5 <sup>th</sup> November 2012 |
| • The Edinburgh Gazette          | 30 <sup>th</sup> October 2012 & 6 <sup>th</sup> November 2012 |
| • The Dundee Courier             | 31 <sup>st</sup> October 2012 & 7 <sup>th</sup> November 2012 |
| • The Montrose Review            | 1 <sup>st</sup> November 2012 & 8 <sup>th</sup> November 2012 |

Notice of the SEIS appeared in the following publications:

- |                                  |   |
|----------------------------------|---|
| • The Scotsman                   | 21 <sup>st</sup> October 2013 & 28 <sup>th</sup> October 2013 |
| • The Arbroath Herald            | 18 <sup>th</sup> October 2013 & 25 <sup>th</sup> October 2013 |
| • The Carnoustie Guide & Gazette | 18 <sup>th</sup> October 2013 & 25 <sup>th</sup> October 2013 |
| • The Saint Andrews Herald       | 18 <sup>th</sup> October 2013 & 25 <sup>th</sup> October 2013 |
| • The Press & Journal            | 21 <sup>st</sup> October 2013 & 28 <sup>th</sup> October 2013 |
| • The Edinburgh Gazette          | 18 <sup>th</sup> October 2013 & 25 <sup>th</sup> October 2013 |
| • The Dundee Courier             | 21 <sup>st</sup> October 2013 & 28 <sup>th</sup> October 2013 |
| • The Montrose Review            | 24 <sup>th</sup> October 2013 & 31 <sup>st</sup> October 2013 |

Notice of the SEIS Erratum appeared in the following publications:

- |                         |   |
|-------------------------|---|
| • The Edinburgh Gazette | 21 <sup>st</sup> March 2014 & 28 <sup>th</sup> March 2014 |
| • The Dundee Courier    | 21 <sup>st</sup> March 2014 & 28 <sup>th</sup> March 2014 |

Under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended) the applicant was required to place public notices following the first statutory consultee response, hence additional notices which were placed in the following publications:

- |                                  |  |
|----------------------------------|--|
| • The Edinburgh Gazette          | 8 <sup>th</sup> March 2013 & 15 <sup>th</sup> March 2013 |
| • The Carnoustie Guide & Gazette | 8 <sup>th</sup> March 2013 & 15 <sup>th</sup> March 2013 |

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

- Seagreen Wind Energy Limited, C/O SSE Renewables, 1 Waterloo Street, Glasgow, G2 6AY;
- Scottish Government Library, Victoria Quay, Edinburgh, EH6 6QQ;
- Angus Council, Planning & Transport Division, County Buildings, Market Street, Forfar, DD8 3LG;
- Arbroath Library, Hill terrace, Arbroath, DD1 1AH;
- Carnoustie Library, 21 High Street, Carnoustie, DD7 6AN;
- Dundee Central Library, The Wellgate, Dundee, DD1 1DB; and
- Montrose Library, 214 High Street, Montrose, DD10 8PH.

Marine Scotland received 1 public representation in support of the application and 2 public representations objecting to the application.

Representations in support of the Proposal were of the belief that in conjunction with nuclear fusion, electricity generated from clean sources, such as wind power, may be able to address concerns such as increasing energy demands, increasing dependency on fossil fuels, effects of climate change due to burning of fossil fuels and exponential population growth. They also believe that quality of life should be considered and by siting turbines at sea a good distance from residential sites is seen as fair.

Representations objecting to the Proposal raised concerns regarding: the effects on the sea bird colonies on the Bass Rock and Fair Isle; threats to the natural environment of the Firth and Forth; impact on marine mammals; tourism; fishing industry and bats; and alternative technologies to wind power being available.

## **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 26<sup>th</sup> October 2012 and closed on 7<sup>th</sup> December 2012 with Local Authorities permitted additional time in accordance with The Electricity (Applications For Consent) Regulations 1990 (as amended). A second consultation was undertaken on the SEIS and opened on 18<sup>th</sup> October 2013 and closed on 29<sup>th</sup> November 2013. Extensions to provide comments were permitted to consultees if required.

Repsol, the company developing ICOL, in the response to the SEIS consultation, identified a significant number of factual errors in the information presented in the SEIS in relation to the ICOL project. As a consequence, SWEL produced an SEIS Erratum which was treated as additional information under the 2008 Amendment to the 2000 Regulations. Therefore, a copy of the Erratum was sent (21<sup>st</sup> March 2014) to all consultees; SWEL made the Erratum available in the same public places where the ES was made available for public consultation; and two public notices were published for two consecutive weeks (Edinburgh Gazette and Dundee Courier), as per MS-LOT instructions.

#### 4.2.1 Consultee List

The application, ES and SEIS were sent to:

Consultee	Consultee
Angus Council	Largo Area Community Council
Arbroath Harbour	Marine Safety Forum
Association of Salmon Fishery Boards	Marine Scotland Compliance – Aberdeen
BAA Ltd	Marine Scotland Compliance – Anstruther
Boarhills & Dunino Community Council	Marine Scotland Compliance - Eyemouth
British Telecom (Radio Network Protection Team)	Marine Scotland Science
Cameron Community Council	Maritime and Coastguard Agency
Carnbee & Arncroach Community Council	Monifieth Community Council
Carnoustie Community Council	Montrose Port Authority
Carnoustie Golf Links Management Committee	Northern Lighthouse Board
Chamber of Shipping	Repsol Nuevas Energias UK Limited
Civil Aviation Authority	Royal Yachting Association
Colinsburgh & Kilconquhar Community Council	Royal Society for the Protection of Birds Scotland
Defence Infrastructure Organisation	Scallop Association
Dundee Sub Aqua Club	Scottish Canoe Association
East Fortune Airfield	Scottish Fisherman's Federation
Edinburgh Airport	Scottish Fisherman's Organisation
Esk District Salmon Fishery Board	Scottish Natural Heritage
Fife Council	Scottish Surfing Federation
Fife Fishermen's Association	Scottish Wildlife Trust
Firth of Forth U10m Fishing Association	Scottish Environmental Protection Agency
Forth Ports	Strathkinness Community Council
Health & Safety Executive	Surfers Against Sewage
Historic Scotland	Tay District Salmon Fishery Board
Inshore Fishery Group	The Crown Estate
Joint Nature Conservation Committee	Transport Scotland
Joint Radio Company	Whale & Dolphin Conservation Society

#### 4.2.2 Consultee Responses

**Angus Council (“AC”)** did not object to the Proposal however they made a number of comments relating to landscape, seascape and visual impacts as well as impacts on cultural heritage arising from the Proposal.

With respect to landscape impacts, AC broadly agreed with the findings of the ES and concluded that the Proposal would not have any significant landscape effects on Angus, either on its own or cumulatively with ICOL and NNGOWL.



With respect to seascape AC considered that the Proposal would have an impact on Seascape Area ("SeA")<sup>7</sup> (Lang Craig to the Deil's Heid) and SeA8 (Arbroath to Monifieth) and advised that the impacts upon seascape character had not been fully assessed within the ES. AC suggested that Marine Scotland require further assessment of impact on seascape character to take particular account of the Bell Rock and any lighting required for aviation/shipping safeguarding. AC commented that a key cumulative consideration is the relative height and design of the three different offshore wind farm developments in the Forth and Tay region. At the time of the response to these Applications details on the ICOL turbine heights were not available, AC advised that the cumulative impact including turbines closer to Angus and Bell Rock may not be acceptable.

With respect to visual impacts AC recognised that the assessment of the impacts of visual amenity was undertaken extensively within the ES. The ES stated that for both SAWEL and SBWEL visual impacts were not significant, apart from SAWEL from the Braehead to Lunan viewpoint where a conclusion of potentially significant was reached. However, AC highlighted that the usability of the visualisations is limited because of the absence of the Bell Rock lighthouse. The lighthouse is commonly visible in views and the turbines would appear taller than this structure. AC therefore concluded that the ES assessment understates magnitude of change. AC also raised concerns that night time visuals had not been provided and the impact of lighting had not been sufficiently assessed in the ES. In particular concerns are held about the impact on the night time sky and the night setting of the Bell Rock lighthouse. AC noted that a technical solution to the night lighting issue (e.g. infra-red aviation lights) could mitigate effects. In a meeting held in January 2011, between the Forth and Tay Offshore Wind Farm developers, SNH, TCE ("The Crown Estate" and Local Authorities, it was agreed that Seascape, Landscape and Visual Impact Assessment ("SLVIA") for the Forth & Tay proposals should assess the impacts of wind farm lighting on night-time views, seas and skies, but that night-time visualisations would not be required.

AC highlighted that cumulatively significant visual impacts are most likely to occur in relation to wind turbine developments close to the coast. AC highlighted that the assessment of cumulative visual effects has typically been under assessed in the ES, due to the omission of phases 2 and 3 of the Seagreen development area. AC concluded that in terms of Angus area, although cumulative visual impacts would be significant, the current level of development proposed by the application at NNGOWL and the current Proposal would not be unacceptable.

With respect to the impact on cultural heritage AC considered that the Bell Rock lighthouse and Ladyloan Signal Tower; both Category A listed structures – are primarily relevant to the assessment of the Proposal. They concluded that impacts would not be unacceptable.

AC commented that the intertidal works did not appear to raise any substantial technical or environmental matters, although further consideration would be given in the determination of the planning application. Angus Council would wish the Scottish Government ("SG") to ensure that Barry Buddon is the most appropriate location for landfall having regard to all relevant environmental impacts, including impacts from

the whole development which would include the subsequent onshore grid connection. AC also highlighted recreational access, and requested that measures be put in place to restrict the level of disruption to no more than what is absolutely necessary.

AC concluded that if their comments are taken in to account, concerns are not considered to be so direct or unacceptably adverse to cause them to object to the Proposal.

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

**The Fife Council (“FC”)** whilst supporting the general principle of the Proposal, and welcoming the inherent benefits it is likely to generate for Fife and Scotland, they noted some concerns on a number of areas in relation to the ES.

FC considered that the EIA documents contained adequate assessments regarding designed landscapes within the Local Authority boundary and noted that the 50 km distance from the shore minimised the Proposal’s visual impact.

FC notes that the ES does not mitigate for potential archaeological deposits to exist within the sea bed footprint of each turbine. As a result of this FC recommended that once the number of turbines for the Proposal was identified and their location confirmed, a detailed archaeological mitigation strategy should be provided for each specific turbine footprint as well as the footprint for the associated cable works.

FC noted that a number of concerns had been raised by the local fishing industry with regard to the Proposal and other proposed offshore wind farms developments in the area. FC requested that Marine Scotland give due consideration to the comments from the local fishing community. FC is aware that the Forth and Tay Offshore Wind Developers Group (“FTOWDG”) has recently set up a new consultation forum, the Commercial Fisheries Working Group (“CFWG”) and wishes to see this forum be continued for the operational life span of the Proposal.

Finally, FC requested that the outcomes of the Unexploded Ordnance (“UXO”) site specific risk assessment are forwarded to Fife Council for further comment.

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

**The Joint Nature Conservation Committee (“the JNCC”) and Scottish Natural Heritage (“SNH”)** provided preliminary advice on 28<sup>th</sup> March 2013 on key natural heritage interests and the impacts to consider in respect of the Proposal. This advice is superseded by comments received on the 7<sup>th</sup> March 2014 from the JNCC and SNH which addresses the cumulative impacts of the Proposal together with ICOL and NNGOWL. Further advice was also received as detailed below:

- 15<sup>th</sup> April 2014 - Advice on gannet population modelling and update to the threshold;
- 30<sup>th</sup> May 2014 - Advice on marine mammal and freshwater fish interests included in the draft appropriate assessment for NNGOWL (also relevant for the Applications);
- 6<sup>th</sup> June 2014 - Advice on ornithology interests included in the draft appropriate assessment for NNGOWL (also relevant for the Applications);
- 10<sup>th</sup> June 2014 - Advice on increased turbine spacing and displacement assessment for the Proposal;
- 17<sup>th</sup> June 2014 - Advice on increased turbine spacing and displacement assessment for ICOL;
- 2<sup>nd</sup> July 2014 - Collision risk modelling undertaken to include the commitment by the Company to increase the blade clearance by 4 m from LAT;
- 4<sup>th</sup> July 2014 - Advice on puffin displacement rates and assessment methods
- 11<sup>th</sup> July 2014 - Letter to Marine Scotland detailing appropriate post-consent monitoring (should the Minister grant consent); and
- 16<sup>th</sup> July 2014 - Updated advice on appropriate displacement rates for guillemot, razorbill and kittiwake.
- 16<sup>th</sup> September 2014 - Advice on the Firth of Forth Banks Complex MPA

On the 7<sup>th</sup> March 2014 the JNCC and SNH advised that the Proposal is likely to have a significant effect on the qualifying interests of a number of SACs and SPAs. The JNCC and SNH advised MS-LOT to carry out an AA in view of the conservation objectives for these sites. The JNCC and SNH undertook their own appraisal of the Proposal following a series of meetings with the Company, JNCC, SNH, Marine Scotland Science (“MSS”), ICOL and NNGOWL to resolve issues to support a more robust cumulative impact assessment and comparison between the development proposals. The approach which is known as the “common currency” ensures that assessments are completed using the most appropriate methods and parameters across the different developments.

