

From: [REDACTED]

Marine Scotland Licensing Operations Team

Marine Scotland

25 March 2019

Cabinet Secretary for Transport, Infrastructure and Connectivity

APPLICATIONS FOR CONSENT UNDER SECTION 36 AND FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 (AS AMENDED) FOR THE CONSTRUCTION AND OPERATION OF AN OFFSHORE GENERATING STATION, INCH CAPE OFFSHORE WIND FARM, APPROXIMATELY 15 – 22 KM EAST OFF THE ANGUS COASTLINE

1. Purpose

- 1.1 To seek your determination on an application submitted by Inch Cape Offshore Limited (Company Number SC373173) (“ICOL” or “the Company”) for consent under section 36 (“s.36”) of the Electricity Act 1989 (as amended) (“the Electricity Act 1989”) to construct and operate an offshore generating station, comprising up to 72 wind turbine generators (“WTGs”), with a combined maximum generating capacity of around 700MW (“the Application”) and for a declaration under section 36A (“s.36A”) of the Electricity Act 1989 to extinguish public rights of navigation so far as they pass through those places within the territorial sea where structures forming part of the offshore wind farm are to be located.
- 1.2 The Application has been submitted for your determination, based on advice from the Cabinet, Parliament and Governance Division. Due to impacts on the St. Abb’s Head to Fast Castle Special Protection Area (“SPA”), which is within Mr Wheelhouse’s constituency, Scottish Natural Heritage have objected to the Application. As such, there could be a perceived conflict of interest should Mr Wheelhouse determine the Application.

2. Priority

- 2.1 Routine.

3. Background

- 3.1 The Company currently holds a s.36 consent (“the Original Consent”) and marine licences (which the Scottish Ministers granted in October 2014) for an offshore wind farm development within the same boundary as the current Application.
- 3.2 The Company has made the current Application in order to take advantage of new developments in relation to offshore wind technology, meaning turbine numbers can be reduced, leading to a reduction in the associated environmental impacts (when compared to the Original Consent).

4. Description of the Application and Site

- 4.1 On 15 August 2018, the Company submitted the Application to construct and operate the Inch Cape Offshore Wind Farm (“the Development”), approximately 15-22km east off the Angus coastline. The Application was supported by an Environmental Impact Assessment report (“EIA Report”) and Habitat Regulations Appraisal report (“HRA Report”).
- 4.2 The Application is for the construction and operation of an offshore energy generating station, with a maximum generating capacity of around 700MW and comprising up to 72 WTGs and associated offshore transmission infrastructure. A full description of the Development is set out in Annex C.
- 4.3 The location and boundary of the Development site is shown in Annex C, Figure 1. This location was selected based upon: wind resource and energy yield, environmental receptors (incorporating ornithology and marine mammals and landscape/seascape and visual impact), grid connectivity, suitable port availability, geotechnical conditions and foundation design options.
- 4.4 It is proposed than an offshore electricity export cable corridor approximately 1,400 metres at its widest point, reducing to about 250 metres in shallower areas, will contain up to two cables that will transmit the electricity generated by the turbines to the onshore transformer location, to be located at the site of the Cockenzie Power Station, East Lothian. The proposed cables will each measure not more than 83.3km in length. The cable burial method and/or scour protection requirements will be finalised when the layout is confirmed.

5. Key considerations

- 5.1 In light of the legislative and regulatory background, the results of the consultation exercise and the supporting information submitted as part of the Application, including the EIA Report, the key considerations in relation to the determination of this Application are set out at Annex C, section 9.
- 5.2 The Appropriate Assessment (“AA”), as set out in Annex B, concluded that the Development would not adversely affect the integrity of any European offshore marine site or European protected site, either alone or in-combination with other plans or projects.
- 5.3 This Application should be considered in the context of the existing s.36 consents and new applications for s.36 consent in relation to offshore wind farms within the Firth of Forth and Firth of Tay region. These comprise: the Original Consent; the previous consent for Neart na Gaoithe offshore wind farm (granted October 2014) and the existing consent for the Neart na Gaoithe offshore wind farm (Revised Design) (granted December 2018); the existing consents for the Seagreen Alpha and Seagreen Bravo offshore wind farms (granted October 2014) and the applications for new consents in respect of the Seagreen Alpha and Seagreen Bravo offshore wind farms (submitted September 2018). Combinations of these consents are referred to as the “Forth and Tay Developments” within this submission. For the

ornithology in-combination assessment in the AA, the Worst Case Scenario (“WCS”) is considered to be the Development in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments.

- 5.4 Marine Scotland Licensing Operations Team (“MS-LOT”) considers that the key issues identified have been resolved, mitigated and/or successfully addressed through the use of conditions. All legislative requirements have been complied with throughout the determination process and policy documents identified are considered to be broadly supportive of the Development.
- 5.5 Further, MS-LOT concludes that the Company has had regard to the potential interference of recognised sea lanes essential to international and national navigation. Any obstruction or danger to navigation has been addressed through specific consent conditions at Annex C. The s.36A declaration to extinguish public rights of navigation is included at Annex D.

6. Key issues raised by consultees

- 6.1 A full summary of the consultation exercise is set out in Annex C, at sections 4, 5 and 6. The key issues raised by consultees were as follows:
- Potential impacts on seabirds, and in particular the qualifying interests of the Forth Islands SPA, Fowlsheugh SPA and St Abb’s Head to Fast Castle SPA, as a result of the Development in-combination with the other Forth and Tay Developments;
 - Potential impacts on marine mammals;
 - Potential impacts on diadromous fish;
 - Potential impacts on commercial fisheries;
 - Seascape, landscape and visual potential impacts arising as a result of the Development, particularly in-combination with the other Forth and Tay Developments;
 - Potential impacts on cultural heritage receptors; and
 - Potential impacts on air defence radar.

7. Maintained objections

- 7.1 Detail on the means by which the concerns and objections set out in this section have been considered and addressed are set out in Annex C.
- 7.2 Scottish Natural Heritage (“SNH”) maintains its objection relating to the impacts on the qualifying interests of the Forth Islands SPA, Fowlsheugh SPA and St. Abb’s Head to Fast Castle SPA arising from the Development in-combination with the Forth and Tay Developments.

- 7.3 The Royal Society for the Protection of Birds Scotland (“RSPB Scotland”) maintains its objection due to its concerns regarding the predicted impacts on the protected seabird populations arising from the Development in isolation and in-combination with other Forth and Tay Developments.
- 7.4 The Ministry of Defence (“MOD”) maintains its objection regarding unacceptable interference to Air Traffic Control (“ATC”) radar, used by Leuchars Airfield, and to Air Defence Radar at Remote Radar Head (“RRH”) Buchan and Brizlee Wood. The MOD is not currently in a position to agree to suspensive conditions at this time due to the impacts on Air Defence.
- 7.5 The River Tweed Commission (“RTC”) and Tay District Salmon Fisheries Board (“Tay DSFB”) maintain their objections due to its concerns over lack of information about migration routes for diadromous fish, lack of consideration of sea trout and concern as to whether the turbine bases could result in increased predation of diadromous fish by seals.
- 7.6 The Scottish Fishermen’s Federation (“SFF”) maintains its objection to the Development. SFF objects on the basis of impacts arising during the construction and operational phases of the Development on a range of fishing operations. SFF further objects to the socio-economic assessment presented in the EIA Report. Similar concerns regarding impacts on fishing operations were raised by Port Seton Fishermen (“PSF”), Firth of Forth Lobster Hatchery and the Dunbar Fishermen’s Association (“DFA”).
- 7.7 Aberdeenshire Council confirmed its objection that the Development would not comply with Policy E1 of the Aberdeenshire Local Development Plan 2017 on the basis that SNH advised that there would be an adverse effect on the site integrity of the Fowlsheugh SPA in respect of the black-legged kittiwake and razorbill qualifying interests.

8. Advice on whether to cause a Public Local Inquiry (“PLI”) to be held

- 8.1 If a s.36 application contains an onshore element of an offshore generating station, a maintained objection from a planning authority will automatically trigger a PLI, which will be confined to the onshore element of the application. Paragraph 7A(7) of Schedule 8 to the Electricity Act 1989 gives the Scottish Ministers powers of direction in relation to the scope of any PLI.
- 8.2 In this case there is no onshore element relating to the s.36 application, therefore there is no automatic requirement to cause a PLI to be held.
- 8.3 The circumstances of the case are such that there is no statutory requirement under Paragraph 2(2) of Schedule 8 to the Electricity Act 1989 for the Scottish Ministers to cause a PLI to be held. The decision to hold a PLI in this case is entirely at the discretion of the Scottish Ministers. Such discretion must always be exercised in accordance with the general principles of public law.

- 8.4 Before you can make a decision on the Application, you must determine whether it is appropriate to cause a PLI to be held. You may have regard to whether:
1. You have been provided with sufficient information to enable you to weigh up all of the conflicting issues and, without a public inquiry, whether you can properly weigh any such issues;
 2. Those parties with a right to make representations have been afforded the opportunity to do so; and
 3. You have sufficient information on which to take your decision such that a public inquiry would not provide any further factual evidence which would cause you to change your view on the Application.
- 8.5 Aberdeenshire Council objected to the Development on the basis that it would not comply with Policy E1 of the Aberdeenshire Local Development Plan 2017. However, the Scottish Ministers, in their AA, conclude that there would be no adverse effect on the site integrity of the Fowlsheugh SPA subject to the appliance of conditions to the s.36 consent, and as such the development is not considered to breach Policy E1 insofar as it relates to internationally designated nature conservation sites.
- 8.6 Angus Council, Dundee City Council, East Lothian Council, Fife Council and Scottish Borders Council did not raise any objections to the Development.
- 8.7 If, having considered the Application, the EIA Report and the objections received, as summarised above, together with other material considerations set out in Annex C, you determine that it would not be appropriate for a PLI to be held, then it remains for you to grant or refuse consent under s.36 and s.36A, having regard to the considerations set out in this documentation.
- 8.8 MS-LOT is satisfied that sufficient information to weigh up the various competing considerations is available and has been properly taken into account, and that all interested parties have had more than sufficient opportunity to make representations on the Application. MS-LOT is further satisfied that any inquiry would not be likely to provide any factual information to assist the Scottish Ministers to resolve the issues of risk and planning judgment raised by the Application or to take a different view on the substantive issues on the Application. Accordingly you may conclude that it is not appropriate to cause a PLI to be held into these matters.
- 8.9 MS-LOT has fully considered matters raised in representations from statutory and non-statutory consultees and from members of the public, as well as the EIA Report and HRA Report. In addition, officials have completed an AA and concluded that the Development will not adversely affect the integrity of any European offshore marine site or European protected site, either alone or in-combination with other plans or projects.
- 8.10 Officials have weighed the impacts of the Development, and the degree to which these can be mitigated, against the economic and renewable energy benefits which would be realised. Officials have undertaken this exercise in the context of national and local policies.

- 8.11 MS-LOT considers that where any adverse environmental impacts cannot be prevented, adequate mitigation can be put in place. An obligation has been placed on the Company to give effect to all the mitigation through the attachment of conditions to the consent.
- 8.12 MS-LOT is of the view that in considering the characteristics and location of the Development and the potential impacts, you may be satisfied that the Application has had regard to the preservation of the environment and ecology and that you will have discharged your responsibilities in terms of Schedule 9 to the Electricity Act 1989 in this respect, if you decide to grant consent.
- 8.13 The Company also applied for a declaration under s.36A of the Electricity Act 1989 to extinguish public rights of navigation so far as they pass through those places within relevant waters (essentially the territorial sea adjacent to Scotland) where structures (but not, for the avoidance of doubt, the areas of sea between those structures) forming part of the offshore wind farm are situated. This has been fully considered and the s.36A declaration is included at Annex D.

9. Recommendation

MS-LOT recommends that you determine that it is appropriate not to cause a public inquiry to be held, and to grant consent under section 36 of the Electricity Act 1989 for the Inch Cape Offshore Wind Farm, subject to the imposition of conditions, and issue a declaration under section 36A to extinguish the public rights of navigation in so far as they pass through those places within territorial seas where the structures forming part of the offshore wind farms are to be located.