The JNCC and SNH concluded that the EIA and HRA have shown that some SPA seabird species are the key natural heritage interest which will constrain the Proposal in combination with the NNGOWL and ICOL proposals. Impacts on birds including collision risk and displacement will occur over the operational lifespan of the wind farm. The JNCC and SNH highlighted kittiwake, gannet and puffin as being of particular concern, followed by common guillemot, razorbill, herring gull, lesser black-backed gull, northern fulmar and common & Arctic tern species. For all species other than gannet and puffin, the JNCC and SNH used a reduced uncertainty method of acceptable biological change (“ruABC”) in their appraisal to determine whether levels of impact would be acceptable under the Habitats Regulations. In their appraisal for gannet, Strategic Ornithological Support Services (“SOSS”) Population Viability Analysis (“PVA”) was used, and for puffin, both potential biological removal (“PBR”) and thresholds from proxy species of razorbills and guillemots were used.

In their advice on 7<sup>th</sup> March 2014, the JNCC and SNH advised that the Proposal in combination with ICOL and NNGOWL:

- Would adversely affect the site integrity of the Forth Islands SPA with respect to kittiwake, gannet and puffin; and
- Would adversely affect the site integrity of the Fowlsheugh SPA with respect to kittiwake.

Of the remaining species and sites requiring consideration in the AA, the JNCC and SNH advised that neither collision nor displacement (as a consequence of the Proposal in combination with ICOL and NNGOWL wind farms) **would not** adversely affect the integrity of:

- Buchan Ness to Collieston Coast SPA with respect to guillemot, herring gull, fulmar, and kittiwake;
- Forth Islands SPA with respect to guillemot, razorbill, herring gull, lesser black backed gull, fulmar, common tern and Arctic tern;
- Fowlsheugh SPA with respect to guillemot, razorbill, herring gull and fulmar; or
- St Abb's Head to Fast Castle SPA with respect to kittiwake, guillemot, razorbill and herring gull.

In their advice dated 6<sup>th</sup> June 2014, the JNCC and SNH advised that due to the finalisation of the Centre for Ecology and Hydrography ("CEH") report they were now also advising that adverse effect on site integrity could not be ruled out for Forth Islands SPA with respect to razorbill.

This advice was reviewed by MSS who provided MS-LOT with a detailed justification as to why the methods used by the JNCC and SNH in reaching their conclusions were not the most appropriate and in their view did not use the best available evidence.

Further comments were received from the JNCC and SNH on the 10<sup>th</sup> June, 4<sup>th</sup> July and 16<sup>th</sup> July 2014 advising that it would be appropriate to use reduced displacement rates in the assessment of displacement effects at the SAWEL, SBWEL and ICOL sites due to the lower density of WTGs at these sites.

The JNCC and SNH also highlighted that effects on species not covered under HRA require consideration (i.e. individuals breeding outwith SPAs and non-breeding individuals). For some species e.g. kittiwake a considerable number of smaller colonies exist outside of the SPA boundaries and additional potential mortality from the Forth and Tay wind farm developments could contribute a significant proportion of United Kingdom ("UK") cumulative mortality. In respect of gannet, great-black backed gull, lesser black-backed gull and razorbill there may be significant cumulative impacts at a UK-level arising from consented and proposed wind farm development in UK waters.

One of the challenges in assessing non-breeding season effects is that currently no appropriate reference populations have been defined that would allow a suitable assessment to be undertaken. However, MSS is contributing to a project being led by Natural England that will define non-breeding season populations for the first time. This will allow appropriate thresholds of change to be identified, and be a significant step towards allowing such assessments to be carried out in the future.

The JNCC and SNH advise that with regard to impacts on migratory waders and wildfowl they support the strategic collision risk assessment commissioned by Marine Scotland and undertaken by the Wildfowl & Wetlands Trust Consulting Ltd (“WWT”) and MacArthur Green Ltd. This project presents a strategic assessment of potential collision risk to migrating wildfowl, waders and other non-seabird species from all current offshore wind farm proposals in Scotland and Robin Rigg, in operation. The modelling confirms that the risk presented by this Proposal would not be significant on its own, nor cumulatively with the other Forth and Tay developments or recently consented Moray Firth offshore wind farms, to any of these migratory non-seabird populations.

In order to mitigate potential impacts on birds the Company has committed to raising the minimum turbine height by 4 metres, which will mitigate collision effects, and increase turbine spacing to a minimum of 1000 m, which will mitigate displacement effects.

Following a meeting held on 7<sup>th</sup> July 2014 between Marine Scotland and SNH, SNH followed up with a letter of 11<sup>th</sup> July which stated they had the opportunity to review and discuss aspects of their advice where conclusions reached by the JNCC and SNH on SPAs are at variance from those reached by MSS. This was done in an effort to understand the nature and origin of the differences, and the extent to which they were germane to the decisions facing the Scottish Ministers with regards to these Applications and the other applications for wind farms in the Forth and Tay.

In the letter, SNH noted that there was agreement between their advisors on the vast majority of the issues raised by the Forth and Tay proposals in terms of their effects on the natural heritage and in particular on protected species of seabird. SNH also noted there were precautionary elements in the approaches taken and the models recommended by the JNCC, SNH and by MSS.

SNH stated that the level of precaution which is appropriate is not a matter that can be determined precisely, and that judgments have to be made. They went on to say that this is a new and fast developing area of scientific study and that approaches are continually developing and being tested. Many of the methods underpinning assessment (such as collision risk modelling) are based on assumptions for which it may take a long time to get field data to provide verification. So again judgments had to be made where empirical analysis is unable to provide certainty.

SNH outlined several areas of ornithology monitoring which they recommended should be included in any consent granted. This was:

- the avoidance behaviour of breeding seabirds around turbines;
- flight height distributions of seabirds at wind farm sites;
- displacement of kittiwake, puffin and other auks from wind farm sites; and
- effects on survival and productivity at relevant breeding colonies.

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

With regard to marine mammals the JNCC and SNH concluded that, subject to conditions there would be no long-term effects from underwater noise disturbance on the bottlenose dolphin population from the Moray Firth SAC or the harbour seal population from the Firth of Tay & Eden Estuary SAC. It was also concluded that there would be no long-term effects from underwater noise disturbance on the grey seal population from the Isle of May or Berwickshire & Northumberland Coast SACs thus no adverse effect on site integrity of those SACs. The JNCC and SNH advised that it has not been established whether there is a link between the use of ducted propellers and the corkscrew injuries which have been recorded in seal species over the last couple of years. Research in this regard has been commissioned by Marine Scotland and SNH and is currently being undertaken by the Sea Mammal Research Unit ("SMRU"). A condition requiring a Vessel Management Plan ("VMP") will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted The VMP will consider measures to mitigate potential corkscrew injuries to seals, and the JNCC and SNH will be consulted on this plan.

Impacts on other cetacean species including harbour porpoise, minke whale and white beaked dolphin were also considered by the Company. The JNCC and SNH advised that the temporary disturbance / displacement caused by the proposed Forth and Tay wind farms has the potential to affect the animals' energy budgets. However, these species are wide-ranging, and the spatial scale and temporary nature of the disturbance from wind farm piling and other construction activity is very small when compared to the range and movements of these species. The JNCC and SNH advised that disturbance to these species will not be detrimental to the maintenance of these populations at a favourable conservation status in their natural range. The JNCC and SNH advised that a EPS licence would be required due to the potential for disturbance to cetacean species. An EPS licence(s) will be applied for when the final wind farm layout, design and foundation options have been confirmed.

With regard to river SACs, the JNCC and SNH advise Likely Significant Effects ("LSE") on River South Esk (designated for Atlantic salmon and fresh water pearl mussel ("FWPM")), River Tay (designated for Atlantic salmon, lamprey species and otter) and River Teith (designated for Atlantic salmon and lamprey species). Impacts could arise from disturbance to the species from construction noise, or possible effects of electro-magnetic fields ("EMF") arising from installed cables. Atlantic salmon are integral to the life cycle of FWPM, therefore any impacts to Atlantic salmon that prevent them from returning to their natural rivers may have a resulting effect on FWPM. The JNCC and SNH concluded that the proposed Forth and Tay wind farms would not adversely affect the integrity of these SACs as effects can be avoided through agreement on working practices and mitigation via conditions. Conditions which reflect this will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

A key concern of the JNCC and SNH in respect of marine fish, relates to underwater noise impacts from pile-driving of the WTG foundations during construction on cod and herring. Noise impacts that interrupt or adversely affect spawning activity could be expected to result in an impact to the cohort for that year. Pile-driving activities in

successive years may therefore result in a series of weakened cohorts within a population. Conditions to mitigate these impacts including the requirement for soft start piling, piling schedules and construction programmes will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted. Post consent sandeel surveys were also recommended by the JNCC and SNH in order to better inform sandeel distribution with the Forth and Tay wind farm sites, again this requirement will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

In their interim advice on the Proposal the JNCC and SNH highlighted the inability to conclude assessment for sediment release arising from “worst case” scenarios utilising gravity bases as the Company was unable to confirm the upper limit of gravity bases to be used for turbine foundations. MS-LOT have advised the Company that if gravity bases are to be used this will require a further application and supporting EIA for the assessment of the dredging requirements, sediment release and disposal of dredgings.

The Priority Marine Feature (“PMF”) species *Artica islandica* (ocean quahog) has been recorded in limited numbers, and only as juveniles, by the Company within the Proposal site and along the export cable route. The JNCC and SNH advise that this species is sensitive to smothering, and therefore would welcome potential mitigation measures for this species. The Company has also recorded *Sabellaria spinulosa* within the site, but not in crust or reef form constituting Annex 1 habitat. The JNCC and SNH have welcomed the Company’s initial mitigation proposals in respect of potential rare or important habitats within the site namely the mitigation measures presented in paragraph 11.130 in Chapter 11 of the ES. The Proposal site partially overlaps with the Marine Protected Area (“MPA”) for the Firth of Forth Banks Complex. The JNCC and SNH welcome the Company’s proposals to mitigate impacts to benthic habitats, including MPA features as well as their continued engagement over the proposed management options for this MPA. Further advice was received from the JNCC regarding the potential impacts of SAWEL and SBWEL on the MPA on 16<sup>th</sup> September 2014. The JNCC advised that the developments were capable of affecting (other than insignificantly) the ocean quahog and the offshore subtidal sand and gravel qualifying features of the MPA, Due to the areas of overlap being small however and the mitigation proposed by SWEL the JNCC concluded that there was no significant risk of the SAWEL and SBWEL developments hindering of the achievement of the conservation objectives of the MPA. Following this advice MS-LOT completed an assessment which also concluded that subject to conditions there is no significant risk of the proposed SAWEL and SBWEL developments hindering the achievement of the conservation objectives for the protected features of the Firth of Forth Banks Complex NC MPA (full details can be found in the MPA assessment).

With regard to visuals, the JNCC and SNH advised that the proposed Forth & Tay wind farms would cause widespread and significant adverse landscape and visual impacts along the Scottish East coast from St Cyrus in Aberdeenshire, through Angus and Fife south to Dunbar in East Lothian. The scale and extent of development, if consented, is unprecedented within Scotland (onshore or offshore) in

recent times. The most significant effects will be from ICOL and NNGOWL and the Proposal, being furthest offshore, will contribute least to the cumulative effect.

The JNCC and SNH described the main cumulative impacts as follows:

In South Aberdeenshire / Angus, ICOL would form a visually prominent feature across the sea-horizon and cause a significant change to the open sea views experienced from the coastal settlements of Montrose, Arbroath and Carnoustie and as seen from the A92, the East Coast railway, NCN Route 1 and the Angus Coastal Path. ICOL would have major effects on coastal character including the highly scenic Montrose Bay and Lunan Bay and on the rugged and dramatic coast between Lang Craig and Deil's Heid north of Arbroath. In the north and south of this area, the Proposal and NNGOWL in combination with ICOL would result in significant cumulative effects on views and coastal character.

In East Fife, NNGOWL and ICOL would form visually prominent features across the sea-horizon and result in significant changes to open sea views affecting the experience of remoteness and the natural aspect of the Tentsmuir coast, the coast between St Andrews and Fife Ness and the Isle of May. Both wind farms are likely to affect the landscape setting of St Andrews and appreciation of its historic skyline. They will also significantly affect views from beaches, golf courses and from the Fife Coastal Path between Crail and Tentsmuir. NNGOWL, being closest to this stretch of coast, would have a particularly severe effect and would also be seen from the Inner Firth of Forth.

In East Lothian, NNGOWL would form a visually prominent feature across the sea horizon and intrude on the spectacular seascape panorama which includes the distinctive Bass Rock and North Berwick Law.

Additionally, these offshore wind farms - particularly NNGOWL and ICOL - would change the night-time character of the sea, extending lit-ribbon development from along the Fife and East Lothian coasts out into the Forth.

The JNCC and SNH highlighted that because final designs cannot be assessed at this stage, of wind farm design (post-consent) will be important in mitigating landscape and visual impacts. As such, the JNCC and SNH recommend that the Company should employ a qualified and experienced landscape architect to be involved in the post consent design process and to 'sign off' the final wind farm design alongside project engineers. It is also stated that visualisations could be provided post-consent to illustrate the finalised wind farm from key representative viewpoints which would be for public information only and not for consultation. Conditions requiring the submission of a Development Specification and Layout Plan ("DSLPL"), Design Statement ("DS") and a Lighting and Marking Plan ("LMP") will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**The Scottish Environment Protection Agency ("SEPA")** a statutory consultee, raised no objection to the Proposal subject to the inclusion of a condition on any consent that may be granted that states a Construction Environmental Plan ("CEMP") is submitted to Marine Scotland for further written approval prior to the



commencement of any (construction) works commencing. SEPA welcomed the general mitigation principles and pollution prevention measures set out in the ES.

Further to the condition that SEPA requested requiring the submission of a site specific CEMP prior to any works commencing a draft 'Schedule of Mitigation' should be produced as part of this process and should include a timetable of works that takes into account all environmental sensitivities associated with construction activities. This should cover all the mitigation measures identified to avoid or minimise environmental effects during the construction of the Proposal.

The Construction Environmental Management Document ("CEMD") should form the basis of more detailed site specific CEMPs which along with detailed method statements may be required by condition or, in certain cases, through environmental regulation. This approach provides a useful link between the principles of development which need to be outlined at the early stages of the project and the method statements which are usually produced following award of contract (just before development commences).

SEPA advised that the detailed CEMD is submitted for approval to the determining authority at least two months prior to the proposed commencement (or relevant phase) of development in order to provide consultees with sufficient time to assess the information. This document should incorporate detailed pollution prevention and mitigation measures for all construction elements potentially capable of giving rise to pollution during all phases of construction, reinstatement after construction and final site decommissioning, as applicable. This document should also include any site specific CEMPs and Construction Method Statements provided by the contractor as required by the determining authority and statutory consultees. The CEMD and CEMP do not negate the need for various licences and consents if required. The requirements from the obtained licences and consents should be included within the final CEMPs.

SEPA's requests will be captured under wider conditions for environmental management, monitoring and mitigation, and will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

SEPA welcomed the intention to carry out a risk assessment as stated in the ES in terms of mitigation of non-native or invasive species from construction vessels, which will lead to recommendation for management measures, and recommend several guidance notes.

SEPA advised that the landfall location is close to the Designated Bathing Water at Carnoustie large scale sediment disturbance can result in elevated faecal coliform concentrations which can potentially lead to bathing water failure. SEPA stated that ideally works should take place outwith the bathing water season (1 June to 15 September). SEPA should be notified when the cable installation is scheduled to take place in Carnoustie Bay at the earliest opportunity.

#### Non Statutory Consultees

**Aberdeen International Airport (“AIA”)** initially objected to these Applications on behalf of NATS Services Ltd (“NSL”) and of NATS En-Route PLC (“NERL”) operations. AIA examined the Proposal from an aerodrome safeguarding perspective and concluded that due to the operational impact on the primary radar used at AIA, the Proposal will have a detrimental effect on Air Traffic Control (“ATC”) at the airport, and the introduction of further turbines would create unacceptable clutter on the radar screens. Subsequent correspondence stated that NATS would progress discussions on safeguarding and mitigation. As NATS have removed their objection and mitigation also addresses the AIA objection, AIA have now also removed their objection.

**The Association of Salmon Fishery Boards (“ASFB”)** objected to the Proposal, until adequate monitoring and mitigation strategies have been put in place. The ASFB have concerns over the Proposal, particularly with regard to the uncertainty surrounding the potential negative effects on Atlantic salmon and sea trout and the integrity of a number of SACs for Atlantic salmon. The ASFB recognises that information gaps can only reasonably be filled by large scale strategic research and have requested the inclusion of a formal mitigation agreement on any consent.

The other concerns raised included the impacts from noise during construction, subsea noise during operation, electro-magnetic fields (“EMF”) from cabling and EMFs arising from operation of devices, disturbance or degradation of the benthic environment (including secondary effects on prey species) and aggregation effects of the turbines resulting in aggregations of predators.

ASFB were of the opinion that the lack of meaningful monitoring in the present Proposal was ‘extremely disappointing’ and ‘completely inadequate’. ASFB emphasise that any monitoring strategies must include pre-construction monitoring in order that baseline information on salmon and sea trout movement, abundance, swimming depth, feeding behaviour etc. can be collected. The Company replied in a letter dated 2<sup>nd</sup> September 2013, stating its commitment to the development of a monitoring plan if appropriate, and will do so in discussion with the regulators. The Company is aware of the current work being undertaken by MSS in relation to furthering the understanding of interactions between migratory fish and marine renewables developments at a national level (e.g. investigations of salmon and sea trout audiograms). The Company supports this approach and remains committed to engagement with MSS on the development of future studies, including potential monitoring effort, which will inform the development of the Construction and Environmental Management Plan (“CEMP”) post consent.

ASFB advised that the Rochdale Envelope approach taken made it extremely difficult for stakeholders to assess the potential environmental risk as there is little detailed information on: the likely size of the scheme; the type of devices to be deployed; and the degree of confidence attached to the assessment of impacts. In their response letter mentioned above, the Company noted that the Rochdale Envelope approach is intended to allow assessment of the worst case scenario, such that the consented project is within that envelope. The Company acknowledges that there is a consequent degree of uncertainty, and that this is related to the early stage in the project at which the Applications, in accordance with the 2000 Regulations and the 2007 Regulations, must be prepared.

ASFB highlighted the risks associated with increased suspended sediment concentrations (“SSC”) and suggest that sensitive operations should be avoided during the annual smolt migration period. This would have the additional benefit of avoiding the migration period of returning early-running adult salmon which themselves have high economic and ecological value. Detail on the worst case levels of suspended sediment associated with the construction phase of the project is provided in Environmental Statement, Chapter 7: Physical Environment, and Chapter 8: Water and Sediment Quality. The increase in suspended sediments will be short term and will become indistinguishable from background levels over a short period of time (order of days). As discussed in ES Chapter 12, the effect of the potential worst case increases in SSCs is expected to result in a negligible, and therefore, not significant impact. The Company has also carried out a review of ten previous Environmental Statements for offshore wind farm developments in specific relation to the modelling of sediment plumes and sediment deposition issues. This review indicates that increases in suspended sediment concentration are in general predicted to be short term, localised and not significant. Further design work is required in order to refine the timing of construction operations in relation to sensitive receptors, and the Company will discuss such timing issues with the regulators.

ASFB advised that until the MSS research programme on the effect of EMF on salmonids is completed, they are unable to assess the relative magnitude of this impact, or relate any potential EMFs arising from the Proposal to those magnetic fields likely to initiate a behavioural response in salmonids. The ASFB stated that there is a need to assess the swimming depths of salmon and sea trout transiting the area of the wind farm in relation to the effects of EMFs from cabling. ASFB also noted the importance of considering the foraging behaviour of sea trout and that no information is presented as to the depths at which such fish forage. ASFB recommend that burial depth of cables should be based on research. However, in the absence of definitive evidence they consider that all cables should be buried to a minimum depth of 1.5 m. Where cable burial is not possible, ASFB recommend that cables are covered to an equivalent depth through cable protection. In view of the knowledge gaps, and based on a review of the current state of knowledge, the Company has taken a conservative approach in the assessment of the effect of EMFs on diadromous species, and concluded that there is potential for a minor impact to occur. As presented in the ES, EMF-related effects will be mitigated through cable burial and / or protection. The maximum depth to which cables can be buried will be determined following detailed geotechnical study undertaken by the Company.

ASFB advised that the predicted area which salmon would avoid is significant and had the potential to at least delay smolt migration. In their response ASFB highlighted that simultaneous challenges from noise, EMFs etc. during this transition will constitute a significant additional stressor. ASFB were of the belief that the zones of avoidance set out in the ES, do not appear to be related to the swimming speeds of fish (at different life stages), in order to assess the possibility of such fish swimming out of the zone of effect.

ASFB welcomed the fact that piling operations would be intermittent and that soft-start piling is proposed for the construction of the Proposal. However, the ASFB

noted some concern regarding the lack of detail provided such as the proposed duration of any soft-start piling, and emphasised that such duration must be appropriate to the swimming speeds of the species in question and to allow that species time to move out of the zone of effect. ASFB concluded that should the Proposal be granted consent, an appropriate duration of soft start piling, related to the swimming speed of juvenile salmon and sea trout, should be a condition of any consent. However, ASFB stated that given the paucity of information on noise effects on salmon and sea trout, soft-start piling alone is not an appropriate mitigation. As a result of the sensitivity of early running returning spring salmon, and the uncertainty of effects on juvenile fish, ASFB requested that a condition of consent is that no impact piling occurs during the period from March to June (inclusive). As described in the ES Chapter 12, the soft-start procedure will be employed during pile driving activity and has been incorporated in the noise assessment. In their ES, the Company state that, given the distance from the Proposal to salmon rivers, fish would not be affected prior to river entry or immediately after leaving the rivers, both periods of the life cycle of salmon and sea trout when they are particularly sensitive. Consequently, behavioural effects associated with construction noise are anticipated to be limited to localised and very short term avoidance during migration and/or feeding.

The ASFB are concerned that the potential for the structures to act as fish aggregation devices ("FADs") could potentially be negative in the case of wild salmonids and that such areas may represent new 'pinch points' for predation of migrating smolts and returning adults. They note that this possibility does not appear to be considered in the Applications. The Company responded to the ASFB on these points stating that results of monitoring undertaken in operational wind farms to date do not suggest that the introduction of hard substrate has resulted in significant changes in the fish assemblage of the area. This information was presented and discussed in the ES Chapter 12.

ASFB highlighted other potential mitigation measures (such as large or small bubble curtains or sound-absorbing sleeves) to mitigate and minimise noise produced during potential piling operations may be available, but that they are not aware of any attempts to quantify the effect of such mitigation measures. The Company noted that the ES assessment is made according to the parameters of the Rochdale Envelope and that significant impacts on salmonids are not expected to occur as a result of the construction phase of the project. Soft-start piling will be used and this is the standard industry mitigation measure for minimising the potential for marine organisms to be exposed to the highest noise levels associated with pile driving. Furthermore, the Company noted that construction noise levels may be reduced through further detailed design (e.g. hammer energy and turbine loadings etc.).

ASFB recognise the importance of offshore renewable energy, but consider that the ES failed to demonstrate that the Proposal will not adversely affect the integrity of the SAC rivers or indeed other salmon and sea trout fisheries. On this basis the ASFB felt that they have no alternative but to formally object to the Proposal until adequate monitoring and mitigation strategies are put in place.

The Company, in their response to comments from the ASFB, note that the ES assessment was undertaken using the precautionary principle and within the

Rochdale Envelope parameters defined according to the Proposal using the best available information to inform the assessment. On this basis, no significant effects on salmon or sea trout have been identified. The Company stated their support for the current effort by MSS in relation to furthering the understanding of interactions between migratory fish and marine renewables developments at a national level (e.g. investigations of salmon and sea trout audiograms), and remains committed to engagement with MSS on the development of future studies, including potential monitoring effort.

The ASFB stated that there is a clear and urgent need to fund, plan and start strategic research on the movement, abundance, swimming depth, feeding behaviour etc. of salmon and sea trout. Such research would clearly feed into the potential mitigation measures that might be deemed appropriate, and the conditions under which such mitigation should be enacted. One aspect that the ASFB felt should be considered immediately was the installation of fish counters, particularly in SAC rivers. The ASFB believes that the installation of such counters, in close liaison with the District Salmon Fishery Boards in question and MSS, could potentially be considered as a condition of consent, where appropriate to local conditions, should such consent ultimately be granted. The ASFB also recommended that developers should work together to fund strategic monitoring.

Finally, ASFB recommended that an expert group be set up to consider the best way forward to resolve knowledge gaps and that the ASFB would be keen to participate in such a group.

After reviewing the SEIS, the ASFB recognised the willingness of the developers to consider contributing to strategic monitoring and potentially building mitigation into the construction schedule. Despite this, the ASFB maintained their objection on their belief that there remains insufficient information to make an adequate assessment of the potential effect on salmonid populations. The ASFB emphasised the importance of the process adopted towards consent being flexible enough to take into account relevant information relating to migratory fish, as and when such information becomes available.

These requests will be captured under wider conditions for environmental monitoring and mitigation to be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**Boarhills and Dunino Community Council (“BDCC”)** responded stating that they were “very much against” the Proposal and the proliferation of wind turbines, and they felt that local opinion was completely disregarded by the SG. They also raised concerns regarding landscape impacts arising from terrestrial wind farms which fall outwith Marine Scotland’s remit. BDCC questioned the efficiency of wind energy stating that they pose a great danger to sea life and birds. BDCC advocated the development of wave and tidal energy instead of wind farms.

**British Telecom (Radio Network Protection Team) (“BT”)** raised no objection to the Proposal. BT studied the Proposal with respect to Electromagnetic Compatibility and related problems to BT point-to-point microwave radio links and concluded that

the Proposal should not cause interference to BT's current and presently planned radio networks.