Please note that two marine licence applications under the Marine (Scotland) Act 2010 for the Inch Cape Offshore Wind Farm and the offshore transmission works and export cable to shore are being considered alongside this Application. These will be determined by MS-LOT and the approved licences will be forwarded to you for information.

10. Publicity

- 10.1 Officials will liaise with Communications once a determination has been made on this Application to agree the appropriate means of announcing the decision.
- 10.2 In order for the determination process to be fully open and transparent, MS-LOT recommend that this submission is published on the Marine Scotland Information website, alongside the key documentation relating to the Application.

11. List of Annexes

ANNEX A Legislative Requirements

ANNEX B Appropriate Assessment

ANNEX C Decision Notice and Conditions

ANNEX D Section 36A Declaration

Copy List:	For Action	For Comment	For Information		
			Portfolio Interest	Constit Interest	General Awareness
Minister for Energy, Connectivity and the Islands			X	X	
Cabinet Secretary for the Rural Economy			X		
Cabinet Secretary for Environment, Climate Change and Land Reform			X		
Minister for Rural Affairs and the Natural Environment			X		
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Lord Advocate					
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██████████, Legal Directorate					
██████████ Legal Directorate					
██████████ Legal Directorate					
██████████ Special Advisor					
██████████, Special Advisor					
Communications - Economy					
██████████ - Communications					
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ANNEX A REGULATORY REQUIREMENTS: LEGISLATION AND POLICY

APPLICATIONS FOR CONSENT UNDER SECTION 36 AND FOR A DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 (AS AMENDED) FOR THE CONSTRUCTION AND OPERATION OF AN OFFSHORE GENERATING STATION, THE INCH CAPE OFFSHORE WIND FARM, APPROXIMATELY 15 – 22 KM EAST OFF THE ANGUS COASTLINE

1. LEGISLATION

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

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

1.2 The Electricity Act 1989

- 1.2.1 Any proposal to construct, extend or operate a generating station situated in internal waters or the territorial sea (out to 12 nautical miles (“nm”) from the shore) with a generation capacity in excess of 1 megawatt (“MW”) requires consent under s.36 of the Electricity Act 1989.¹ A consent under s.36 may include such conditions (including conditions as to the ownership or operation of the station) as appear to the Scottish Ministers to be appropriate. The s.36 consent shall continue in force for such period as may specified in, or determined by or under, the s.36 consent.
- 1.2.2 Paragraph 3 of Schedule 9 to the Electricity Act 1989 requires that regard be given to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Reasonable steps must be taken to mitigate any effect which the proposals would have on these features. Scottish Ministers

¹ s.36(2) modified by The Electricity Act 1989 (Requirement of Consent for Offshore Generating Stations) (Scotland) Order 2002.

Annex A – Regulatory Requirements: Legislation and Policy

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

- 1.2.3 Under s.36A of the Electricity Act 1989, Scottish Ministers have the power to make a declaration, on application by an applicant when making an application for consent under s.36 of the Electricity Act 1989, which extinguishes public rights of navigation which pass through the place where a generating station will be established; or suspends rights of navigation for a specified period of time; or restricts rights of navigation or makes them subject to conditions. The power to extinguish public rights of navigation extends only to renewable generating stations situated in the territorial sea.
- 1.2.4 Under s.36B of the Electricity Act 1989, Scottish Ministers may not grant a consent in relation to any particular offshore generating station activities if they consider that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the carrying on of those activities or is likely to result from their having been carried on. The Scottish Ministers, when determining whether to give consent for any particular offshore generating activities, and considering the conditions to be included in such consent, must have regard to the extent and nature of any obstruction of, or danger to, navigation which, without amounting to interference with the use of such sea lanes, is likely to be caused by the carrying on of the activities, or is likely to result from their having been carried on. In determining this issue, the Scottish Ministers must have regard to the likely overall effect (both while being carried on and subsequently) of the activities in question and such other offshore generating activities which are either already subject to s.36 consent or are activities for which it appears likely that such consents will be granted.
- 1.2.5 Under Schedule 8 to the Electricity Act 1989 and the Electricity (Applications for Consent) Regulations 1990 (as amended) (“the 1990 Regulations”) and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (“the 2017 EW Regulations”), an applicant must publish notice of its application for s.36 consent in one or more local newspapers, in one or more national newspapers, in the Edinburgh Gazette and on an application website to allow representations to be made concerning the Application. The Scottish Ministers must serve notice of any application for s.36 consent upon any relevant planning authority or planning authorities.
- 1.2.6 Paragraph 2(2) of Schedule 8 to the Electricity Act 1989 provides that where a relevant planning authority notifies the Scottish Ministers that they object to an application for s.36 consent and where they do not withdraw their objection, then the Scottish Ministers must cause a PLI to be held in respect of the application. In such circumstances, before determining whether to give

Annex A – Regulatory Requirements: Legislation and Policy

their consent, the Scottish Ministers must consider the objections and the report of the person who held the PLI.

- 1.2.7 The location and extent of the Development to which the Application relates (being wholly offshore) means that the Development is not within the area of any local Planning Authority. MS-LOT, on behalf of the Scottish Ministers, consulted with the planning authorities most local to the Development: Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council and Scottish Borders Council.
- 1.2.8 The Scottish Ministers are not obliged to require a PLI to be held in this case, but are required, under paragraph 3(2) of Schedule 8 to the Electricity Act 1989 to consider all objections received, together with all other material considerations, with a view to determining whether a PLI should be held. Paragraph 3(2) of Schedule 8 provides that if the Scottish Ministers think it appropriate to do so, they shall cause a PLI to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the Application.
- 1.2.9 You can be satisfied that all the necessary tests set out within the Electricity Act 1989 have been met through the assessment of the Application and all procedural requirements have been complied with. The Company holds a generation licence. Your officials have approached matters on the basis that Schedule 9, paragraph 3(1) obligations as apply to licence holders and the specified exemption holders should also be applied to the Company.

1.3 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) and the Marine Works (Environmental Impact Assessment) Regulations 2017 (as amended)

- 1.3.1 The Environmental Impact Assessment Directive 2011/92/EU (as codified and amended) is targeted at projects which are likely to have significant effects on the environment and identifies projects which require an environmental impact assessment (“EIA”) to be undertaken. The Company identified the proposed Development as one requiring an EIA Report in terms of the 2017 EW Regulations and the Marine Works (Environmental Impact Assessment) Regulations 2017 (as amended) (“the 2017 MW Regulations”).
- 1.3.2 In compliance with the 2017 EW Regulations and the 2017 MW Regulations, consultation has taken place with SNH, the Scottish Environment Protection Agency (“SEPA”), Historic Environment Scotland (“HES”), the relevant planning authorities, and such other persons likely to be concerned by the proposed Development by reason of their specific environmental responsibilities on the terms of the EIA Report.
- 1.3.3 The decision notice required under the 2017 EW Regulations is attached at Annex C regarding the s.36 consent. Separate decision notices granted under the 2017 MW Regulations will be issued regarding any marine licences granted in respect of the generating station and offshore transmission infrastructure.

Annex A – Regulatory Requirements: Legislation and Policy

- 1.3.4 You can be satisfied that the EIA regulatory requirements have been met and your officials have taken into consideration the environmental information, including the EIA Report, the responses received from the consultative bodies and the representations received.

1.4 The Habitats Directive and the Birds Directive

- 1.4.1 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora (as amended) (“the Habitats Directive”), provides for the conservation of natural habitats and of wild flora and fauna in the Member States’ European territory, including offshore areas such as the proposed site of the Development. It promotes the maintenance of biodiversity by requiring Member States to take measures which include those which maintain or restore natural habitats and wild species listed in the Annexes to the Habitats Directive at a favourable conservation status and contributes to a coherent European ecological network of protected sites by designating Special Areas of Conservation (“SAC”) for those habitats listed in Annex I and for the species listed in Annex II, both Annexes to that Directive.
- 1.4.2 Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (as amended and codified) (“the Birds Directive”), applies to the conservation of all species of naturally occurring wild birds in the member states’ European territory, including offshore areas such as the proposed site of the Development and it applies to birds, their eggs, nests and habitats. Under Article 2, Member States are obliged to “take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.” Article 3 further provides that “[i]n the light of the requirements referred to in Article 2, Member States shall take the requisite measures to preserve maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1”. Such measures are to include the creation of protected areas (Article 3.2).
- 1.4.3 The Habitats Directive and the Birds Directive have, in relation to the marine environment, been transposed into Scots law by the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) (“the 1994 Habitats Regulations”), the Conservation of Habitats and Species Regulations 2017 (“the 2017 Habitats Regulations”) for reserved matters and s.36 consents, and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (“the 2017 Offshore Habitats Regulations”) for developments outwith 12nm. These regulations are collectively referred to as “the Habitats Regulations”.
- 1.4.4 The proposed Development is to be sited entirely in the territorial sea adjacent to Scotland, therefore the 1994 and 2017 Habitats Regulations are applicable.

Annex A – Regulatory Requirements: Legislation and Policy

- 1.4.5 Developments in, or adjacent to, European protected sites, or in locations which have the potential to affect such sites, must undergo what is commonly referred to as a Habitats Regulations Appraisal (“HRA”). In line with advice from SNH, and to ensure compliance with European Union (“EU”) obligations under the Habitats Directive and the Birds Directive, MS-LOT, on behalf of the Scottish Ministers, undertook an AA as part of this HRA.
- 1.4.6 You can be satisfied that the Habitats Regulations requirements have been met. The AA completed has concluded that the Development, alone and in combination with other plans or projects, will not adversely affect the integrity of any SAC or Special Area of Protection (“SPA”). Reasons for diverging from the SNH advice have been provided in the AA and decision notice.

1.5 Marine (Scotland) Act 2010

- 1.5.1 The Marine (Scotland) Act 2010 (“the 2010 Act”) regulates activities in the territorial sea adjacent to Scotland in terms of marine environment issues. Subject to exemptions specified in subordinate legislation, under Part 4 of the 2010 Act, licensable marine activities may only be carried out in accordance with a marine licence granted by the Scottish Ministers.
- 1.5.2 Under Part 2 of the 2010 Act, the Scottish Ministers have general duties to carry out their functions in a way best calculated to achieve sustainable development, including the protection and, where appropriate, the enhancement of the health of the area.

1.6 Climate Change (Scotland) Act 2009

- 1.6.1 Under Part 2 of the 2010 Act the Scottish Ministers must, when exercising any function that affects the Scottish marine area under the Climate Change (Scotland) Act 2009 (as amended), act in the way best calculated to mitigate, and adapt to, climate change so far as is consistent with the purpose of the function concerned. Under the Climate Change (Scotland) Act 2009 (as amended), annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.

2. MARINE AND TERRESTRIAL POLICY

2.1 Scotland’s National Marine Plan

- 2.1.1 The National Marine Plan (“NMP”), formally adopted in 2015, provides a comprehensive statutory planning framework for all activities out to 200nm. Scottish Ministers must take authorisation and enforcement decisions, which affect the marine environment, in accordance with the NMP.
- 2.1.2 The NMP sets an objective to promote the sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations. In doing so, it sets a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of the NMP. The NMP also contains specific policies

Annex A – Regulatory Requirements: Legislation and Policy

relating to the mitigation of impacts on habitats and species, and in relation to the treatment of cables.

2.1.3 Of particular relevance to this Application are:

- Chapter 4 policies ‘GEN 1-21’, which guide all development applications;
- Chapter 6 Sea Fisheries, policies ‘FISHERIES 1-3’;
- Chapter 8 Wild Salmon and Diadromous Fish, policies ‘WILD FISH 1 and 3’;
- Chapter 11 Offshore Wind and Marine Renewable Energy, policies ‘RENEWABLES 1, 3-10’;
- Chapter 12 Recreation and Tourism, policies ‘REC & TOURISM 2 and 6’;
- Chapter 13 Shipping, Ports, Harbours and Ferries, policies ‘TRANSPORT 1 and 6’;
- Chapter 14 Submarine Cables, policies ‘CABLES 1, 2 and 5’; and
- Chapter 15 Defence, policy ‘DEFENCE 1’.

2.1.4 MS-LOT has had full regard to the NMP when assessing the Application. It considers that the Development accords with the NMP.

2.2 Other Marine Policy

2.2.1 The Development will contribute to Scotland’s renewable energy targets and will provide wider benefits to the offshore wind industry which are reflected within Scotland’s Offshore Wind Route Map and the National Renewables Infrastructure Plan. Offshore wind is seen as an integral element in Scotland’s contribution towards action on climate change. The development of offshore wind also represents one of the biggest opportunities for sustainable economic growth in Scotland for a generation. Scotland’s ports and harbours present viable locations to service the associated construction and maintenance activities for offshore renewable energy. In addition, Scottish research institutions provide a base of academic excellence for delivering technological advancements and technology transfer and are also well placed to benefit from the creation of this new industry around Scotland.

2.3 Scottish Planning Policy

2.3.1 Scottish Planning Policy 2014 (“SPP”) sets out Scottish Government’s planning policy on renewable energy development. Efficient supply of low carbon and low cost heat and generation of heat and electricity from renewable energy sources are vital to reducing greenhouse gas emissions and can create significant opportunities for communities. Renewable energy also presents a significant opportunity for associated development, investment and growth of the supply chain, particularly for ports and harbours identified in the National Renewables Infrastructure Plan (“NRIP”). Communities can also gain new opportunities from increased local ownership and associated benefits.

Annex A – Regulatory Requirements: Legislation and Policy

- 2.3.2 Whilst SPP makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, the SPP states that these are likely to include impacts on landscapes and the historic environment, ecology (including birds, mammals and fish), biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. SPP also makes clear that the scope for the development to contribute to national or local economic development should be a material consideration when considering an application.
- 2.3.3 MS-LOT has had full regard to the SPP when assessing the Application. MS-LOT consider that the Development accords with the SPP.

2.4 National Planning Framework 3

- 2.4.1 Scotland's National Planning Framework 3 ("NPF3"), adopted in June 2014, sets out the ambition for Scotland to move towards becoming a low carbon country, placing emphasis on the development of onshore and offshore renewable energy. It recognises the significant wind resource available in Scotland, and reflects targets to meet at least 30% of overall energy demand from renewable sources by 2020 including generating the equivalent of at least 100% of gross electricity consumption from renewables. It also identifies targets to source 11% of heat demand and 10% of transport fuels from renewable sources by 2020.
- 2.4.2 NPF3 aims for Scotland to be a world leader in offshore renewable energy and expects that, in time, the pace of onshore wind development will be overtaken by the development of marine energy including wind, wave and tidal power.
- 2.4.3 MS-LOT has had full regard to the NPF3 when assessing the Application. MS-LOT consider that the Development accords with the NPF3.

2.5 Terrestrial Policy

- 2.5.1 MS-LOT has had full regard to the terms of relevant terrestrial planning policy documents and plans. In addition to the high level policy documents regarding the Scottish Government's policy on renewables outlined above, MS-LOT has had full regard to a number of national and local level planning documents and plans, including strategic and local development plans.
- 2.5.2 The Local Development Plans ("LDP") and supporting policies for the relevant planning authorities are considered within the Planning and Policy Statement within the EIA Report. The LDP for each of the planning authorities support the development of renewable energy projects and sustainable development.

3. Summary

- 3.1 MS-LOT considers that the policy documents outlined above are broadly supportive of the Development.
- 3.2 Aberdeenshire Council objected to the Development on the basis that SNH advised that there would be an adverse effect on the site integrity of the Fowlsheugh SPA in respect of the black-legged kittiwake and razorbill qualifying interests and that, on this basis, as the proposal stands the Development would not comply with Policy E1 of the Aberdeenshire Local Development Plan 2017.
- 3.3 The Scottish Ministers, however, concluded in its AA that, subject to the appliance of conditions, there would be no adverse effect on the site integrity of the Fowlsheugh SPA.

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**SCOTTISH MINISTER’S ASSESSMENT OF THE PROJECT’S
IMPLICATIONS FOR DESIGNATED SPECIAL AREAS OF
CONSERVATION (“SAC”), SPECIAL PROTECTION AREAS (“SPA”)
AND PROPOSED SPECIAL PROTECTION AREAS (“pSPA”) IN VIEW
OF THE SITES’ CONSERVATION OBJECTIVES**

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT
1989 (AS AMENDED) AND FOR MARINE LICENCES UNDER THE MARINE
(SCOTLAND) ACT 2010 FOR THE CONSTRUCTION AND OPERATION OF THE
INCH CAPE OFFSHORE WIND FARM AND ASSOCIATED OFFSHORE
TRANSMISSION INFRASTRUCTURE

SITE DETAILS: INCH CAPE OFFSHORE WIND FARM AND EXPORT CABLE
CORRIDOR BOUNDARY – APPROXIMATELY 15 - 22 KM EAST OFF THE ANGUS
COASTLINE

Name	Assessor or Approver	Date
██████████	Assessor	08/02/2019
██████████	Assessor	11/01/2019
██████████	Approver	14/03/2019

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SECTION 1: BACKGROUND

1. Introduction

- 1.1 This appropriate assessment (“AA”) relates to the application (“the Application”) submitted by Inch Cape Offshore Limited (“ICOL” or the Company”) for consent under section 36 (“s.36”) of the Electricity Act 1989 (as amended) (“the Electricity Act 1989”) and marine licences under the Marine (Scotland) Act 2010 to construct and operate an offshore generating station and associated offshore transmission infrastructure, approximately 15-22km east off the Angus coastline (“the Development”), comprising up to 72 wind turbine generators (“WTGs”).
- 1.2 The assessment has been undertaken by Scottish Ministers and is required under regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and regulation 63 of the Conservation of Habitats and Species Regulations 2017 (herein collectively referred to as “the Habitats Regulations”). This AA is in accordance with Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and Council Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”). Scottish Ministers, as the competent authority under the Habitats Regulations, must be satisfied that the Development will not adversely affect the integrity of any European site or European offshore marine site (special areas of conservation (“SAC”) and special protection areas (“SPA”)), either in isolation or in-combination with other plans or projects, before they can grant consent for the Development.
- 1.3 A detailed AA has been undertaken and Scottish Natural Heritage (“SNH”) has been consulted.

2. AA Conclusion

- 2.1 This AA concludes that there will be no adverse effects on the site integrity of the Forth Islands SPA, Fowlsheugh SPA, St Abb’s Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA, Outer Firth of Forth and St Andrew’s Bay Complex pSPA, Moray Firth SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC or Isle of May SAC (where each SAC, SPA or pSPA is taken as a whole) from the Development either in isolation or in-combination with other plans or projects, providing the conditions set out in Section 4 are complied with.
- 2.2 Scottish Ministers consider that the most up to date and best scientific evidence available has been used in reaching the conclusion that the Development will not adversely affect the integrity of these sites and are satisfied that no reasonable scientific doubt remains.

3. Background to including assessment of proposed SPAs

- 3.1 The Scottish Ministers are currently in the process of identifying a suite of new marine SPAs in Scotland. In 2014, advice was received from the statutory nature conservation bodies (“SNCBs”) on the sites most suitable for designation and at this stage they became draft SPAs (“dSPA”). Once the Scottish Ministers have agreed the case for a dSPA to be the subject of a public consultation, the proposal is given the status of proposed SPA (“pSPA”) and receives policy protection, which effectively offers the sites the same level of protection as designated sites, from that point forward until a decision on classification of the site is made. This policy protection for pSPAs is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and Scotland’s National Marine Plan (paragraph 4.45).
- 3.2 It is not a legal requirement under the Habitats Directive or the Habitats Regulations for this assessment to assess the implications of the Development on any pSPAs. Nevertheless, this AA includes an assessment of implications upon these sites in accordance with domestic policy. The Scottish Ministers are required to consider article 4(4) of the Birds Directive in respect of pSPAs. The considerations under article 4(4) of the Birds Directive are separate and distinct to the considerations which must be assessed under this Habitats Directive assessment but they are, nevertheless, set out within this AA (see paragraphs 0 and 0).
- 3.3 In accordance with the Habitats Regulations, the Scottish Ministers, acting as soon as reasonably practicable following the formal designation of the pSPA, will review their decisions if the Development is authorised. If required, this will include a supplementary AA being undertaken concerning the implications of the Development on the site as designated (as the site is currently a pSPA, at present, the conservation objectives are in draft form and will be finalised at the point that the site is designated).

4. Details of proposed operation

- 4.1 ICOL has submitted two separate marine licence applications in respect of the generating station and the transmission works under part 4 of the Marine (Scotland) Act 2010. In addition, ICOL has submitted an application for s.36 consent under the Electricity Act 1989 in respect of the Development. A full description of the Development can be found in Chapter 7 of the [Environmental Impact Assessment Report](#) (“EIA Report”) (as submitted in August 2018). The s.36 consent and marine licences applied for are for a period of 50 years.
- 4.2 ICOL proposes to construct and operate a large-scale offshore wind farm and associated offshore transmission infrastructure, located 15-22km east off the Angus coastline. The Development will consist of a maximum of 72 WTGs. In addition to the WTGs, up to two offshore substation platforms (“OSPs”) are proposed. Up to two offshore export cables

(“OECs”) will be individually buried or protected until landfall at Cockenzie, East Lothian.

- 4.3 ICOL previously received s.36 consent and associated marine licences to construct and operate the Inch Cape Offshore Wind Farm in [October 2014](#) (“the Original Consent”). At the time of granting the Original Consent a combined AA (“[the 2014 AA](#)”) was completed for the Original Consent, Neart na Gaoithe Offshore Wind Farm, Seagreen Alpha Offshore Wind Farm and the Seagreen Bravo Offshore Wind Farm (collectively known as the “Forth and Tay Developments”). The Forth and Tay Developments were all subject to judicial review proceedings, and although the consents have been upheld, the projects have not been built out.
- 4.4 In March 2018, Neart na Gaoithe Offshore Wind Limited (“NnGOWL”) submitted a s.36 consent application and marine licence applications in respect of the revised design for the Neart na Gaoithe Offshore Wind Farm and transmission infrastructure (“NnGOWL Development”). NnGOWL was subsequently granted a s.36 consent and marine licences in December 2018 for the revised design.
- 4.5 In August 2018, Seagreen Wind Energy Limited (“Seagreen”) submitted a s.36 consent application and marine licence applications, in respect of the revised designs for the Seagreen Alpha and Seagreen Bravo Offshore Wind Farms (referred to herein as “Seagreen Alpha” and “Seagreen Bravo”, respectively, or, collectively, as the “Seagreen Developments”). Seagreen has not submitted marine licence applications for the transmission infrastructure, as the marine licences issued in 2014 are still valid, and this part of the Seagreen Developments has not changed.
- 4.6 Unless otherwise specified, within this AA, references to the 2018 NnGOWL application and the Seagreen applications are references to the 2017 scenarios for these projects, as these projects were considered by ICOL as detailed in scoping reports submitted by NnGOWL and Seagreen in 2017. Where specified expressly, this AA will also refer to the s.36 consents previously granted in 2014 for the NnGOWL Development and the Seagreen Developments.
- 4.7 The 2014 AA concluded that the Forth and Tay Developments would not adversely affect the integrity of any European sites or European offshore marine sites, either in isolation or in-combination with other plans and projects.
- 4.8 ICOL submitted a [scoping report](#) and a request for a scoping opinion to Scottish Ministers in April 2017. Following consultation with statutory consultees and other stakeholders, the Scottish Ministers issued a [scoping opinion](#) in respect of the Development on 28 July 2017 (“Scoping Opinion”), advising on the scope of assessment required in respect of the Application. Separate addendums to the Scoping Opinion providing advice on the marine mammal and ornithology aspects of the scoping

report were issued on 3 August 2017 and 10 August 2017 respectively. The Scoping Opinion included advice on the Habitats Regulations Appraisal (“HRA”) requirements and advised that information to inform the HRA (“HRA Report”) must be submitted in conjunction with the EIA Report.