**Carnoustie Golf Links Management Committee ("CGLMC")** raised no objection to the offshore components of the Proposal, however they raised some concerns regarding the onshore aspect of the project, in particular, the cable landfall point and its potential impact on tourism. Their concerns are mainly related with the disruption and disturbance of the golf courses during and after construction. CGLMC also stressed the importance of The Open Championship for the local and Scottish economies. A condition capturing the timings of construction works reflecting CGLMC concerns will be included in any marine licence for the Company's Transmission Assets.

**The Chamber of Shipping ("CoS")** raised a number of concerns regarding the consultation process as well as the potential for cumulative impacts on navigation to arise should all of the Forth and Tay projects be built out in their entirety.

The CoS stated that they had not been approached by the Company to discuss areas of concern in the period between January 2011 and the receipt of the final Application documents (October 2012). In a meeting held between the Company, Anatec UK Ltd and the CoS on 1<sup>st</sup> July 2013, the level of engagement was discussed and it was agreed that meetings were to be arranged between the Company and the CoS at appropriate stages for future phases of the Seagreen Round 3 development.

The CoS raised concerns over the phased approach to development in the Firth of Forth Zone, highlighting the difficulties this presented for accurate navigational impact assessment. The CoS stated that they were disappointed that Phases 2 and 3 of the Seagreen Round 3 development had been scoped out of the cumulative impact assessment for the Proposal. These topics were discussed in the meeting mentioned above where the Company explained the approach undertaken and highlighted that future Phases of the Zone will be subject to a full round of consultations, workshop and Navigation Risk Assessments ("NRA").

The CoS raised concerns with some information presented by the Company and noted that Phase 3 of the Seagreen project appears to remove the potential for vessels to transit between ICOL and SAWEL, and would be likely to remove some rerouting options presented in the NRA. The CoS highlighted that the information provided by the Company could be made redundant by future development plans.

As a result of these concerns the CoS stated that they could not offer full support for the Proposal due to the lack of certainty regarding overall development with the Firth of Forth Zones. Until information illustrating an accurate holistic view of the region was provided, the CoS could not assess navigational impacts with absolute certainty. However, in subsequent discussions with MS-LOT, the CoS stated that, having reviewed the NRA and in light of discussions with the Company on 1<sup>st</sup> July 2013, they were content to accept the Proposal in isolation. Nevertheless, they reiterated their concern over the possibility for cumulative impacts from further developments within Phases 2 and 3 of the Seagreen Round 3 site, particularly as a result of the proximity of the ICOL and NNGOWL sites to the Firth of Forth zone. During discussions with the Company the CoS requested that a navigable corridor is

maintained between ICOL / NNGOWL and any developments in the Firth of Forth zone. This corridor should be proposed in line with the Maritime and Coastguard Agency (“MCA”) and the Northern Lighthouse Board (“NLB”) guidance and developers should discuss appropriate lighting and aids to navigation requirements with the NLB given the unique boundary outlines of the projects.

Furthermore, the CoS noted that operational safety zones are not accepted as standard practice by navigational stakeholders and that any application for operational safety zones should be supported by a full NRA justifying their need.

A condition requiring that the Company adheres to the mitigation measures identified in the NRA will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

The **Civil Aviation Authority (“CAA”)** did not object to the Proposal 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. A condition capturing this requirement will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**Edinburgh Airport (“EA”)** raised no objection after the Applications had been assessed against Aerodrome Safeguarding criteria and confirmed that no safeguarding issues arose from that assessment.

**Firth of Forth U10m Fishing Association** was consulted but no response was received from the organisation on the Proposal. However, the Association was included in the Fishermen’s Mutual Association (Pittenweem) Ltd response in the list of organisations it represents (see below).

**Fishermen’s Mutual Association (Pittenweem) Ltd (“FMA”)** speaks for Fishermen’s Mutual Association (Pittenweem) Ltd, the Fife Fishermen’s Association, the Fife Fish Producer’s Organisation, the 10 Metre and under Association and the Fife Creel Association. Their response highlighted that its members were not against the construction of wind farms but felt that irrevocable action must be taken to protect their future and the future of the village fishing industry in Pittenweem and the wider Firth of Forth.

FMA stated in their response that it is incumbent upon the SG, and by implication Marine Scotland, to ensure that all efforts are made to mitigate the effects that any wind farm development may have on fisheries.

FMA highlighted that, despite the fact that renewable companies had made verbal commitments to the fishing industry, written assurance must be given to protect fishermen’s rights and livelihoods as it is not certain who will own the wind farms after they are commissioned. The FMA made several requests including, but not limited to, the following; a requirement that towed gear should not be excluded from the site of the Proposal except during construction; exclusion zones should be no more than a maximum of 500 metres during construction and 50 metres at all other

times; cables should be trenched and backfilled and subject to routine inspection and maintenance; a data gathering programme for commercial species in the inner and outer Firth of Forth should be initiated to monitor fish stocks; establishment of a Forth and Tay Offshore Wind Developers Group - Commercial Fisheries Working Group ("FTOWDG-CFWG"); the fishing industry should be consulted on monitoring and decommissioning plans and the seabed should be returned to its original state after decommissioning, with the work only deemed to be complete after consultation with the fishing industry.

The FMA also raised the issue of compensation being paid to fishermen who might suffer a loss of earnings or damage to gear as a result of the Proposal. The FMA support the maintenance of the Fishery Liaison Officer ("FLO") and Fisheries Industry Representative ("FIR") system of consultations and reporting, and stated that a local FLO should be trained accordingly and deployed on ships working in the Forth.

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

**Forth Ports ("FP")** had no objections and stated that the Proposal did not directly affect their jurisdiction. However, FP noted that there was a possibility that the export cable to shore could come into their area of jurisdiction. Should this occur FP requested that they are engaged accordingly on the matter.

**Historic Scotland ("HS")** raised no objection to the Proposal noting there would be no significant adverse impacts on marine or terrestrial assets within Historic Scotland's statutory remit. HS was satisfied with the proposed mitigation strategy in relation to identified sites which have archaeological potential and for unexpected archaeological discoveries. HS requested a condition be included on any consent requiring information about archaeological sites discovered or recorded during the course of the survey work and development processes, be archived with the Royal Commission on the Ancient and Historical Monuments of Scotland or the adjacent Local Authority Archaeology Service. This requirement will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**The Joint Radio Company Limited ("JRC")** did not raise any objection and cleared the Proposal 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 Proposal.

**Marine Scotland Compliance - Aberdeen ("MSC Aberdeen")** consulted with a number of fishermen in the area. However, they received only one reply from the **Arbroath and Montrose Static Gear Association ("AMSGA")** who submitted a letter of objection to the Proposal.

The AMSGA stated that if the Proposal goes ahead there would likely be an adverse effect on marine life which would result in lasting damage to the environment along



the east coast of Scotland. AMSGA acknowledged that whilst there is no scientific evidence to suggest that the construction and operation of the Proposal will have an effect on lobster, crab and fish stock, they believe that it would be taking a chance with the local community's livelihood.

AMSGA stated that the loss of fishing grounds to both inshore and offshore fleets is significant and stressed that fishing areas throughout the North Sea are diminishing every year for several reasons such as closed areas, seasonal closures, real time closures, oil and gas installations, etc. The AMSGA raised concerns that noise and vibration will have a significant impact on the seabed through disturbance and destruction resulting in marine life being driven away. The AMSGA also felt that increased marine traffic during the construction and maintenance stages would considerably increase the potential for damage to, or loss of, fishing gear.

MS-LOT met with AMSGA on 26<sup>th</sup> June 2014, it was agreed that a condition will be put in place for the Company to fund a lobster restocking programme in the area. This will be agreed through the FTOWDG-CFWG and the Commercial Fisheries Mitigation Strategy ("CFMS"). Conditions relating to this will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**Marine Scotland Science ("MSS")** did not object to the Proposal and provided advice on the physical environment, coastal processes, benthic ecology, diadromous fish, aquaculture, fish and shellfish ecology, commercial fisheries, marine mammals and ornithology.

#### Physical Environment

MSS commented that because of the Rochdale envelope approach which assessed different foundation types, including gravity base and steel jacket systems, much of the detail on the methodologies and the timing of the works had been omitted from the ES. MSS highlighted the importance in the Company understanding potential for weather restrictions on construction activities. MSS were of the opinion that the impacts from gravity bases had not been fully assessed. MS-LOT has informed the Company that if gravity bases are to be used these will require a further EIA to assess the dredging and disposal associated with this foundation type.

#### Coastal Processes

MSS advised that they had no major concerns or comments regarding the coastal processes sections of the ES. Issues surrounding wave diffraction and breaking were assessed effectively and used a strong evidence base consisting of a comprehensive review of EIAs for other offshore wind farms. This review included information on a variety of foundation designs, including gravity base structures that are generally considered as the 'worst case scenario' within the Rochdale envelope scheme. MSS also considered that the assessment on scour was appropriate.

#### Benthic Ecology

MSS did not agree with the conclusion within the ES that the impacts on benthos from the cable installation would be low and advised that this impact is likely to be moderate. Again, concerns were raised over the use of gravity bases where the impact of seabed preparation was assessed within the ES as being low. MSS commented that this could cause permanent damage to the local ecology.

### Diadromous Fish

MSS advised that the main species which will potentially be present in the Proposal area are salmon, sea trout and eels. MSS were of the belief that the information within the ES adequately covers the details of the site preparation, construction work and operation which are relevant to diadromous fish. MSS agreed with the findings of the ES which correctly identified noise during construction and EMF during operation as potential impacts however, they noted that operational noise should also have been considered. MSS highlighted the potential for salmon smolts destined for sea feeding areas north of the British Isles, not just from nearby rivers, but also from rivers further south, including the Tweed to pass through the area; and returning adults, not just those destined for rivers further south, including those on the Scottish east coast, but also ones further north on this section of the Scottish coast, such as the River Dee.

MSS advised that given the substantial uncertainty associated with potential impacts on fish migration and consequences for individual rivers, and the possibility of widespread cumulative impacts, that MS-LOT may wish to consider with the Company whether arrangements can be put in place to monitor fish movement through the area and / or improved monitoring of the health of salmon populations to supplement and improve the current rod catch assessments. The evolution of the '*National Research and Monitoring Strategy for Diadromous Fish*' is currently ongoing with the aim of trying to address the many unknowns surrounding the life patterns of diadromous fish. A condition will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted for the Company to commit to participation in the monitoring strategy at a local level.

### Aquaculture

MSS advised that there are no aquaculture sites within the boundaries of the Proposal area. The closest aquaculture site is located ~57 km south of the Proposal and is an active land based lobster hatchery operated by the Firth of Forth Lobster Hatchery.

### Fish and Shellfish Ecology

MSS recommended that caution should be taken when attributing significance of the benthic trawl catch data to species abundance, as the beam trawl will catch flat fish very well (as evidenced in the ES) however, demersal fish species and some commercially important shellfish like king scallops, will not be well represented due to the nets catchability for these species. MSS commented that in addition to soft start piling the developer could look at piling activity to be carried out in the southern region of the site to try and minimise the noise propagation into the Buchan herring

spawning area at peak spawning season. A condition will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted, for the Company to carry out pre-construction monitoring for herring which can help inform the Piling Strategy (“PS”).

MSS recommended that cables should be buried to a minimum of 1 m to mitigate against EMF impacts and recommended that discussions are sought from the fisheries working group as to the best type of cable protection for safety of fishing vessels. MSS advised that the Company has not considered impacts from displaced fishing effort and how this may impact the various fish species particularly in relation to the scallop fishery.

### Commercial Fisheries

MSS noted that, in general, the Company had provided a robust assessment of the key impacts. MSS commented that the scallop fishing activity in the SAWEL site is heavier than in the SBWEL site and they would consider scallop fishing to be of medium sensitivity and the impacts to be of medium magnitude from temporary loss or restriction of access to fishing grounds and displacement of fishing vessels, resulting in moderate adverse and significant impacts. MSS noted that it had been difficult for the developer to address cumulative impacts with any great certainty and advised that this should be looked at by the fisheries working group that has been set up. A condition will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted, for the Company to submit a Commercial Fisheries Mitigation Strategy (“CFMS”) and continue FTOWDG-CFWG.

### Ornithology and Marine Mammals

MSS provided advice on these aspects in January 2013, however, this advice is largely superseded by advice they provided to inform the AA. MSS have worked with the JNCC, SNH, the Company, ICOL and NNGOWL to allow a robust cumulative assessment for the Forth and Tay region for bottlenose dolphin, grey and harbour seals and several species of seabirds. Details are provided in the Appropriate Assessment.

**The Maritime & Coastguard Agency (“MCA”)** raised no objection to the Proposal, subject to all MCA recommendations be 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.

The MCA noted that hydrographic survey data, required to validate the NRA, had not been provided at the time of application. The Company subsequently provided the required data to the MCA which confirmed (email dated 13<sup>th</sup> August 2013) that the hydrographic survey data met the requirements outlined in Annex 2 of MGN371 (the site and associated cable routes) with the geophysical survey and operational reports detailing all the required information.

The MCA stated that the Proposal had the potential to impact on navigation through displacement of vessel traffic in the area and called for careful monitoring of the potential effects on vessel traffic. In particular, one area of significant concern remains the undeveloped sea space between the ICOL and SAWEL. The MCA requested that the Company review the deviations from routes assessed in the NRA taking account of both SAWEL and SBWEL.

The MCA stated that, if applied for, detailed justification would 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.