- 4.9 The Application has been developed and proposed in order to take advantage of technological developments in the intervening time period since the Original Consent was granted. **Table 1** below provides a summary of the parameters of the design envelopes for the Development and the Original Consent.

Table 1 Comparison of the Development and Original Consent Envelope Parameters

Design Envelope Parameter	Development	Original Consent
Maximum number of WTGs	Up to 72	Up to 110
Blade tip height (above Lowest Astronomical Tide (“LAT”))	Up to 291 metres	Up to 215 metres
Rotor diameter	Up to 250 metres	Up to 172 metres
Foundations and Substructures	Includes: Jacket and driven piles (including monopiles), jacket and suction piles, jacket and drilled piles, jacket and gravity based and gravity base.	Includes: Jacket and driven piles, jacket and suction piles, jacket and drilled piles, jacket and gravity based and gravity base.
Maximum energy capacity of hammer	5,000kJ	1,200kJ
Inter-array cables length	Up to 190km	Up to 353km
Offshore Substation Platforms (“OSPs”)	Up to 2	Up to 5
Number of Export Cables	Up to 2	Up to 6

- 4.10 The final foundation and substructure options for the WTGs and OSFs have not yet been selected and the final selection will be based on various technical, environmental and economic factors (including, but not limited to, water depth, whole life economics and compatibility with WTGs). The following options are outlined in the EIA Report:

- Jacket and driven piles;
- Jacket and suction piles;
- Monopiles;
- Jacket and gravity bases; and
- Gravity base structures.

- 4.11 Where substructures have piled foundations, the EIA Report assumes that there will be a maximum of two concurrent piling activities occurring simultaneously within the Development area. The following design envelope parameters for piling activities have been assessed:

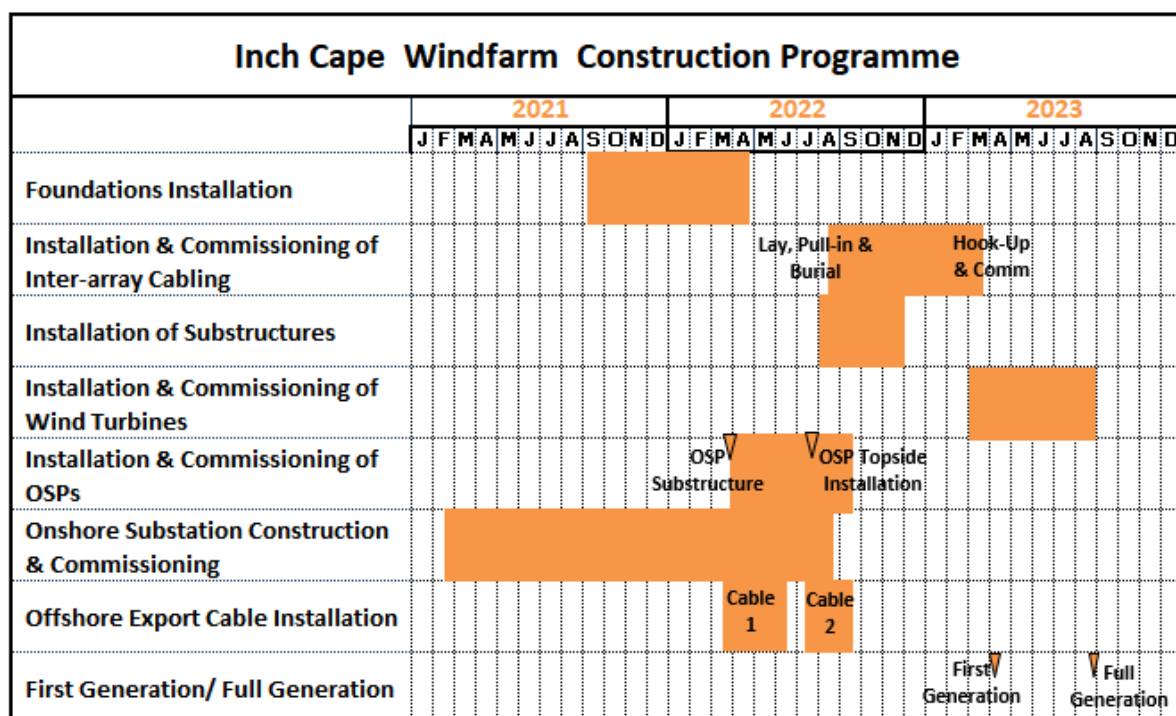
Table 2 Piling parameters (WTG jacket substructure)

Design Parameter	Value (Maximum or Range)
Drilling/piling events (WTGs)	288 (Four piles per WTG)
Maximum seabed penetration	70 metres
Maximum energy capacity of hammer	2,400kJ
Maximum blow energy	1,080 – 2,160kJ
Aggregate pile diameter	12 metres
Total piling duration (hours/pin pile) (highest expected)	2.6 hours

Table 3 Piling parameters (monopile scenario)

Design Parameter	Value (Maximum or Range)
Monopile diameter (mm)	12,000mm
Hammer capacity	5,000 kJ
Max. blow energy	2,250 - 4,500kJ
Total piling duration (hours/monopile)	4-6 hours

- 4.12 An indicative construction programme is included in Chapter 7 of the EIA Report and is set out in **Figure 1** below. Construction activities are anticipated to start around 2021, with works taking approx. 24 months over a 3 year period. Please note, however, that the durations in orange below are shown for illustration purposes and activities will not be continuous throughout these windows. Further, overall durations may increase or decrease, the sequence of activities may change and the start and/or finish date may also change.

Figure 1 Indicative Construction Schedule

4.13 **Table 4** below provides details of the anticipated duration of the main construction activities.

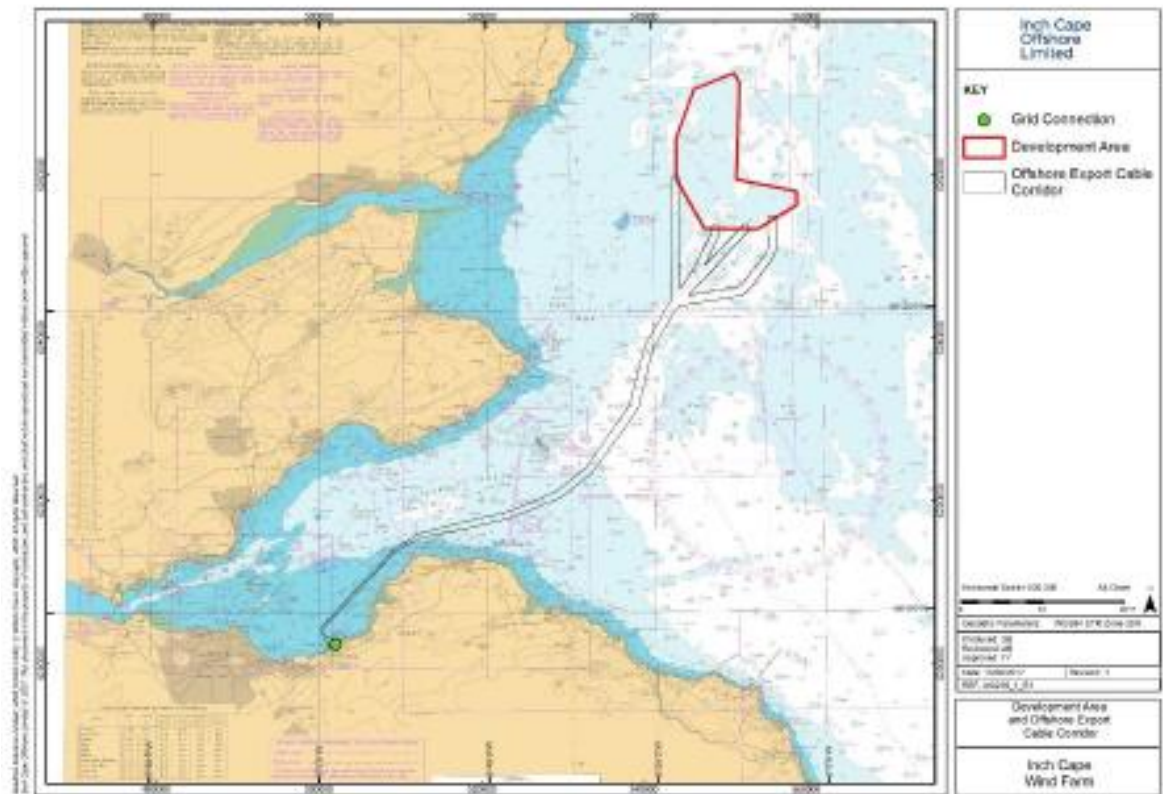
Table 4 Main construction activities and anticipated durations

Main construction activity	Anticipated duration
Foundation installation and associated site preparation	9 months
Inter-array cable installation	12 months
Installation of substructures	6 to 9 months
Installation and commissioning of WTGs	6 to 9 months
Installation and commissioning of OSPs	6 months
Export cable installation (excluding intertidal)	9 months
Intertidal cable installation	6 months

4.14 **Figure 2** below provides a chart detailing the Development area, including the Offshore Export Cable Corridor.

Figure 2 Chart of Generating Station and Cable Corridor

Source: EIA Report http://marine.gov.scot/sites/default/files/volume_1a_chapters_1-11.pdf



5. Consultation

- 5.1 ICOL submitted its Application, including the EIA Report and [HRA Report](#), on 15 August 2018. Scottish Ministers accepted the Application and sent copies of it to SNH and other relevant consultees on 21 August 2018 for a minimum 30 day consultation period.
- 5.2 Detailed comments were received from SNH, the Royal Society for the Protection of Birds Scotland (“RSPB Scotland”) and Whale and Dolphin Conservation (“WDC”). Marine Scotland Science (“MSS”) provided scientific advice on the information provided.

6. Main points raised during consultation

- 6.1 The main points by each of the respondents that included HRA specific comments are summarised below. Copies of all consultation responses received by Scottish Ministers can be accessed [here](#).

6.2 SNH

6.2.1 Ornithology

- 6.2.1.1 In its response to the consultation dated 28 September 2018, SNH advised that impacts from the Development would be less than the impacts from the Original Consent.

Annex B – Appropriate Assessment

- 6.2.1.2 SNH advised that there would be no adverse effect on the site integrity of any SPA or pSPA as a result of the Development in isolation.
- 6.2.1.3 SNH provided further detailed comments on the impact assessment methodology presented in the EIA Report and HRA Report. SNH stated that the approach to calculating collision risk impacts followed the advice outlined in the Scoping Opinion and the flight height data utilised was of good quality.
- 6.2.1.4 SNH stated that the approach taken to Population Viability Analysis (“PVA”) ignores the proportion of birds that are not included in the SPA populations and, therefore, the regional PVAs are precautionary.
- 6.2.1.5 SNH stated that the use of Band 2 Collision Risk Model (“CRM”) outputs in the PVA is precautionary. SNH advised that the use of Option 1 outputs would have produced smaller effects for the Development in isolation.
- 6.2.1.6 SNH stated that assessment presented regarding the predicted impacts over 25 and 50 years indicates that there is a greater confidence in the assessment over the 25 year period.
- 6.2.1.7 SNH advised that there would be no adverse effect on the site integrity of the following SPAs and pSPA from the Development in-combination with the other Forth and Tay Developments:
- Forth Islands SPA – herring gull, Atlantic puffin, common guillemot;
 - Fowlsheugh SPA – herring gull, common guillemot;
 - St Abb’s Head to Fast Castle SPA – herring gull, common guillemot;
 - Buchan Ness to Collieston Coast – common guillemot; and
 - Outer Firth of Forth and St Andrews Bay Complex pSPA – all qualifying seabird interests.
- 6.2.1.8 SNH submitted an objection to the proposed Development due to the predicted effects of the Development in-combination with the other Forth and Tay Developments. SNH advised that, in its view, the Development in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments would have an adverse effect on the site integrity as follows:
- Forth Islands SPA – with respect to northern gannet, black-legged kittiwake (resulting from collision risk) and razorbill (displacement); and
 - Fowlsheugh SPA – with respect to black-legged kittiwake (collision risk) and razorbill (displacement).
- 6.2.1.9 On 28 September 2018, SNH advised that the Development could have an adverse effect on the site integrity of the St Abb’s Head to Fast Castle SPA in respect of kittiwake in-combination with the other Forth and Tay Developments. This was clarified on 24 January 2019, when SNH advised that it was unable to conclude that there would be no adverse effect on site integrity due to the scale of the predicted impacts, the small

size of kittiwake population at the St Abb's Head to Fast Castle SPA, the ratio of impacted to un-impacted population sizes (for both 25 and 50 years) presented and the continuing decline of kittiwake populations.