The MCA noted that export cable routes, burial protection and cable protection are issues that are still to be developed and that due cognisance is required to address these issues especially in navigable waters where depth may become significant. The MCA recommended avoiding existing charted anchorage areas. The Company, on 6<sup>th</sup> June 2013, informed the MCA that consideration will be given to water depths during this process to ensure that the final protection methods used do not reduce the water depth to such a level that would impact upon the safe navigation of vessels.

The creation of a full Emergency Response & Cooperation Plan (“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 any consent being determined. Due to the design envelope approach taken by the Company in their Applications, the production of a final ERCoP at this stage is not possible. Further discussions have taken place between the Company, the MCA and MS-LOT where an agreement was reached to include a condition for the Company to prepare a final ERCoP to pre-construction and submit it to the MCA. This will allow the Applications to be determined but effectively holds the commencement of construction until the ERCoP is in place.

Conditions relating to the requests from the MCA will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**National Air Traffic Services (“NATS”)** initially objected to the Proposal due to unacceptable impacts on Prestwick Centre Air Traffic Control, Prestwick Centre Military ATC and Aberdeen En-route ATC. These impacts on operation and confliction with NATS safeguarding criteria led to NATS objecting to the Proposal.

Further discussions between the Company and NATS resulted in an agreement of a contract whereby the objection from NATS and AIA could be removed subject to conditions being attached on any consent. These conditions will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

## **The Ministry of Defence (“MOD”)**

### MOD Barry Buddon Danger Area

The MOD did not object to the Proposal, however, they considered it necessary for the Company to revise the current cable route to minimise its occupation of the above Danger Area D604 ("Danger Area"). This will serve to separate, so far as possible, the cable route from the sea area into which military firing takes place.

The MOD also requested that the Company produces a management plan defining the protocols between the Company and Barry Buddon Range and training supervisors to ensure marine works are co-ordinated with firing activities and do not impact upon military training.

Further discussions between the Company and the MOD have taken place. The MOD provided an updated response on their safeguarding position in a letter dated 29<sup>th</sup> May 2014. This letter stated that the completed Proposal will not impede the use of the range. However, the MOD is concerned that the marine works associated with installing that part of the cable route passing through the range Danger Area are likely to cause disruption to military training activities. It is recognised that an alternative cable route running parallel to the northern boundary of the Danger Area is constrained due to rocky outcrops. Having taken this into account, the MOD does not object to the proposed cable route that passes through Danger Area.

The Company will however, need to take into account the military firing activities conducted into the seaward area adjacent to the MOD property and abide by the restrictions to access to the sea area defined in the current Barry Buddon Ranges Byelaws (Statutory Instruments 1973 No. 1428) that are applicable when the range is in use. To safeguard the sea area used for military firing practise and facilitate the Proposal, the MOD requests that any licence issued for the Proposal should include a condition obligating the Company to submit a management plan of the proposed marine works. This should set out a works programme taking account of the firing range and should include communication protocols between the applicant and Barry Buddon Range. In addition, a condition should be included obligating the operator to obtain prior approval from Barry Buddon Range prior to undertaking any works or deploying any vessels or equipment within Danger Area.

The information submitted by the Company identifies that the cables will (subject to sea floor conditions) be trenched into the sea floor to a depth 0.5-2 m or will otherwise be covered with boulders or concrete mattresses where they cannot be buried. Taking into account the proposed route of the cable and installation methodology, there is a possibility that where the cables occupy the Danger Area they could be damaged by military firing. As such, the MOD advises the applicant that to afford optimum protection to the section of the entrenched cables passing through Danger Area, it is recommended that the cables are enclosed with Structural Grade 40 concrete 200 mm thick.

The MOD accepts no liability for any damage that may be caused to that part of the sub-sea cabling routed through the Danger Area that is incurred as a consequence of military firing activities.

Any access needed to the sub-sea cables installed through the Danger Area for inspection or repairs will need to be pre-arranged with Barry Buddon Range and

compliant with the requirements of Barry Buddon Ranges Byelaws (Statutory Instruments 1973 No. 1428).

It is strongly recommended that prior to commencing any intrusive works within or near to the Danger Area that the Company undertakes a survey to check for the possible presence of unexploded ordnance in the sea floor.

These conditions should serve to co-ordinate the movement of vessels (or other installations) engaged in cable installation works or other works associated with this Proposal and ensure that there is no conflict between the marine works and military firing activities that use the sea area contained in the Danger Area.

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

#### RAF Leuchars, RRH Buchan and RRH Brizlee Wood.

The MOD initially objected to the Proposal as the WTGs would cause unacceptable interference to the Air Traffic Control Radar (“ATC”) at RAF Leuchars. The WTGs in the Proposal would also cause unacceptable interference to the Air Defence (“AD”) Radar at RRH Buchan and RRH Brizlee Wood.

MOD stated that if the Company were to overcome these issues then all WTGs should be fitted with appropriate aviation lighting. The Company submitted site specific mitigation proposals to the MOD with a view to addressing the impacts of the Proposal on both ATC and AD Radar.

The technical radar mitigation proposal submitted by the Company for RAF Leuchars ATC radar was accepted by the MOD and they subsequently removed their objection subject to appropriate conditions being included on any consent, in a letter dated 12<sup>th</sup> June 2014.

The technical mitigation proposal in the form of a Mitigation Modelling Report submitted by the Company for RRH Buchan and RRH Brizlee Wood AD radar was accepted by the MOD and they subsequently removed their objection subject to appropriate conditions being included on any consent, in a letter dated 12<sup>th</sup> June 2014 for RRH Buchan and on 7<sup>th</sup> July 2014 for RRH Brizlee Wood.

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

**Northern Lighthouse Board (“NLB”)** raised no objection to the Proposal. The NLB requested that they be consulted post-consent to ensure the Proposal, during construction, operation and decommissioning phases, will be suitably marked and lit and also that appropriate Notices to Mariners and Radio Navigation Warnings are issued to notify mariners of ongoing works in relation to the Proposal. The NLB also recommended that publication of information in other appropriate bulletins, stating the nature and timescale of the works are provided to ensure adequate notification of the Proposal to mariners. The exact marking and lighting requirements for the

operational phase of the Proposal could not be provided until the final WTG layout has been defined. Furthermore, the NLB stated that further mitigation for any corridor between SAWEL and SBWEL and a gap with the adjacent ICOL may be required and will require final agreement with both NLB and the MCA.

The Company, in a letter dated 6<sup>th</sup> June 2013, noted that further information about the final structure layouts is not available at the current time, and the NRA has assessed the worst case using the parameters in the Rochdale Envelope to account for this. The NLB will be consulted on final layouts once these are available for the Proposal.

NLB highlighted that the marking and lighting of the Proposal may require to be altered or amended to reflect the development of the adjacent ICOL site in order to form a continuation of a suitable marking of the area occupied by turbines and sub-stations. NLB expects that the Company, or any subsequent owner of the consent(s) will co-operate fully in this matter.

The NLB noted a requirement that, once agreed, the final number, layout and positions of each turbine, along with any subsea infrastructure, is provided to the United Kingdom Hydrographic Office (“UKHO”) so that relevant nautical charts are correctly updated.

Furthermore, the NLB advised that they wish to be consulted regarding lighting and marking requirements for the decommissioning stage of the Proposal.

The NLB indicated that they were content for any consent to be issued provided they are consulted on the final layout and development plans. Any consent should certify that the developer / operator ensures appropriate marking and lighting is in situ during all phases of construction, operation and decommissioning as agreed with the NLB.

Conditions requiring the Company to submit final plans on layout (Development Specification and Layout Plan (“DSLPLP”)), lighting (Lighting and Marking Plan (“LMP”)) and navigational safety (Navigational Safety Plan (“NSP”)) for approval will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**Repsol Nuevas Energias (“Repsol”)**, the company developing the Inch Cape Offshore Windfarm (“ICOL”), did not object to the Proposal, however, made strong considerations regarding the SEIS. Repsol reviewed the SEIS and identified a significant number of factual errors in the information presented in relation to the ICOL project.

The errors referred by Repsol were regarding pile numbers, piling days, maximum excavated volumes per WTG, WTG operational times for ICOL and flight densities for some species of birds. Repsol stated that a large amount of data presented in the ICOL ES was modified in the Company’s assessment documents. Repsol confirmed this with the Company who presented as justification the attempt to present information on a comparable basis (referred to as a “common currency”). Repsol

stressed that these modifications reflected the opinion of the Company and not any common position across projects.

Repsol do not consider that any information presented in the Company's SEIS in relation to ICOL can be relied upon, in whole or in part.

Repsol stated that in multiple instances the ICOL survey and assessment methodologies were brought into question. Repsol considered this to be inappropriate on the basis that ICOL followed guidance and specific advice from relevant authorities both in terms of the assessments and the way results were reported.

MS-LOT advised and oversaw correspondence between ICOL and the Company regarding ICOL's response, which resulted in the Company producing an SEIS Erratum. As there are no specific provisions in legislation regarding this type of document, MS-LOT decided that the most appropriate way was to treat the document as additional information under the 2008 Amendment to the 2000 Regulations. Therefore, a copy of the Erratum was sent (21<sup>st</sup> March 2014) to all consultees; the Company made the Erratum available in the same public places where the ES was made available for public consultation; and two public notices were published for two consecutive weeks (Edinburgh Gazette and Dundee Courier), as per MS-LOT instructions. Even though a period for public representations was created as a result of these procedures, no representations from members of the public were received.

Repsol, in a letter sent to MS-LOT, welcomed the acknowledgement by the Company of some of the notable errors contained within their SEIS, however, highlighted that the Erratum does not address all the errors and introduces a new error regarding piling effects. MS-LOT, in an email dated 10<sup>th</sup> April 2014, assured Repsol that any considerations to the determination of the ICOL application will be based on the ES provided by ICOL and on the cumulative advice from the JNCC and SNH and not on data described in the addendum by the Company.

**Royal Society for the Protection of Birds Scotland ("RSPB Scotland")** objected to the Proposal given the conclusion within the ES of likely significant impacts on seabird populations. As an HRA had not been submitted by the Company at the time of the original Applications, RSPB Scotland stated that they would like to be consulted on this before reconsidering their position. RSPB Scotland did however note that the ES was of a very high standard.

Following the submission of the HRA RSPB Scotland maintained their objection due to ongoing work surrounding a "common currency" approach and the results of the Marine Scotland commissioned CEH research on displacement effects and population modelling within the Forth and Tay region.

RSPB Scotland provided a further response on all of the proposed Forth and Tay offshore wind farm developments following the completion of the above mentioned research projects and also having considered the advice provided by the JNCC and SNH. RSPB Scotland maintained their objection on the Forth and Tay developments for the following reasons:



- There has been insufficient time between information becoming available and the consultation deadline to fully assess all environmental information. RSPB Scotland believes this may be contrary to the requirements of the 2000 Regulations;
- It cannot be ascertained that the environmental impacts of the proposals, alone and in-combination, would not adversely affect the integrity of the Forth Islands, Fowlsheugh and St Abbs to Fast Castle SPA;
- The environmental impacts, alone and in-combination, of the proposals would be likely to result in unacceptable harm to seabird species, most notably gannet, kittiwake and puffin. Furthermore, the national and regional population trends of some of these species are deteriorating, which exacerbates these concerns;
- The high levels of uncertainty inherent in the methodologies applied to the assessment of environmental impacts and their subsequent interpretation mean that a commensurate level of precaution needs to be included when considering whether it can be ascertained that there will not be an adverse effect of integrity of the SPAs. This precaution has not been applied; and
- Further environmental information and assessment is required to enable a robust consideration of the potential environmental effects of all the Forth and Tay proposals to support the decision-making process.

Information which has come forward to inform the AA including modelling work commissioned by Marine Scotland and information provided by the Company does not require consultation under the 2000 Regulations or the 2007 Regulations. Under the Habitats Regulations *“a person applying for consent shall provide such information as the competent authority may reasonably require for the purposes of the assessment”*; there is no statutory consultation period and the public do not need to be consulted. This information has, however, been shared with the RSPB Scotland. The AA completed for the Proposal has shown that effects from the Proposal alone and in combination with the other Forth and Tay developments are within acceptable limits and has concluded that the integrity of the SPAs of concern would not be adversely affected. MS-LOT fully recognise the uncertainty in the assessment methodologies however, feel that the assessment process has used the best available evidence. The assessment has also been highly precautionary as detailed in the Appropriate Assessment. MS-LOT do not consider that further assessment would add value to the decision making process.

RSPB Scotland did state in their response that despite their objection it is evident that the predicted impacts of the SBWEL site are the lowest of all four offshore wind proposals. Whilst further clarification and analysis is required, it seems likely that the proposed SBWEL development, would lie within the environmental limits of this region and therefore it can be concluded that the integrity of the SPA's would not be adversely affected from the proposed SBWEL development.

RSPB Scotland stated that should the Scottish Ministers be minded to consent some or all of the turbines currently applied for in the Forth and Tay region, then without prejudice to their current objection, any consents must be made subject to conditions requiring an agreed programme of research and monitoring with the aim of validating the various model outputs and underpinning assumptions, particularly in terms of their predicted effects on the SPAs and their qualifying species. RSPB Scotland confirms that they would be happy to be involved as a stakeholder to assist in advising upon and steering research and monitoring programmes that are established under conditions of any consent.

The Company responded to acknowledge the concerns raised by RSPB Scotland throughout the consultation process and to make commitments that affect both the extent of potential environmental impacts of the Proposal and the robustness of monitoring undertaken post the granting of any consents. RSPB Scotland welcomes these commitments, most notably as the increase in hub heights, is likely to reduce the overall scale of environmental risks. Furthermore, RSPB Scotland supports the efforts to maximise the robustness of a monitoring programme and commitments to continued support of the Offshore Renewables Joint Industry programme (“ORJIP”). RSPB Scotland also responded to state that a primary focus should be ensuring that wider strategic monitoring programmes and priorities are supported by each individual consented project and that this will require consent conditions that ensure consistency across projects.

RSPB Scotland, whilst not removing their objection, has been involved in talks with Marine Scotland relating to the acceptable capacity of development. Discussions have also been ongoing to develop a National Strategic Bird Monitoring Framework (“NSBMF”). This NSBMF will be conditioned on all offshore wind farms consented by Marine Scotland in the future. Based on this framework, a condition relating to the local monitoring appropriate to the Proposal will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**The Royal Yachting Association Scotland (“RYA Scotland”)** had no objection to the Proposal and commended the Company and their consultants for carrying out a thorough job with good communication with RYA Scotland.

The RYA Scotland noted that leaving a gap between SAWEL and SBWEL for use by commercial vessels could pose an increased risk to recreational craft passing through the sites. Referring to the alignment of turbines, the RYA Scotland noted that although an alignment paralleling the Automatic Identification System tracks would be welcome the preference is for devices to be in a regular array.

The RYA Scotland has some concerns about future phases of the overall Seagreen Round 3 development and recommended the tracks of recreational vessels passing through SAWEL and SBWEL be monitored and logged so that decisions about the subsequent phases could be based on good evidence.

The RYA Scotland noted that the wave buoys will need to be well marked and their positions promulgated which should be a matter for discussion when plans are further advanced.

Finally, the RYA Scotland noted that it can be difficult for a recreational sailor to know exactly how far off a feature they are (the focus is on ensuring a safe distance off) and it is important that penalties are not exacted for inadvertently straying into an exclusion zone during construction.

Although the RYA Scotland have not requested any project specific conditions any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted will include conditions that address RYA Scotland concerns.

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

**The Scottish Fishermen’s Federation (“SFF”)** object to the Proposal unless it could be shown that the Proposal would not be damaging to the fishing industry that utilises the area. The SFF also requested a number of conditions be included on any consent. SFF recognises the quality of the information provided by the “Applications”, and the fact that the developers team have been prepared to listen to stakeholder’s views and adjust their plans accordingly. To this regard, the SFF stated they were open to dialogue and co-operation with the Company towards ensuring co-existence in the marine environment of both fishing and renewables. The Company met with SFF on 27<sup>th</sup> June 2013 to discuss the issues presented on the SFF consultation response (4<sup>th</sup> December 2012), and following a letter from the Company to SFF dated 6<sup>th</sup> June 2013 with comments to the response.

The SFF agrees with the information in the ES stating that the scallop fleet will be the primary fleet affected; however, they note that attention should be paid to any other fleet operating in the area, such as the smaller class of nephrops trawlers or creel vessels.

The SFF stated that they would expect full engagement between the developers and industry in a manner such as that recommended by the Fishing Liaison Officer with Offshore Wind and Wave (“FLOWW”) liaison guidelines. As the Company pointed out to SFF in a letter dated 6<sup>th</sup> June 2013, the FTOWDG-CFWG has been established to aid in the engagement between the developers and industry.

The SFF would expect that all negative effects of the Proposal on the fishing industry will be the subject of mitigation measures which must be agreed before any consent is issued and this should be a core function of the working groups established in partnership with the other developers in the area. Possibilities for mitigation proposed by the SFF include aid for diversification, realistic employment and training opportunities and new fishing gear development.

The Company stated that discussion of potential and relevant mitigation measures will be ongoing through the FTOWDG-CFWG. As stated in Chapter 22 of the ES, Mitigation and Monitoring, paragraph 22.5, *"During the subsequent detailed design stage, some of the residual impacts will be reduced (i.e. there will be further*

*mitigation by design) and consequently the current mitigations, which are stated in this ES will change as the design evolves. The Company are committed to working with the relevant regulatory authorities, consultees and stakeholders to develop a suite of mitigation measures and hence application conditions which allow the Seagreen Project to be developed, installed, operated and decommissioned without resulting in significant environmental impacts."* The SFF were not content that their comments had been properly addressed and sought a more substantive response from the Company.

The SFF expects the Company to demonstrate to the fishing industry that they are operating to the best possible standards of certification for all aspects of their operations, for which the Company replied that this will be discussed as part of the FTOWDG-CFWG.

The SFF required the dissemination of construction plans to be at least through the working group members, but also correct usage of the Notice to Mariner system and eventually integration into the Kingfisher navigational system. The mitigation strategy should also be properly disseminated. The Company noted that said information discussed in the FTOWDG-CFWG will be distributed to the fishing industry by the fishing representatives sitting on the group. Notices to Mariners are currently used to distribute information and ensure updates are provided as soon as possible. The SFF is content with this as per letter on 8<sup>th</sup> August.

The SFF indicated that their biggest concern is that the development will lead to either restricted access or total exclusion from the site for fishermen. The SFF felt that it was not clear whether fishing will be possible within the Proposal site and highlighted that mitigation for this must be put in place. The Company responded to the SFF stating that there is no mechanism in place which prevents fishing from resuming within an operational wind farm site. There may be localised safety zones around infrastructure, however, it is assumed that fishing can resume within the operational site. Cables will be buried to a minimum depth of 0.5 m and protected where burial is not possible. The Company acknowledged that some fishing methods, such as scallop dredging, may not be able to resume due to safety risks associated with the interaction between offshore wind farm cables and the dredging gear. The Company reiterated its commitment to work with the relevant stakeholders to develop a suite of mitigation measures. SFF was not satisfied with this response stating that it failed to recognise that scallop dredging may be the worst affected fishery in the area and may not be able to resume. The SFF would expect specific mitigation measures for any loss of access to the area, and suggests that the Company should consider financing scallop gear trials in order to help find gear that could be used within the development.

The SFF stated that construction of all phases of the Proposal, including transmission works must be discussed through the FTOWDG-CFWG in order to mitigate the effects on the fleet. For the transmission works, the SFF would insist on the minimum depth trench being to the oil industry standard, with a preference for rock dumping where that is not possible. The Company informed the SFF that a construction management plan will be discussed as part of the FTOWDG-CFWG. Cables will be buried to a minimum depth of 0.5 m and protected where burial is not possible. SFF stated that they were content with the approach to cable burial as per the letter dated 8<sup>th</sup> August 2013.

The SFF considers that displacement of fishing effort may become a problem and that this has been under-appreciated by both developers and government. Given the combined cumulative nature of the proposed offshore wind farms in the area the FTOWDG-CFWG should be used to address the issue. The Company intends to discuss this as part of the FTOWDG-CFWG.

The SFF highlighted the need to develop a system to ensure that vessels, particularly smaller less nomadic vessels, are in some way compensated for temporary closures to enable surveys and construction work. The Company informed the SFF that the assessment has identified a moderate impact on the loss or restricted access to crab and lobster fishing grounds during the installation of the export cable. It should be noted that during refinement of the Rochdale Envelope, some of the residual impacts will be reduced (i.e. there will be further mitigation by design) and consequently the current mitigations, which are stated in this ES could change as the design of the Proposal evolves. Historically, during the preliminary surveys for the Proposal, removal of static gear has been negotiated by the Company where necessary. The SFF are content with the approach outlined by the Company as per the letter dated 8<sup>th</sup> August 2013.

The SFF insisted on an agreement, preferably based on the previous work through the Oil and Gas UK, whereby fishers could be compensated for any damage or loss of earnings through construction debris. Upon completion of each phase of construction, the SFF would insist on the appropriate over trawl procedures being conducted to ensure the seabed is as close to its original condition as possible. The Company noted that under International Maritime Organisation (“IMO”) guidelines, contractors are required to remove any dropped objects and return the seabed to its previous condition. There will be post construction measures in place, including post installation surveys and corrective measures where target burial depth has not been achieved. The SFF are content with the approach outlined by the Company.

The SFF requested a full scientific baseline be undertaken by the Company recording the effects of the Proposal both on fish species and fishing vessels with earnings being continually monitored from the outset. The Company replied stating that the commercial fisheries and fish and shellfish technical reports (contained in the ES) record accurate baselines of fishing activities in the area at the time of writing. It is understood that fishing activities and stocks are subject to change and therefore the baseline identified in the technical reports may not be relevant during the construction and operation of the Proposal. Part of the FTOWDG-CFWG discussions will be to ensure the commercial fisheries baseline is kept up to date and accurate. Ongoing monitoring, discussed through the FTOWDG-CFWG, will ensure fish species are monitored. The SFF remained convinced that there is not enough attention being paid to the potential economic impact on fishermen and therefore monitoring of these economic impacts is essential.

The SFF stated that the cessation of the development should be the subject of an agreement on decommissioning before construction begins. The Company responded saying that decommissioning programmes will be discussed as part of the FTOWDG-CFWG however, the SFF reiterated their position.

The FTOWDG-CFWG has been set up and both the Company and the SFF have attended inaugural meetings. A condition for its continuation and one for the appointment of a Fisheries Liaison Officer (“FLO”), amongst other appropriate conditions to reflect the SFF concerns, will be included in any consent granted by Scottish Ministers under Section 36 of The Electricity Act (1989) and / or any marine licence granted.

**Surfers Against Sewage (“SAS”)** did not object to the Proposal however some concerns were raised about the effects on wave resource.

SAS requested that restricted access to Carnoustie Bay is kept to an absolute minimum so as to have a minimal effect on the surfing community and advised that the Company should liaise with local surfing groups and arrange mitigation factors such as alternative access.

SAS requested modelling to quantify the likely effect on parameters such as wave height, direction and period at the shoreline, specifically at local surf breaks. SAS requested that the effects on the swell, and resulting waves, be considered at all of the surf spots identified in the SAS letter. SAS also expressed preference for an opportunity to review the modelling results and add constructive feedback if necessary.

After reading the SEIS, SAS maintained the same concerns about the potential impacts on the local wave resource and made the same requests regarding modelling and cumulative impacts. Furthermore, SAS pointed out the economic value of surfing to the UK (a contribution to economic activity of £1.8 billion per year spread between the regions and countries of the UK (£3,731,024 specifically to this region).

In response to the concerns raised by SAS, the Company in a letter dated 14<sup>th</sup> July 2013, provided justification for its ES findings including potential impacts of the Proposal on the surfing wave resource. The Company informed SAS that the assessment of landside impacts, such as beach access at Carnoustie bay, was specifically scoped out of the Offshore ES, as agreed with Marine Scotland. MS-LOT considers the response to SAS as satisfactory and does not consider that conditions requiring modelling of wave resource are justified. This position is based upon advice received by MSS - Oceanography Group where, amongst other things, they stated not to have major concerns or comments regarding the coastal processes sections of the ES.

**Transport Scotland (“TS”)**, through their Term Consultants JMP Consultants Limited, did not object to the Proposal and stated that the Proposal would not have any significant environmental impact on the trunk road network and its adjacent receptors, concluding that no further information was required.

**Whale and Dolphin Conservation (“WDC”)** objected to the Proposal due to outstanding concerns relating to the Proposal, as well as cumulatively with the other offshore wind farm developments, regarding the uncertainty of potential negative effects on harbour seals and bottlenose dolphins and the integrity of the Firth of Tay and Eden SAC and the Moray Firth SAC respectively. Furthermore, WDC did not

consider that the Proposal was compatible with the requirements of the Habitats Directive.

WDC stated that although they understand the need for the Rochdale envelope approach, without understanding the detailed design of a number of aspects of the wind farm it is very difficult to comment in great detail. In particular, they stated that the lack of specific details of the construction techniques, vessels and methods that will be used during construction and decommissioning of the Proposal make substantive comment on suitable, effective mitigation measures very difficult.

WDC agreed with the findings of the ES that there is likely to be significant impacts to the local population of harbour seals and cumulative and in-combination impacts to harbour seals, grey seals and harbour porpoises. They did not, however, agree with the conclusions in the ES that there will be no significant impacts, individually and cumulatively, to bottlenose dolphins, minke whales and white-beaked dolphins. WDC also disagreed with the assessment that behavioural impacts are not significant for all marine mammal species considered (with the exception of harbour seals, which are considered significant). WDC raised specific concerns over harbour seals because of their declining populations and susceptibility to corkscrew injuries

WDC support the use of marine mammal observers (“MMOs”) but consider that this management measure is only a mitigation measure if an activity is halted when animals are observed. WDC recognise the commitment the Company makes to pre-construction, during and post construction monitoring. Should consent be given, WDC welcomes the opportunity to be involved in developing a suitable monitoring programme.