6.2.1.10 SNH did acknowledge the reduction in adverse effects from the Development, when compared to effects predicted for the Original Consent.

6.2.1.11 SNH subsequently provided advice on the draft AA on 24 January 2019, advising that the plus 1 standard deviation shown in Thaxter et al (2012)¹ should be applied to mean maximum foraging ranges when considering the Forth and Tay Developments as part of the in-combination assessment. SNH advised that, in all cases where Forth and Tay Developments were deemed to be outwith the mean maximum foraging range, the distances beyond the mean maximum range were small and fell well within the plus 1 standard deviation. SNH advised that the values presented in Thaxter are estimates and may result in cumulative effects being underestimated. Where relevant, a qualitative assessment of species outwith the mean maximum foraging range, but within the plus 1 standard deviation, has been included within this AA.

6.2.2 *Marine Mammals*

6.2.1 SNH provided advice in relation to the approach taken to the cumulative impact assessment of east coast offshore wind farm construction on bottlenose dolphin (Moray Firth SAC) and grey seal (Isle of May SAC) on [26 September 2018](#). This advice considered the [iPCOD Cumulative Impact Assessment Report](#) provided by SNH and concluded that displacement from pile driving/blasting may affect the size and growth of the bottlenose dolphin population off the east coast of Scotland in the short term, however, the outputs suggested that the size of this effect is likely to be small over the modelled period. Further, the iPCOD Cumulative Impact Assessment Report concluded that there is likely to be no effect on the grey seal population of the Forth and Tay as a result of pile driving or blasting activity. The report assessed the impacts from the Development, the NnGOWL Development, the Seagreen Developments and in relation to offshore wind farms for Beatrice, Moray East and Moray West. Blasting activity in relation to the Aberdeen Harbour Expansion Project was also considered (although not for grey seal).

6.2.2 In its advice of 28 September 2018 in response to the Application, SNH stated that the predicted cumulative Permanent Threshold Shift ("PTS") zones presented in the EIA Report are large and are of concern. However, SNH further stated that these issues can be addressed further through post-consent mechanisms, should any new consent be granted.

¹ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

6.2.3 SNH stated that it welcomed the inclusion of the analyses for underwater noise modelling using both the 1% and 0.5% conversion factors, which converts hammer energy into acoustic noise. SNH advised that it considers the 1% conversion factor to be preferable and that the chosen conversion factor should reflect the appropriate degree of precaution, in light of the current levels of uncertainty.

6.2.4 SNH stated that it agrees with the conclusions presented in the EIA Report regarding the magnitudes of impacts. SNH advised that there would be no adverse effect on the site integrity of the following SACs, provided appropriate mitigation is implemented through consent and/or licence conditions:

- Moray Firth SAC - bottlenose dolphin;
- Firth of Tay and Eden Estuary SAC – harbour seal;
- Isle of May SAC – grey seal; and
- Berwickshire and North Northumberland Coast SAC – grey seal.

6.3 RSPB Scotland

6.3.1 RSPB Scotland submitted an objection to the proposed Development on 9 October 2018. RSPB Scotland stated that the Development represents a considerable reduction in the predicted impacts of the Original Consent on seabird populations. However, RSPB Scotland stated that the Development, in-combination with the other Forth and Tay Developments would result in population scale effects which would constitute an adverse effect on the integrity of relevant SPAs.

6.3.2 RSPB Scotland stated that the impacts of the Development could result in an adverse effect on the site integrity of the Forth Islands SPA, St Abb's Head to Fast Castle SPA and Fowlsheugh SPA, in respect of kittiwake. Further, RSPB Scotland advised that the predicted impact on the gannet qualifying interest of the Firth of Forth SPA was significant. RSPB Scotland advised that a lack of empirical data to inform the displacement assessment for the auk species means that predicted effects should be treated with caution.

6.3.3 RSPB Scotland stated that the estimates of flight altitude recorded at the site for kittiwake and gannet are considerably lower than the figures provided in the literature² and that it did not agree that sufficient justification and explanation has been provided regarding this issue. RSPB Scotland acknowledged that the issues regarding flight height estimates would not be of concern if Option 2 is utilised.

6.4 WDC

6.4.1 WDC stated, in its response dated 4 October 2018, that it had concerns regarding noise outputs and noise reduction technologies utilised during the construction of offshore marine renewable energy developments.

² Johnstone et al., corrigendum, 2014.

WDC highlighted the noise reduction report commissioned by the World Wildlife Fund, *A Positive Future for Porpoises and Renewables*³ (September 2016) may be of particular interest to Scottish Ministers.

³ Available here:

http://assets.wwf.org.uk/downloads/a_positive_future_for_porpoises_and_renewables_wwf_2016.pdf (Last accessed 18/10/2018).

SECTION 2: INFORMATION ON NATURA SITES

7. Background information and qualifying interests for the relevant Natura sites

- 7.1 This section provides links to the SNH Interactive website, where background information on the sites being considered in this assessment is available. The qualifying interests for the sites are listed below at Table 6 and the conservation objectives at

Table 7. Figure 3 provides a chart of the SPAs, pSPA and SACs considered within this AA.

Table 5 Name of Natura sites affected and current status

SPA:

Forth Islands SPA

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8500

Fowlsheugh SPA

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8505

St Abb's Head to Fast Castle SPA

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8579

Buchan Ness to Collieston Coast SPA

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8473

SAC:

Moray Firth SAC

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8327

Firth of Tay and Eden Estuary SAC

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8257

Berwickshire and North Northumberland Coast SAC

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8207

Isle of May SAC

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8278

pSPA:

Outer Firth of Forth and St Andrews Bay Complex pSPA

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=10478

Table 6 European qualifying interests

Forth Islands SPA

- Arctic tern (*Sterna paradisaea*), breeding
- Common tern (*Sterna hirundo*), breeding
- Cormorant (*Phalacrocorax carbo*)*, breeding
- Gannet (*Morus bassanus*), breeding
- Guillemot (*Uria aalge*)*, breeding
- Herring gull (*Larus argentatus*)*, breeding
- Kittiwake (*Rissa tridactyla*)*, breeding
- Lesser black-backed gull (*Larus fuscus*), breeding
- Puffin (*Fratercula arctica*), breeding
- Razorbill (*Alca torda*)*, breeding
- Roseate tern (*Sterna dougallii*), breeding
- Sandwich tern (*Sterna sandvicensis*), breeding
- Shag (*Phalacrocorax aristotelis*), breeding
- Seabird assemblage, breeding

*indicates assemblage qualifier only

Fowlsheugh SPA

- Fulmar (*Fulmarus glacialis*)*, breeding
- Guillemot (*Uria aalge*)*, breeding
- Herring gull (*Larus argentatus*)*, breeding
- Kittiwake (*Rissa tridactyla*), breeding
- Razorbill (*Alca torda*)*, breeding
- Seabird assemblage, breeding

St Abb's Head to Fast Castle SPA

- Guillemot (*Uria aalge*)*, breeding
- Herring gull (*Larus argentatus*)*, breeding
- Kittiwake (*Rissa tridactyla*)*, breeding
- Razorbill (*Alca torda*)*, breeding
- Shag (*Phalacrocorax aristotelis*)*, breeding
- Seabird assemblage, breeding

Buchan Ness to Collieston Coast SPA

- Fulmar (*Fulmarus glacialis*)*, breeding
- Guillemot (*Uria aalge*)*, breeding
- Herring gull (*Larus argentatus*)*, breeding
- Kittiwake (*Rissa tridactyla*)*, breeding
- Shag (*Phalacrocorax aristotelis*)*, breeding
- Seabird assemblage, breeding

Moray Firth SAC

- Subtidal sandbanks

- Bottlenose dolphin (*Tursiops truncatus*)

Firth of Tay and Eden Estuary SAC

- Estuaries
- Intertidal mudflats and sandflats
- Subtidal sandbanks
- Harbour seal (*Phoca vitulina*)

Berwickshire and North Northumberland Coast SAC

- Intertidal mudflats and sandflats
- Reefs
- Sea caves
- Shallow inlets and bays
- Grey seal (*Halichoerus grypus*)

Isle of May SAC

- Reefs
- Grey seal (*Halichoerus grypus*)

Outer Firth of Forth and St Andrews Bay Complex pSPA

- Red-throated diver (*Gavia stellata*), non-breeding
- Little gull (*Hydrocoloeus minutus*), non-breeding
- Common tern (*Sterna hirundo*), breeding
- Gannet (*Morus bassanus*), breeding
- Arctic tern (*Sterna paradisaea*), breeding
- Guillemot (*Uria aalge*), breeding and non-breeding
- Slavonian grebe (*Podiceps auritus*), non-breeding
- Eider (*Somateria mollissima*), non-breeding
- Long-tailed duck (*Clangula hyemalis*), non-breeding
- Common scoter (*Melanitta nigra*), non-breeding
- Velvet scoter (*Melanitta fusca*), non-breeding
- Goldeneye (*Bucephala clangula*), non-breeding
- Red-breasted merganser (*Mergus serrator*), non-breeding
- Manx shearwater (*Puffinus puffinus*), breeding
- Razorbill (*Alca torda*), non-breeding
- Puffin (*Fratercula arctica*), breeding
- Black-headed gull (*Chroicocephalus ridibundus*), non-breeding
- Common gull (*Larus canus*), non-breeding
- Herring gull (*Larus argentatus*), breeding and non-breeding
- Kittiwake (*Rissa tridactyla*), breeding and non-breeding
- Shag (*Phalacrocorax aristotelis*), breeding and non-breeding
- Waterfowl assemblage, non-breeding
- Seabird assemblage, breeding and non-breeding

Table 7 Conservation objectives

SPA:

Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Buchan Ness to Collieston Coast SPA

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- i. Population of the species as a viable component of the site
- ii. Distribution of the species within site
- iii. Distribution and extent of habitats supporting the species
- iv. Structure, function and supporting processes of habitats supporting the species
- v. No significant disturbance of the species

SAC:

Conservation Objectives for the following Qualifying Habitats:

SAC	Qualifying Habitat(s)
Moray Firth SAC	Subtidal Sandbanks
Firth of Tay and Eden Estuary SAC	Estuaries Intertidal mudflats and sandbanks Subtidal sandbanks
Berwickshire and North Northumberland Coast SAC	Intertidal mudflats and sandflats Reefs Sea caves Shallow inlets and bays
Isle of May SAC	Reefs

To avoid deterioration of the qualifying habitats (listed above) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving the favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitat that the following are maintained in the long term:

- i. Extent of the habitat on site
- ii. Distribution of the habitat within site
- iii. Structure and function of the habitat
- iv. Processes supporting the habitat
- v. Distribution of typical species of the habitat
- vi. Viability of typical species as components of the habitat
- vii. No significant disturbance of typical species of the habitat

Conservation Objectives for the following Qualifying Interests:

SAC	Qualifying Interest(s)
Firth of Tay and Eden Estuary SAC	Harbour seal
Berwickshire and North Northumberland Coast SAC	Grey seal
Isle of May SAC	Grey seal

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:

- i. Population of the species as a viable component of the site
- ii. Distribution of the species within site
- iii. Distribution and extent of habitats supporting the species
- iv. Structure, function and supporting processes of habitats supporting the species
- v. No significant disturbance of the species

Conservation Objectives for the following Qualifying Interests:

SAC	Qualifying Interest(s)
Moray Firth SAC	Bottlenose dolphin

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are established then maintained in the long term:

- i. Population of the species as a viable component of the site
- ii. Distribution of the species within site
- iii. Distribution and extent of habitats supporting the species
- iv. Structure, function and supporting processes of habitats supporting the species
- v. No significant disturbance of the species

pSPA:

Outer Firth of Forth and St Andrews Bay Complex pSPA (Draft Conservation Objectives)

The following conservation objectives are still in draft form and have not yet been finalised.