WDC also provided a response to the SEIS consultation. They maintained their objection unless effective mitigation methods are implemented during construction. They stated that there is still considerable scientific uncertainty surrounding the impacts of pile driving during construction on all species, in this region. As a result, their preference is that pile driving is not used at all during construction. The predicted increase in disturbance and displacement of bottlenose dolphins, grey and harbour seals, from the construction of the Proposal, and in-combination with other proposed developments, leads them to believe that it is not possible to rule out LSE in the HRA.

WDC understand from a meeting with the developers that project specific mitigation and monitoring plans will be developed prior to construction and will reflect current guidance at the time of construction. However, the lack of a Marine Mammal Monitoring Programme (“MMMP”) and a detailed mitigation plan to reduce the impacts of pile driving, increased vessel movements, corkscrew injuries and in combination / cumulative impacts on marine mammals in the area makes it difficult to provide comments.

WDC proposed several conditions as detailed below should consent be granted:

- Alternative methods to pile driving should be investigated;

- If pile driving is used, a noise-reducing barrier (such as a bubble curtain) should be maintained around the source to mitigate the impacts of radiated noise levels. The barrier should remain in place until piling has been completed. The use of noise-reducing techniques is the best way to reduce construction impacts to marine mammals;
- Visual and acoustic monitoring should be ongoing throughout construction;
- Activities should be halted when marine mammals approach within a specified distance of operations (mitigation zone);
- Ground-truthing of modelled noise assessment data should be undertaken;
- The MMMP should be developed in consultation with scientists with expertise in the Natura species to ensure that monitoring of the bottlenose dolphin, and grey and harbour seal SAC populations contribute to existing monitoring studies, to understand how bottlenose dolphins and seals use the area and to assess any changes to site use and are appropriate to the level of works;
- The monitoring plan should include the recommendations from the Aberdeen University scientific study 'Population consequences of disturbance';
- The monitoring programme should be appropriate to all developments in the area (SAWEL, SBWEL, NNGOWL, ICOL, Firth of Forth, Aberdeen Bay and all developments in the Moray Firth), scientifically robust, and all the developers should work together to achieve this;
- The use of ducted propellers should not be allowed;
- If the use of ducted propellers is permitted during construction and / or operation, there should be regular monitoring of beaches for stranded animals to determine if any injuries to marine mammals, e.g. corkscrew injuries, are occurring; and
- Should any incident that results in mortality occur during construction, activities should be halted immediately until an investigation can be completed.

The Company have corresponded and met with WDC to discuss concerns further. The Company are involved in the trial of novel source mitigation measures; however, they are aware that the development of these technologies may not be completed before the construction period for the Proposal. The Company have also committed to monitoring the ongoing research on corkscrew seal injuries with a view to refining assessments / monitoring programs when new data on the subject is published. The Company also highlighted the difficulties of stopping a piling operation once it had commenced if a marine mammal was observed in the area.

WDC further wrote to Marine Scotland, via Client Earth, on the 30<sup>th</sup> April 2014 to provide comments on advice provided to the Scottish Ministers by SNH and the



JNCC. Within this response, WDC write to disagree with the conclusions of the advice on a number of counts; particularly that the construction and operation of the Forth and Tay proposals, in combination with Moray Offshore Renewables Limited ("MORL") and Beatrice Offshore Wind farm Limited ("BOWL") in the Moray Firth, will not adversely affect the site integrity of the Moray Firth SAC, subject to conditions. WDC believe that the JNCC and SNH have failed to apply the correct legal tests to assess whether the proposed wind farms, in combination with the Moray Firth wind farms, will adversely affect the integrity of the Moray Firth SAC. WDC also raise concerns about the advice on the Firth of Tay & Eden Estuary SAC with regard to the rapidly declining harbour seal population. The points raised in this letter by WDC are fully addressed in the Appropriate Assessment.

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

**The Arbroath Harbour, Boarhills & Dunino Community Council, BAA Ltd, Cameron Community Council, Carnbee & Arncroach Community Council, Carnoustie Community Council, Colinsburgh & Kilconquhar Community Council, Dundee Sub Aqua Club, East Fortune Airfield, Esk District Salmon Fishery Board, Firth of Forth U10m Fishing Association, Fife Fishermen's Association, Health & Safety Executive, Inshore Fishery Group, Joint Radio Company, Largo Area Community Council, Marine Safety Forum, Marine Scotland Compliance - Anstruther, Marine Scotland Compliance – Eyemouth, Monifieth Community Council, Montrose Port Authority, Repsol Nuevas Energias UK Limited, Scottish Canoe Association, Scottish Fisherman's Organisation, Scottish Surfing Federation, Scottish Wildlife Trust, Strathkinness Community Council, Tay District Salmon Fishery Board, The Crown Estate** were consulted on the ES but no responses were received.

**The Cameron Community Council, Carnbee & Arncroach Community Council, Carnoustie Community Council, Carnoustie Golf Links Management Committee, Colinsburgh & Kilconquhar Community Council, Dundee Sub Aqua Club, East Fortune Airfield, Esk District Salmon Fishery Board, Forth Ports, Inshore Fishery Group, Largo Area Community Council, Marine Safety Forum, Marine Scotland Compliance – Aberdeen, Marine Scotland Compliance - Anstruther, Marine Scotland Compliance - Eyemouth, Monifieth Community Council, Scottish Canoe Association, Scottish Fisherman's Organisation, Scottish Surfing Federation, Scottish Wildlife Trust, Strathkinness Community Council, Tay District Salmon Fishery Board,** were consulted on the SEIS but no responses were received.

## **5. Conditions**

Following consideration of all relevant information, including the ES, SEIS, SEIS Erratum, supporting documents and consultation responses, Marine Scotland consider that the following conditions must be included in a Marine Licence to cover the offshore transmission works. Similar conditions will also be included in any section 36 consent or Marine Licence granted for the wind farm. Marine Scotland are satisfied that the conditions included in each of these consents 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.

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, 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 must, 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, 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 UK marine licensing area caused by the carrying out of any Licensable Marine Activity.

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

The Licensee must ensure that any debris or waste material placed below MHWS during the construction and operation of the Works is removed from the Site, 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 the 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 engaged in the Works.

### **5.1.10 Inspection of the Works**

Any persons authorised by the Licensing Authority, must be 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 prior to the Commencement of the Works, submit a PEMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the Joint Nature Conservation Committee (“JNCC”), Scottish Natural Heritage (“SNH”), the Royal Society for the Protection of Birds Scotland (RSPB Scotland) Whale and Dolphin Conservation (“WDC”), the Association of Salmon Fishery Boards (“ASFB”) and any other ecological advisors 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 and specifically, monitoring for cable exposure as specified in condition 5.2.2.10 parts f and g. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

Monitoring should be done in such a way as to ensure that the data which is collected allows useful and valid comparisons as between different phases of the Works. Monitoring may also serve the purpose of verifying key predictions in the 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 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. Diadromous fish;
  - 2. Benthic communities;
  - 3. Seabed scour and local sediment deposition; and
  - 4. Sandeels (if using Gravity Bases).
- b) The participation by the Licensee in surveys to be carried out in relation to marine mammals as set out in the Marine Mammal Monitoring Programme.

All the initial methodologies for the above monitoring must be approved, in writing, by the Licensing Authority and, where appropriate, in consultation with the Forth and Tay Regional Advisory Group ("FTRAG"), referred to in conditions 5.2.2.18 and 5.2.3.10 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.

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 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 prior to the Commencement of the Works, submit an EMP, in writing, to the Licensing Authority for their written

approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The Works must, at all times, be constructed and operated in accordance with the approved EMP (as updated and amended from time to time by the Licensee). Any updates or amendments made to the EMP by the Licensee must be submitted, in writing, by the Licensee to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with Angus Council.

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

- a) all construction as required to be undertaken before the Final Commissioning of the Works; and
- b) the operational lifespan of the Works from the Final Commissioning of the Works until the cessation of electricity transmission (environmental management during decommissioning is addressed by condition 5.2.2.2).

The EMP must set out the roles, responsibilities and chain of command of any Licensee personnel, 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) A Marine Pollution Contingency Plan (“MPCP”) to include, but not necessarily limited to, provision in respect to spills and collision incidents occurring during construction and operation of the works, whilst taking into account existing plans for all operations including offshore installations that may have an influence on the MPCP. Practices used to refuel vessels at sea which must confirm to industry standards and to relevant legislation. The MPCP must also set out how any oil leaks within the structures are to be remedied and that such relevant repairs are required to be undertaken without undue delay;
- 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 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 conditions 5.2.2.18 and 5.2.3.10) 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 National Research and Monitoring Strategy for Diadromous Fish (“NRMSD”).**

The Licensee must participate in the monitoring requirements as laid out in the ‘National Research and Monitoring Strategy for Diadromous Fish’ so far as they apply at a local level (the Forth and Tay). The extent and nature of the Licensee’s participation is to be agreed by the Licensing Authority in consultation with the FTRAG.

#### **5.2.1.4 Forth and Tay Offshore Wind Developers Group - Commercial Fisheries Working Group (“FTOWDG-CFWG”)**

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

#### **5.2.1.5 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.

#### **5.2.1.6 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.



#### **5.2.1.7 Restoration of the Site to its original condition**

The Licensee must take all reasonable, appropriate and practicable steps to restore the Site to its original condition before the Licensable Marine Activity authorised under this licence 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 all 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.

### **5.2.2 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.

#### **5.2.2.2 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.

#### **5.2.2.3 Construction Programme (“CoP”)**

The Licensee must, no later than 6 months prior to the Commencement of the Works, submit a CoP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the MOD, the JNCC, SNH, SEPA, MCA, NLB, Angus Council, Carnoustie Golf Links Management Committee (“CGLMC”) and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CoP must be in accordance with the Application.

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;
- e) The scheduled date for Final Commissioning of the Works; and

- f) A communications protocol must developed between the applicant and MOD Barry Buddon Firing Range.

#### **5.2.2.4 Construction Method Statement (“CMS”)**

The Licensee must, no later than 6 months prior to the Commencement of the Works submit a CMS, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH, SEPA, MCA, NLB, Angus Council and any such other advisors or organisations as may be required at the discretion of the Licensing Authority. The CMS must set out the construction procedures and good working practices for 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 CMS must, so far as is reasonably practicable, be consistent with the Design Statement (“DS”), the EMP, the Vessel Management Plan (“VMP”), the Navigational Safety Plan (“NSP”), the Piling Strategy (“PS”), the Cable Plan (“CaP”) and the Lighting and Marking Plan (“LMP”).

#### **5.2.2.5 Piling Strategy (“PS”)**

In the event that pile foundations are to be used to construct the OSP’s, the Licensee must, no later than 6 months prior to the Commencement of the Works, submit a PS, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with the JNCC, SNH and any such other advisors as may be required at the discretion of the Licensing Authority.

The PS must include:

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

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

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

#### **5.2.2.6 Development Specification and Layout Plan (“DSLPL”)**

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

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

- a) A plan showing the proposed location of each individual OSP, seabed conditions, bathymetry, confirmed foundation type for each OSP and any key constraints recorded on the Site;
- b) A list of latitude and longitude coordinates accurate to three decimal places of minutes of arc for each OSP, this should also be provided as a geographic information system (“GIS”) shape file using World Geodetic System 1984 (“WGS84”) format;
- c) A table or diagram of each OSP, showing dimensions;
- d) The finishes for each OSP; and
- e) The length and proposed arrangements on the seabed of all cables.

#### **5.2.2.7 Design Statement (“DS”)**

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

#### **5.2.2.8 Vessel Management Plan (“VMP”)**

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

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

- a) The number, types and specification of vessels required;
- b) Working practices to minimise the use of ducted propellers;

- c) How vessel management will be co-ordinated, particularly during construction but also during operation including military firing activities within the Danger Area D604 and;
- d) Location of working port(s), how often vessels will be required to transit between port(s) and the Site and indicative vessel transit corridors proposed to be used.

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

#### **5.2.2.9 Navigational Safety Plan (“NSP”)**

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

- a) Navigational safety measures;
- b) Construction exclusion zones;
- c) Notice(s) to Mariners and Radio Navigation Warnings;
- d) Anchoring areas;
- e) Temporary construction lighting and marking;
- f) Emergency response and co-ordination arrangements for the construction, operation and decommissioning phases of the Works; and
- g) Buoyage.

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

#### **5.2.2.10 Cable Plan (“CaP”)**

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

The CaP must include the following:

- a) Details of the location and cable laying techniques for the cables;
- b) The results of survey work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c) A pre-construction survey for 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 electro-magnetic field strengths and shielding;
- e) A burial risk assessment to ascertain if burial depths can be achieved. In locations where this is not possible then suitable protection measures must be provided, including structural grade 40 concrete 200 mm thick at Danger Area D604;
- f) Methodologies for over trawl surveys of the cables through the operational life of the Works where mechanical protection of cables laid on the sea bed is deployed; and
- g) Measures to address exposure of any cables.

#### **5.2.2.11 Traffic and Transportation Plan (“TTP”)**

The Licensee must, no later than 6 months prior to the Commencement of the Works submit a TTP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with Transport Scotland, the Angus Council, Fife Council and any such other advisors as may be required at the discretion of the Licensing Authority. The TTP must set out a mitigation strategy for the impact of road based traffic and transportation associated with the Works.