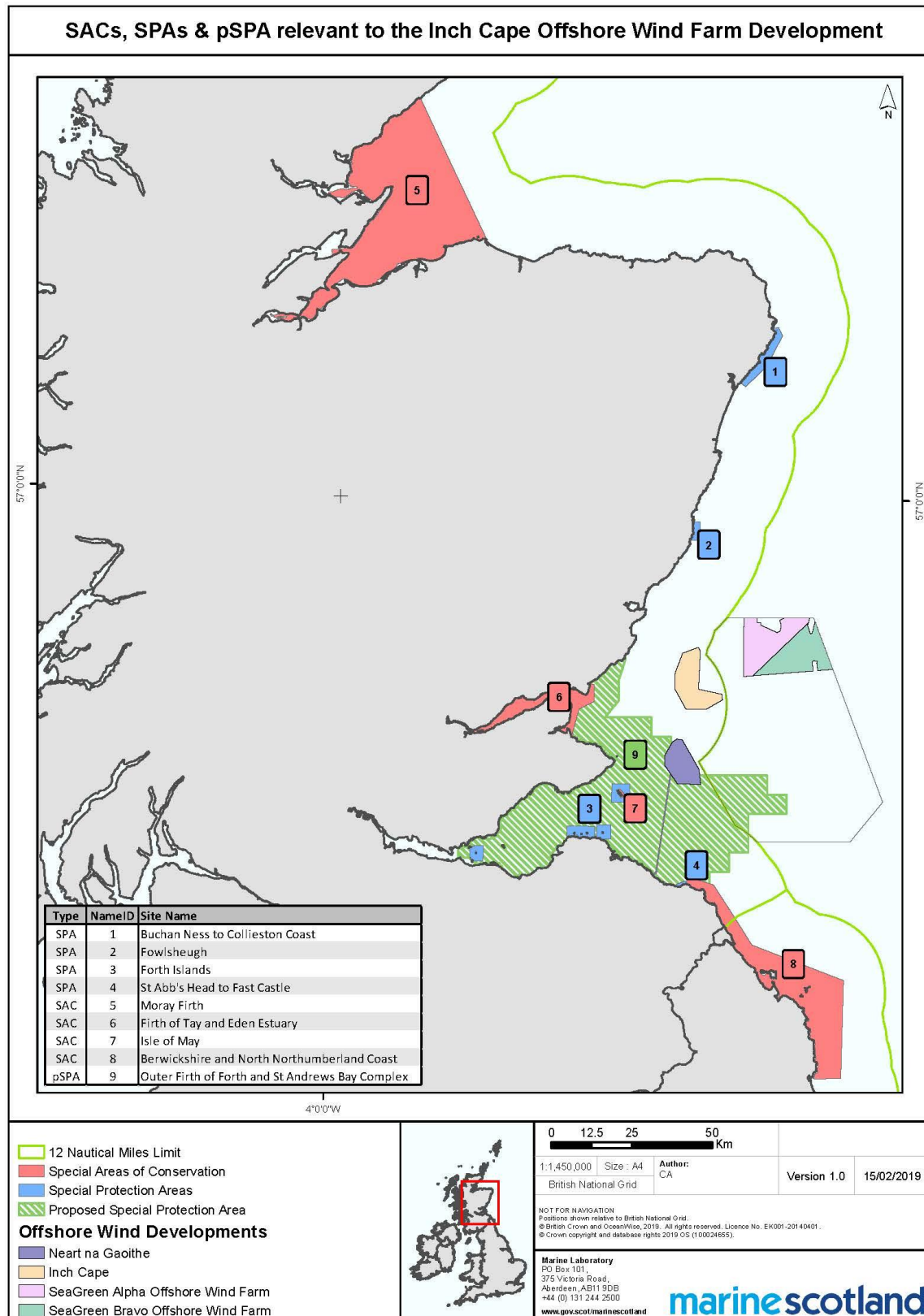
To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that

the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species.

This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:

- a. Avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term;
- b. To maintain the habitats and food resources of the qualifying features in favourable condition.

Figure 3 SPAs, pSPA and SACs considered within this AA



SECTION 3: ASSESSMENT IN RELATION TO REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994 AND REGULATION 63 OF THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017

8. Requirement for appropriate assessment

8.1. Is the operation directly connected with or necessary to conservation management of the site?

8.1.1 The operation is not directly connected with or necessary to conservation management of the site.

8.2. Is the operation likely to have a significant effect on the qualifying interests?

8.2.1 The Scoping Opinion identified likely significant effects (“LSEs”) on the following qualifying interests of the SAC, SPA and pSPA;

8.2.2 MARINE MAMMALS

8.2.2.1 Moray Firth SAC

- Bottlenose dolphin

8.2.2.2 Firth of Tay and Eden Estuary SAC

- Harbour seal

8.2.2.3 Berwickshire and North Northumberland Coast SAC & Isle of May SAC

- Grey seal

8.2.2.4 The HRA Report (marine mammals, section 2.2) identified that there could be a LSE on the qualifying interests of the above SACs. The following key potential effects were considered:

- Displacement/injury from piling; and
- Disturbance from increased noise from geophysical survey systems.

8.2.2.5 In its advice of 28 September 2018, SNH advised that there will be LSEs on the qualifying interests listed above arising from disturbance and displacement during the construction phase of the Development, in particular piling activities with the installation of the WTG and OSP foundations.

8.2.3 ORNITHOLOGY

8.2.3.1 Forth Islands SPA

- Gannet
- Kittiwake
- Herring gull

Annex B – Appropriate Assessment

- Puffin
 - Guillemot
 - Razorbill
- 8.2.3.2 Fowlsheugh SPA
- Kittiwake
 - Herring gull
 - Guillemot
 - Razorbill
- 8.2.3.3 St Abb's Head to Fastcastle SPA
- Kittiwake
 - Herring gull
 - Guillemot
 - Razorbill
- 8.2.3.4 Buchan Ness to Collieston Coast SPA
- Kittiwake
 - Guillemot
- 8.2.3.5 Outer Firth of Forth and St Andrews Bay Complex pSPA
- Gannet
 - Kittiwake
 - Herring gull
 - Puffin
 - Guillemot
 - Razorbill
- 8.2.4 The Scoping Opinion stated that these SPAs/species should be scoped in due to connectivity. PVA was required for the Buchan Ness to Collieston Coast SPA and St Abb's Head to Fast Castle SPA if the cumulative effects from the Forth and Tay Developments were estimated to be more than a reduction in annual adult survival of 0.2%.
- 8.2.5 The OEC overlaps with the pSPA, however the Development site does not. The HRA Report calculated that, 85% of the 83km OEC overlaps with the pSPA. The total area of the pSPA is 2,720.68km². The potential impacts identified in the HRA Report were direct disturbance/displacement, indirect disturbance of seabed habitats and/or prey species of seabirds and loss of seabed habitats. Potential impacts from displacement and barrier effects as a result of the presence of the Development and of collisions with the rotor blades of the WTGs on gannet, kittiwake, herring gull, guillemot, razorbill and puffin were considered via the assessments undertaken for the breeding colony SPAs, as advised in the Scoping Opinion.
- 8.2.6 The pSPA was not at the "proposed" stage at the time of the 2014 AA. Whilst most of the construction impacts have been scoped out of the assessment for the designated SPAs, the construction impacts on the pSPA arising from the installation of the OEC are considered within this

AA. During the construction and decommissioning phases of the Development, there is the potential for LSEs on the qualifying interests of the pSPA due to potential impacts on prey availability.

- 8.2.7 The HRA Report (Ornithology, Table 3.10) identified that there would be LSEs on the qualifying interests of the pSPA and SPAs listed above during the operational and maintenance phase of the proposal. The Scoping Opinion advised that the impacts of relevance were collision risk, and displacement and barrier effects, and that for the existing breeding colony SPAs the primary focus of the assessment should be in relation to the conservation objective to maintain “the population of the species as a viable component of the site”.
- 8.2.8 In its consultation response, dated 28 September 2018, SNH confirmed that the proposal had a LSE on a number of qualifying interests of the Forth Islands SPA, Fowlsheugh SPA, St Abb’s Head to Fastcastle SPA, Buchan Ness to Collieston Coast SPA, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC, Isle of May SAC and Outer Firth of Forth and St Andrews Bay Complex pSPA.
- 8.2.9 Scottish Ministers agree with the advice provided by SNH and have undertaken an AA for the qualifying interests and sites listed above.

9. Appropriate assessment of the implications for the Development site in view of the site’s conservation objectives.

- 9.1 The following assessment is based upon the information contained in the HRA Report and the advice received from SNH and MSS. Consideration has also been given to the other consultation responses detailed above. Consideration of the effect on site integrity for each European site or European offshore marine site and qualifying interest(s) follows below.
- 9.2 For each of the qualifying interests the worst case scenario (“WCS”) has been considered and details of the WCS has been provided in the HRA Report. For the ornithology in-combination assessment the WCS is considered to be the Development in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments. Other smaller scale projects included in the in-combination assessment are as described at Appendix 1 of this AA.
- 9.3 Marine mammal SACs – Moray Firth SAC, Berwickshire and North Northumberland Coast SAC, Isle of May SAC and Firth of Tay and Eden Estuary SAC**
- 9.3.1 The EIA Report provides a full explanation of the assessment methods used in Chapter 10 of the EIA Report, and this information also informs the HRA Report. The marine mammal assessments firstly undertake noise propagation modelling based on the WCS for pile driving, with the caveat that the occurrence of WCS situation across the whole site is not credible. The assessment also considers the ‘most likely’ scenario to provide useful context. The WCS scenario presented for pile driving

potentially utilises a maximum blow energy in the order of twice that presented for the ‘most likely’ scenario (for both pin piles and monopiles). Full details of the piling strategy are set out in the EIA Report, at section 10.5.1 of Chapter 10.

- 9.3.2 Following the gatecheck process, further discussion took place between ICOL, Marine Scotland Licensing Operations Team (“MS-LOT”), MSS and SNH regarding the conversion factor to be used for the noise propagation modelling. It was agreed that the outputs of the noise propagation modelling using both the 0.5% and 1% conversion factors to convert hammer energy to acoustic noise should be presented in the final EIA Report for context. It was, however, agreed that the outputs of the modelling using the 0.5% conversion factor could be used to inform the rest of the marine mammal assessment, provided that the differences in the size of the noise impact contours using the two conversion factor rates would not result in a material difference in terms of the significance of effects. ICOL presented the outputs using both conversion factors and based on advice from SNH and MSS, MS-LOT subsequently confirmed that the outputs of the modelling undertaken demonstrated no increase in the significance of effects on any marine mammal species and that, therefore, the further marine mammal assessment could be based on the outputs of the modelling using the 0.5% conversion factor.
- 9.3.3 An estimation of the numbers of individuals likely to be displaced or experience permanent threshold shift (“PTS”) from pile driving was then provided. The predicted estimate of individuals that experience PTS in their audible hearing range provides a proxy for injury, and the estimated number at risk of disturbance is also calculated. Lastly, the population level consequences of these effects were estimated using the iPCoD framework (“interim Population Consequences of Disturbance”). The assessment results are provided for the Development alone (Table 3.1 of HRA Report) and in-combination with other offshore wind farm projects (Tables 4.1 – 4.4 of HRA Report). The Aberdeen Harbour Expansion Project (“AHEP”), for which use of explosive blasting was assessed, is also included.
- 9.3.4 The assessment methods used for marine mammals differ from those that informed the 2014 AA in a number of ways. For example, there are differences in the model used for noise propagation by ICOL and the one used to inform the 2014 AA. The thresholds for onset of PTS and disturbance use the NOAA (2016)⁴ thresholds whereas the Southall *et al* (2007)⁵ thresholds, which are also presented as part of the ICOL

⁴ NOAA (2016) Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. (U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-OPR-55, 178 p. National Marine Fisheries Service).

⁵ Southall, B., Bowles, A., Ellison, W., Finneran, J., Gentry, Ro., Greene Jr., C., Kastak, D., Ketten, D., Miller, J., Nachtigall, P., Richardson, W., Thomas, J. and Tyack, P. (2007). Marine Mammal Noise Exposure Criteria: Initial Scientific recommendations. (Aquatic Mammals. 33(4): 411-521).

appraisal, were exclusively relied upon previously. The previous assessment estimated the population consequences using a different population model to the one used in the iPCoD framework. There are also differences in the WCS piling strategies (e.g., number of piling events, hammer energies, timing and duration of piling).

9.3.5 Advice provided by SNH and MSS highlights a number of issues that provide relevant context for this AA. The modelling presented by ICOL is precautionary. The results are sensitive to assumptions relating to WCS, particularly with respect to information presented on the other developments considered in-combination.

9.3.6 SNH raised concerns in relation to noise, noting that these may be addressed once the construction timeframes for other offshore developments become clearer. SNH considers that submission of a piling strategy to Scottish Ministers for approval prior to the commencement of piling could mitigate the potential impacts. This piling strategy can be informed by monitoring of other Scottish offshore wind farms which have been built out.

9.3.7 BOTTLENOSE DOLPHIN – Moray Firth SAC

9.3.7.1 The EIA Report references the bottlenose dolphin population as being estimated to be 195 individuals (95% 162 – 253). The potential for the un-impacted population size to grow and for the current favourable status of the SAC population are noted.

9.3.7.2 Table 3.1 of the HRA Report identifies the WCS for the project alone to have an effect of displacing 8 individuals (scenario of monopiles and construction using and two construction pile-driving vessels), with no individuals assessed to experience PTS.

9.3.7.3 ICOL presented information on the population consequences based on the outputs of the iPCoD framework. Population level modelling indicated that displacement from pile driving is unlikely to affect the size or growth of the bottlenose dolphin population off the east coast of Scotland (either alone or in-combination).

9.3.7.4 SNH provided advice on [26 September 2018](#) on the assessment of cumulative impacts on bottlenose dolphin and grey seal from the construction of east coast offshore wind farms, in addition to its project specific advice for the Development, which was received on 28 September 2018. SNH's assessment identified a WCS where the population consequence described by the ratio of impacted to un-impacted population size was 0.94 after 24 years, and the ratio of impacted to un-impacted growth rate was 0.99. The WCS using the centile of the un-impacted population that matches the 50th centile of impacted population was 0.43, reflecting the considerable overlap in the confidence intervals for the un-impacted and impacted scenarios. SNH advice of 26 September considers these impacts to be small.

- 9.3.7.5 SNH advised on 28 September 2018 that there is no adverse effect on site integrity. Its advice takes account of the precautionary nature of the assessment and the requirement for conditions that will ensure mitigation of the potential effects of PTS and disturbance during the construction period.
- 9.3.7.6 In reaching their conclusion Scottish Ministers have considered the conservation objectives, the population at the site, the predicted levels of effect and population consequences, the fact that the effects are less than in 2014, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that the Development, subject to the appliance of conditions, will not adversely affect the site integrity of the Moray Firth SAC with respect to bottlenose dolphin, either alone or in-combination with the other Forth and Tay Developments, the Moray Firth offshore wind farms, AHEP and the other projects detailed in Appendix 1.
- 9.3.8 GREY SEAL - Berwickshire and North Northumberland Coast SAC and Isle of May SAC**
- 9.3.8.1 The EIA Report estimates the number of animals from the East Coast Scotland Seal Management Unit area ("ECMA") at risk of onset of PTS and disturbance. The appraisal references the latest population estimate for grey seals in this area as 15,950 (95%CI 13,329-19,854). For the purposes of this assessment the population of the ECMA is taken to be the population of both SACs. The growth and favourable status of this population is noted.
- 9.3.8.2 For the Development, taken alone, between zero and 47 animals are estimated to be at risk of PTS depending on the foundation type (pin pile or monopile) and the criteria used (NOAA or Southall). The number estimated to be at risk of disturbance from the Development alone varies from 431 (most likely scenario using pin piles and a single vessel) to 1236 (WCS using monopiles and 2 construction pile-driving vessels). For the in-combination assessment, ICOL assumes 25% of the animals predicted to develop PTS were lost from the population or 'harvested', this would equate to between zero and 12 individuals (Tables 4.1 & 4.3 of HRA Report).
- 9.3.8.3 In its advice of 26 September, SNH verified the conclusions reached by ICOL, finding that the effects on the East Coast Seal Management Unit were negligible.
- 9.3.8.4 SNH advised on 28 September 2018 that there will be no adverse effect on site integrity to grey seals as a qualifying interest of the Berwickshire and North Northumberland Coast SAC and Isle of May SAC, subject to the implementation of conditions. Its opinion takes account of the precautionary nature of the assessment and the requirement for conditions that will provide further mitigation of the potential effects of PTS and disturbance during the construction period.

- 9.3.8.5 In reaching their conclusion, Scottish Ministers have considered the conservation objectives, the population at the site, the predicted levels of effect and population consequences, the fact that the effects are less than in 2014, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that the Development, subject to the appliance of conditions, will not adversely affect the site integrity of the Berwickshire and North Northumberland Coast SAC and Isle of May SAC with respect to grey seal, either alone or in-combination with the other Forth and Tay Developments, and the other projects detailed in Appendix 1.

9.3.9 HARBOUR SEAL - Forth of Tay and Eden Estuary SAC

- 9.3.9.1 The HRA Report estimates in Table 3.1 that for the Development alone no animals will experience PTS based upon the NOAA criteria (or 1.5 animals using Southall criteria). The number displaced varies from 9 for the most realistic case scenario using pin-piles and a single construction vessel to 20 using monopiles and two construction pile-driving vessels. The in-combination level assessment identified no discernible effects on the population.
- 9.3.9.2 SNH advised on 28 September 2018 that harbour seals are predicted to experience very low PTS and disturbance and the impacts are less than those predicted for the Original Consent.
- 9.3.9.3 SNH advised that there will be no adverse effect on site integrity to harbour seals as a qualifying feature of the Forth of Tay and Eden Estuary SAC, subject to the implementation of conditions.
- 9.3.9.4 In reaching their conclusion Scottish Ministers have considered the conservation objectives, the population at the site, the predicted levels of effect and population consequences, the fact that the effects are less than in 2014, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that the Development, subject to the appliance of conditions, will not adversely affect the site integrity of the Forth of Tay and Eden Estuary SAC with respect to harbour seal, either alone or in-combination with the other Forth and Tay Developments, and the projects detailed in Appendix 1.

9.4 Seabird SPAs - Forth Islands SPA, Fowlsheugh SPA, Buchan Ness to Collieston Coast SPA, St Abb's Head to Fast Castle SPA and Outer Firth of Forth and St Andrews Bay Complex pSPA

- 9.4.1 The Scoping Opinion directed that the primary focus of the HRA Report should be the conservation objectives relating to the maintenance of the relevant qualifying species as a viable component of the sites. As also directed, further justification was provided in the HRA Report regarding why other conservation objectives were less relevant. Consideration was also given to pSPA conservation objective (b), relating to deterioration of habitat, in relation to construction impacts.

9.4.2 The EIA Report provides a full explanation of the assessment methods (see Chapter 11, section 11.7 onwards). The ornithology assessments firstly estimated the predicted levels of effect (collision and/or displacement, depending on the species). Secondly, the numbers of individuals that are affected for each species assigned to age classes (e.g. breeding adults and non-breeding juveniles). These individuals are then apportioned to SPA breeding colonies. Lastly, where advised through the Scoping Opinion, the population level consequences of these effects were estimated using PVA. PVA was undertaken assuming both a 25 year and 50 year operational life. The assessment results are provided for the Development in isolation and in-combination with the Forth and Tay Developments and other offshore wind farm projects and proposals identified in Chapter 11, paragraph 189 of the EIA Report and section 1.3.2 of the HRA Report. Further detail on the projects considered in-combination by Scottish Ministers is provided at Appendices 1 and 2 of this assessment.

9.4.3 Differences with the 2014 Assessment

9.4.3.1 The assessment methods used for ornithology differ from the assessment methods that informed the 2014 AA in a number of ways. For example, Option 2 of the Band 2012 collision risk model was used in the current assessment for kittiwake and gannet compared with Option 3 in 2014. Different avoidance rates have been used in the collision risk assessment, based on agreement on more appropriate avoidance rates.

9.4.3.2 With regards to displacement and barrier effects in 2014, the Centre for Ecology and Hydrology (“CEH”) Searle *et al*/2014⁶ model was used. This model simulates the movements of individual birds from breeding colonies. The model estimates changes to adult survival and productivity based on estimated changes in adult body mass and provisioning rates of chicks. Data from tagged individuals is used in the model. In this assessment, the use of the matrix approach for displacement estimates the percentage of birds displaced from the Development area and from that the percentage of those displaced adults that do not survive. This more simplistic approach was advised in the Scoping Opinion and is informed by data on seabird densities collected at the development sites.

9.4.3.3 The population consequences of the effects have been assessed using a different approach to population modelling in these assessments. The 2014 AA was informed by Bayesian state-space models produced by CEH. These assessments are informed by stochastic leslie-matrix PVAs.

9.4.3.4 For the collision risk assessment, two design options (the 40 WTG design and the 72 WTG design) for the Development were considered as the WCS, as detailed in **Table 8** below. The WCS differed depending on the

⁶ Searle, K., Mobbs, D., Butler, A., Bogdanova, M., Freeman, S., Wanless, S. & Daunt, F. (2014) Population consequences of displacement from proposed offshore wind energy developments for seabirds breeding at Scottish SPAs (CR/2012/03). (Final Report to Marine Scotland Science).

species being assessed. Both design options incorporate fewer WTGs than included within the 2014 design, whilst the greater hub heights result in greater clearance above the sea surface. The hub heights presented for the two design options were average values taken across the whole Development area, due to variations in water depth across the whole Development area, which could result in an underestimation of impacts resulting from collision risk. ICOL, however, has committed to ensuring that the range of hub heights used in the as-constructed Development do not exceed the WCS presented for gannet, herring gull or kittiwake (see further, paragraph 27 of Appendix 11C).

Table 8 Wind farm parameters for the 2017 design options considered in the CRM

Parameter	40 WTG design	72 WTG design
Hub height (relative to MSL) (m)	152.6	116.1
Rotor diameter (m)	250	167
Height to upper blade tip (relative to MSL) (m)	277.6	199.6
Height to lower blade tip (relative to MSL) (m)	27.6	32.6
Maximum blade width (m)	7.8	6.0
Rotor speed (rpm)	5.72	8.72
Pitch	10	10
Monthly percentage of time operational	80	80

9.4.3.5 A table detailing the differences between the methods used in the 2014 AA and this AA is included at Appendix 3 to this AA.

9.4.4 In-combination assessment – approach

9.4.4.1 The Scoping Opinion required that two different in-combination assessments with the Forth and Tay Developments were undertaken. These were as follows:

Table 9 In-combination assessment scenarios

Scenario 1
Quantitatively for the Development in isolation and in-combination with the WCS (for each species) from: <ul style="list-style-type: none"> • The NnGOWL Development (2014, as consented) or the NnGOWL Development (2017 scoping report); • The Seagreen Developments (2014, as consented) or the Seagreen Developments (2017 scoping report); and • Qualitative assessment of the breeding season effects from other wind farms.