#### **5.2.2.12 Ecological Clerk of Works (“ECoW”)**

Prior to the Commencement of the Works, the Licensee must at its own expense, and with the approval of the Licensing Authority in consultation with the JNCC and SNH appoint an ECoW or ECoW team. The ECoW(s) must be appropriately qualified and a member of a recognised organisation such as Association for Ecological / Environmental Clerk of Work, Chartered Institute of Ecology and Environmental Management or the Institute of Environmental Management and Assessment. The ECoW must be appointed in time to review and approve the final draft version of the first plan or programme submitted under this Licence to the Licensing Authority for approval, until the Final Commissioning of the Works.

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

- a) Quality assurance of final draft version of all plans and programmes required under this licence;
- b) Provide advice to the Licensee on compliance with licence conditions, including the conditions relating to the CMS, the EMP, the PEMP, the PS, the CaP and the VMP;
- c) Monitor compliance with the CMS, the EMP, the PEMP, the PS, the CaP and the VMP;
- d) Provide reports on point c) above to the Licensing Authority at timescales to be determined by the Licensing Authority; and
- e) Inducting site personnel on the Site / the Works environmental policy and procedures.

The ECoW role may be carried out by a party appointed by the Licensee or by a third party appointed 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.

#### **5.2.2.13 Fisheries Liaison Officer (“FLO”)**

Prior to the Commencement of the Works, a FLO, approved by Licensing Authority in consultation with the FTOWDG-CFWG, 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 include, but are not limited to:

- a) Establishing and maintaining effective communications between the Licensee, any contractors or sub-contractors, fishermen and other users of the sea with a fisheries interest 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 by a third party appointed 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.

#### **5.2.2.14 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 Maritime Rescue Coordination Centre Aberdeen are made fully aware of the Licensable Marine Activity through local Notice to Mariners or any other appropriate means.

The Licensee must consult with any local Harbour Master where appropriate, who may wish to issue local warnings to alert those navigating in the vicinity to the presence of the Works during construction.

The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, as soon as reasonably practicable prior to 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, no later than 6 months prior to the Commencement of the Works, submit a LMP, in writing, to the Licensing Authority for their written approval. Such approval may only be granted following consultation by the Licensing Authority with MCA, NLB, CAA, the Ministry of Defence (“MOD”) and any such other advisors as may be required at the discretion of the Licensing Authority. The LMP must provide that the Works be lit and marked in accordance with the current MCA, CAA and 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. The LMP must also detail the navigational lighting requirements detailed in International Association of Marine Aids to Navigation and Lighthouse Authorities (“IALA”) Recommendations O-139 or any other documents that may supersede said guidance prior to approval of the LMP.

The LMP must make provision for the marking and lighting of the OSPs to be amended as required by NLB or the CAA in the event that the OSPs are constructed prior to the construction of wind turbine generators forming part of the Seagreen Alpha and Seagreen Bravo Wind Farm within the Site so that the marking and lighting of any OSP suits the layout of wind turbine generators located within the Site.

The Licensee must provide the LMP to the Angus Council, Fife Council, the JNCC, SNH and any other bodies as may be required at the discretion of the Licensing Authority.

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

#### **5.2.2.15 Third Party Certification or Verification (“TPC” or “TPV”)**

The Licensee must, no later than 3 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) for all OSPs foundations, jacket and OSP platform structures.

#### **5.2.2.17 Noise Registry**

The Licensee must, in the event that pile foundations are to be used, submit the appropriate completed noise registry form to the Licensing Authority and the JNCC

stating, the proposed date(s), location(s) and nature of the piling activities under authority of this licence.

#### **5.2.2.18 Forth and Tay Regional Advisory Group (“FTRAG”)**

The Licensee must participate in any 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, diadromous fish, marine mammals and commercial fish. Should a Scottish Strategic Marine Environment Group (“SSMEG”) be established (refer to condition 5.2.2.19 and 5.2.3.11), 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.

#### **5.2.2.19 Scottish Strategic Marine Environment Group (“SSMEG”)**

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

### **5.2.3 During the construction of the Works**

#### **5.2.3.1 Compliance with and amendments to approved plans**

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

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

#### **5.2.3.2 Operation and Maintenance Programme (“OMP”)**

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

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



### **5.2.3.3      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.

### **5.2.3.4      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 5.2.3.3, 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.

### **5.2.3.5      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 Aberdeen to Eyemouth, local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen, of the progress 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 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 Works shall be marked and/or lighted as required by the NLB and the marking to be continued unless and until the Licensing Authority rescind this direction.

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

The Licensee must ensure the safety of navigation is not compromised by the Works. The navigable depth must not be reduced by more than 5% of stated chart datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.

#### **5.2.3.6 Markings, lighting and signals of the Works**

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

The Licensee must ensure that no marks or lights, other than those required by virtue of this licence, are displayed unless they have been approved, in writing, by the Licensing Authority following consultation with the NLB and the CAA.

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

In the event that the OSPs are constructed prior to the construction of wind turbine generators forming part of the Seagreen Alpha and Seagreen Bravo Offshore Wind Farms, the Licensee must ensure that the marking and lighting of any OSP is such that it can be amended to suit the layout of wind turbine generators located within the Site as specified in the LMP.

#### **5.2.3.7 Markings, lighting and signals of jack up vessels**

The Licensee must ensure that any vessels permitted to engage in the Works are marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way, and in accordance with the UK Standard Marking Schedule for Offshore Installations if secured to the seabed.

#### **5.2.3.8 Horizontal Directional Drilling (“HDD”)**

The Licensee must ensure the seaward exit point of the HDD, if used, will be located as far offshore as practicable towards the depth of closure; the landward exit point of the HDD will be located onshore of the high-water mark; and the cables will be suitably buried or otherwise protected 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).

#### **5.2.3.9 Noise registry**

The Licensee must, in the event that pile foundations are to be used and piling is to be carried out for more than 10 consecutive days, submit at quarterly intervals, the appropriate completed noise registry form to the Licensing Authority and the JNCC, stating the date(s), location(s) and nature of such activities under authority of this licence.

#### **5.2.3.10 Forth and Tay Regional Advisory Group (“FTRAG”)**

The Licensee must participate in any 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, diadromous fish, marine mammals and commercial fish. Should a SSMEG be established (refer to conditions 5.2.2.19 and 5.2.3.11), 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.

#### **5.2.3.11 Scottish Strategic Marine Environment Group (“SSMEG”)**

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

## **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 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 Compliance with and amendments to approved plans**

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

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

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

### **5.2.4.5 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 OSPs, along with any sub-sea infrastructure, cable landing points and changes to navigable depths, to the UKHO for aviation and nautical charting purposes.

The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Maritime Rescue Coordination Centre Aberdeen, 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.

#### **5.2.4.6 Markings, lighting and signals of the Works**

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

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

The Licensee must ensure that lit Cable Marker Boards (“CMBs”) are positioned as near as possible to the shoreline so as to mark the points at which the cables come ashore. The CMBs shall be diamond shaped, with dimensions 2.5 metres long and 1.5 metres wide, background painted yellow with the inscription ‘Cables’ painted horizontally in black. The structures shall be mounted at least 4 metres above ground level, with a navigation light flashing yellow once every five seconds (“Fl Y 5s”) mounted on the upward apex of the board. The nominal range of these lights should be 3 nautical miles, and they should have an availability of not less than 97% (IALA Category 3) over a rolling three year period. It will be acceptable to screen the navigation light to landward.

The Licensee must ensure that the marking and lighting of any OSP is amended in accordance with the LMP to suit the final layout of wind turbine generators forming part of the Seagreen Alpha and Seagreen Bravo Offshore Wind Farms located within the Site.

#### **5.2.4.7 Noise registry**

The Licensee must, in the event that pile foundations were used, submit the appropriate completed noise registry form to the Licensing Authority and the JNCC, within 12 weeks of Completion of the Works, stating the actual date(s), location(s) and nature of piling activities carried out under authority of this licence.

#### **5.2.4.8 Environmental protection**

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

#### **5.2.4.9        Operation and Maintenance of the Works**

The Licensee must operate and maintain the Works in accordance with the approved OMP. Notification must be provided at least 3 months in advance of any maintenance of the Works where any additional deposits are required. In the event that these works are not assessed in the Application and are considered by the Licencing Authority as being material they will require further Marine Licences.

#### **5.2.4.10      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 SEIS 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 proposal on human beings, fauna and flora, soils, water, air climate, the landscape, material assets, the cultural heritage and the interaction between any two or more of these factors.

Marine Scotland, as the 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 SAWEL, SBWEL and STA project subject to the conditions referred to above being included in the relevant marine licence subsequently issued by Marine Scotland.

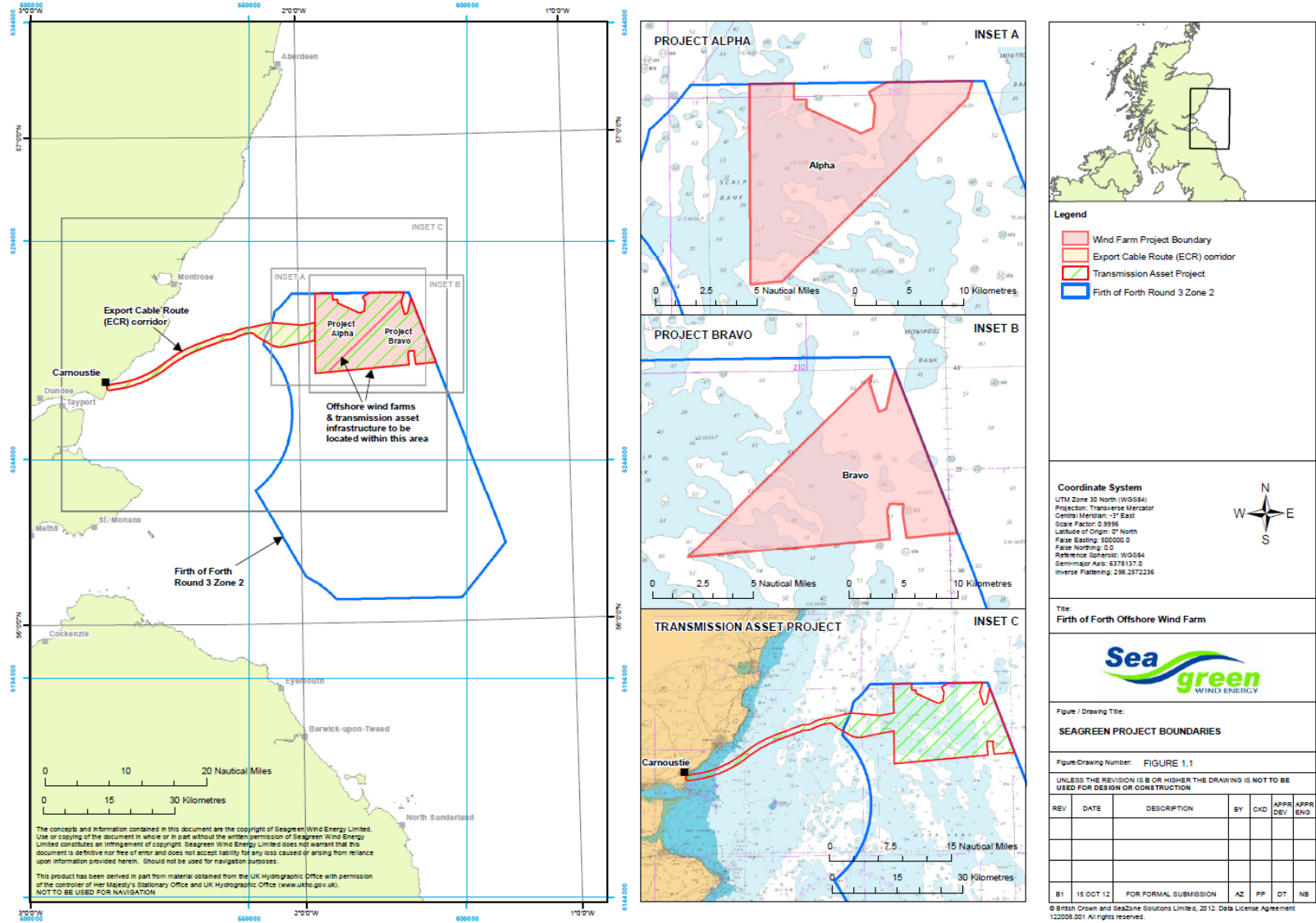
The reviewer acting on behalf of Marine Scotland recommends that a favourable EIA consent decision is given in respect of the SAWEL, SBWEL and STA project, subject to the inclusion of the above conditions being attached to any relevant marine licence.

### 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 SAWEL, the SBWEL and the STA in accordance with Regulation 22 of the MWR.

Reviewed by:	Joao Queiros
Date:	10 <sup>th</sup> September 2014
Approved by:	Gayle Holland
Date:	15 <sup>th</sup> September 2014
The Licensing Authority:	Marine Scotland

ANNEX A LOCATIONS OF THE FORTH AND TAY DEVELOPMENTS





# ANNEX B LOCATIONS OF THE FORTH AND TAY DEVELOPMENTS AND THE EUROPEAN PROTECTED SITES CONSIDERED IN THE APPROPRIATE ASSESSMENT