Scenario 2

Quantitatively for the Development in isolation and in-combination with:

- The NnGOWL Development (2017 scoping report);
- The Seagreen Developments (2017 scoping report); and
- Qualitative assessment of the breeding season effects from other wind farms.

9.4.4.2 The HRA Report concluded that the outputs from the in-combination assessment for the 2014 as-consented NnGOWL Development and Seagreen Developments represented the worst-case scenario. The in-combination impacts with the European Offshore Wind Deployment Centre, Hywind Scotland Pilot Park, Kincardine Floating Offshore Wind Farm and Forthwind Offshore Wind Demonstration Project were considered by ICOL during the breeding season. Details of the other projects considered qualitatively in this AA are included in Appendix 1. During the non-breeding season impacts of an additional 25 offshore wind farms situated in the North Sea (“North Sea Developments”) were also considered for gannet and kittiwake (these are listed in full at Appendix 2).

9.4.4.3 A summary of the design envelope parameters for the s.36 consents granted in 2014 and the 2018 s.36 consent applications for the NnGOWL Development and the Seagreen Developments is included at paragraphs **12.4.1.1.2** and **12.4.1.1.1** of Appendix 1.

Table 10 Summary of in-combination scenarios presented in the HRA Report

Impact	Worst Case Design Scenario	Justification
In-combination collision impacts	<p>Breeding season: Development and the NnGOWL Development and the Seagreen Developments (both scenarios) and Hywind, Kincardine, EOWDC and Forthwind.</p> <p>Non-Breeding Season: Forth and Tay Developments and more distant North Sea Developments included for kittiwake and North Sea Developments and offshore windfarms in the English Channel for gannet.</p>	<p>Species from breeding SPA colonies are within the mean maximum foraging range of the Forth and Tay Developments but not more distant projects.</p> <p>This approach was recommended in the Scoping Opinion.</p>

In-combination impacts arising from displacement	<p>Breeding Season: Development and the NnGOWL Development and the Seagreen Developments.</p> <p>Non-Breeding Season: For guillemot and razorbill displacement effects from the NnGOWL Development and the Seagreen Developments were included.</p>	<p>Displacement and mortality rates as per Scoping Opinion guidance.</p> <p>This approach was recommended in the Scoping Opinion.</p>
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9.4.5 GANNET – Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex pSPA

9.4.5.1 Forth Islands SPA – Gannet – Development in isolation

9.4.5.1.1 The Forth Islands SPA has the largest colony of gannet in the UK. The SPA population is reported to be increasing in size with the last census (2014) estimating the population being 75,259 pairs (compared with a population of 21,600 pairs at the time of designation in 1990). The gannet qualifying feature of the SPA is considered to be in a favourable condition (SNH, 2017b).⁷ During the breeding season birds from the colony range widely across the North Sea, at times travelling as far as the Norwegian coast (Hamer et al. 2007).⁸ Regular feeding movements occur to the north-east of the colony with concentrations of feeding locations off north-east Scotland (Hamer et al. 2011).⁹ Outwith the breeding season, gannets disperse widely across the North Sea and move southward with birds wintering in the Bay of Biscay and off West Africa.

9.4.5.1.2 The Development area, including the offshore transmission infrastructure and the 2km buffer zone, does not overlap with the boundary of the Forth Islands SPA, therefore, potential impacts arise from the presence of individuals from the colony within the Development area. In its HRA Report, ICOL presented collision risk modelling using the methodologies outlined in the Scoping Opinion (and detailed in Appendix 3). This

⁷ SNH (2017b). Sitelinks. Scottish Natural Heritage
<https://gateway.snh.gov.uk/sitelink/index.js> (Last accessed 07/02/2019).

⁸ Hamer K.C., Humphreys E.M., Garthe S., Hennicke J., Peters G., Grémillet D., Phillips R.A., Harris M.P. & Wanless S. (2007) Annual variation in diets, feeding locations and foraging behaviour of Gannets in the North Sea: flexibility, consistency and constraint. (Marine Ecology Progress Series, 338, 295-305).

⁹ Hamer, K.C., Holt, N. & Wakefield, E. (2011). The distribution and behaviour of northern gannets in the Firth of Forth and Tay area. A review on behalf of the Forth and Tay Offshore Wind Developers Group. Institute of Integrative & Comparative Biology, University of Leeds.

assessment considered two 2017 design options (40 and 72 WTG, as detailed in section 3.1 of Appendix 11C). The CRM predictions calculated for the breeding season were apportioned between the Forth Islands SPA and Troup Head colony population (see further, Appendix 11B of the EIA Report) (Troup Head is the only gannet colony other than Bass Rock within mean maximum foraging range of the Development and 2km buffer). Collision estimates were apportioned to age classes based on at-sea observation data specific to each wind farm, the number of adult collisions during the breeding season were amended according to a 10% assumed sabbatical rate (as advised in the Scoping Opinion).

- 9.4.5.1.3 The predicted impacts presented in the HRA Report stated that the majority of impacts on gannet arising from the Development in isolation were predicted for the breeding adult population, when using Option 2 of the Band model and a 98.9% avoidance rate. Based on this, a total of 98 adults per year were estimated to be impacted during the breeding season, corresponding to 0.07% and 0.23% of the current and citation population sizes.

Table 11 Estimated collision impacts for Forth Islands SPA gannet from the Development in isolation

Seasonal period	Estimated number of collisions		
	Breeding adults	Immature birds	Juvenile birds
Breeding	94	2	1
Autumn passage	1.6	<0.1	0.1
Spring passage	2.4	<0.1	0.0

- 9.4.5.1.4 PVA was undertaken by ICOL for 25 and 50 year periods. For the baseline projections, additional mortality was incorporated at intervals of 25 individuals (up to a maximum of 1,500), with the collision estimates matched to the closest higher additional mortality value. The additional mortality values incorporated into the PVA model assumed a 97:3 ratio of adults to immatures. The PVA concluded that there would be no decrease in the current population, with a continued increase in the population over the next 25 and 50 years. Over 25 years, it is predicted that the population will have increased from its current level to 86,265 pairs, with no wind farms present. The additional mortality from collision arising from the Development in isolation may cause a reduced level of population increase, with a future predicted population of 84,827 pairs after 25 years. After 25 years, the median of the ratio of the impacted to un-impacted population size from the Development in isolation is 0.983 (n.b. ratio values are referred to in the HRA Report as the counterfactuals). After 50 years, the ratio value is 0.967. The ratio of the population growth rate for the Development-alone showed minimal reduction (with a value of 0.999).

- 9.4.5.1.5 SNH advised that the Development taken alone would not result in an adverse effect on site integrity to the Forth Islands SPA with respect to gannet.

9.4.5.2 Forth Islands SPA – Gannet – Development in-combination

- 9.4.5.2.1 This AA is based upon the WCS, which means that the Development is assessed in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments. The estimated impacts of the 2017 proposals for the NnGOWL Development and the Seagreen Developments on gannet are substantially less than the values used in this AA.

- 9.4.5.2.2 The HRA Report estimated that 659 breeding adults would be impacted by collision mortality during the breeding season from the Development in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments, corresponding to 0.46% and 1.65% of the current and citation population sizes respectively.

- 9.4.5.2.3 CRM was also presented for the WCS plus the passage period collision estimates from the North Sea Developments and other offshore wind farms in the English Channel. The inclusion of these impacts, substantially increased these impacts (particularly for the autumn passage period – when 63% of the Forth Islands SPA population is assumed to migrate through the North Sea – as opposed to 27% during the spring passage period). However, the total impacts estimated during the autumn and spring passage periods remained lower than the breeding season impacts, with the combined passage period adult collisions being less than 20% of the adult collisions estimated during the breeding period. The cumulative total of adult gannets predicted to be impacted is 775 birds, corresponding to 0.5% and 1.8% of the current and citation population sizes respectively.

Table 12 Estimated collisions for Forth Islands SPA gannet for Development in-combination with other plans and projects

Development	Seasonal period	Breeding adults
Forth and Tay	Breeding	659
Forth and Tay	Autumn passage	13.5
Other North Sea and Channel		56.3
Total autumn passage		69.8
Forth and Tay	Spring passage	26.1
Other North Sea and Channel		20.2
Total spring passage		46.3
Total	All seasons	775

- 9.4.5.2.4 Impacts from a range of other offshore wind farms within mean maximum foraging range of the Forth Islands SPA gannet population were

considered in the HRA Report. The additional mortality predicted from these projects was deemed to be extremely small, relative to the population of the Forth Islands SPA, representing a small addition to the in-combination impacts presented above. These projects are detailed in Appendix 1 to this AA.

9.4.5.2.5 The cumulative total number of individuals experiencing annual mortality is assessed to be 775, which is less than the cumulative total of 1,169 estimated in the 2014 AA.

9.4.5.2.6 PVA undertaken by ICOL indicated relatively small predicted reductions in end population size for in-combination assessment with the other Forth and Tay Developments after both 25 years (median of the ratio of the impacted to un-impacted population size of 0.914) and 50 years (0.835). When the passage period collisions for all age classes from the North Sea Developments and offshore wind farms in the English Channel were considered, the PVA outputs represented a 10% reduction in the 25 year projected population size (0.903) and less than a 20% reduction in the 50 year projected population size (0.809). The ratio of the population growth rate for the 25 and 50 year periods was represented by a value of 0.966 for both time periods. The population projections for all scenarios showed that the end population size was much greater than the population size at citation. The HRA Report therefore concluded that the effects of the Development in isolation and in-combination would not hinder the achievement of the conservation objectives of the Forth Islands SPA with respect to gannet.

9.2.5.2.7 SNH advised that there would be an adverse effect on the site integrity of the Forth Islands SPA with respect to gannet as a result of the Development in-combination with the other Forth and Tay Developments.

9.4.5.3 Outer Firth of Forth and St Andrews Bay Complex pSPA – Gannet – Development in Isolation and In-combination

9.4.5.3.1 The Scoping Opinion advised that the assessment carried out for gannet at the Forth Islands breeding colony SPA could also be applied to the pSPA, and a separate assessment for the gannet qualifying feature at the pSPA was not required.

9.4.5.3.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of gannet as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.

9.4.5.4 Gannet – Precaution in the Assessment

9.4.5.4.1 There are a number of precautionary assumptions made in this AA which mean that the estimated cumulative collision total and their population consequences are highly likely to be over-estimates.

- 9.4.5.4.2 For example, the seabird collision avoidance study undertaken at Thanet offshore wind farm lends support to the view that the avoidance rates used in this assessment are likely to be highly precautionary (Skov *et al*, 2018).¹⁰
- 9.4.5.4.3 The research at Thanet has also provided valuable information on bird flight speeds. The Scoping Opinion advised that flight speed data for use in CRM be taken from published data (Pennycuick 1997;¹¹ Alerstam *et al*. 2007).¹² These flight speeds are based on very small sample sizes (32 gannet). The laser rangefinder track data collected at Thanet recorded by Skov *et al*. (2018) offers species-specific empirical data on flight speeds from large numbers of individuals (683 gannet). This information was not available at the time of the Application, however the Seagreen EIA Report estimates that using the flight speeds recorded at Thanet would reduce gannet collisions by 6%. MSS have advised that the reduction in estimated number of collisions indicated by Seagreen is correct.
- 9.4.5.4.4 The EIA Report presented the predicted collisions risk impacts using Option 1 (which uses site-specific flight height estimates), in addition to the Option 2 outputs. The outputs of Option 1 predicted that a significantly lower percentage of gannets would be at potential collision height and therefore subject to collision impacts. The Option 2 estimates for the breeding period were three and two and a half times greater than for Option 1 for the 72 and 40 WTG designs respectively. In its advice, SNH stated that the description of the flight height data included in the EIA Report demonstrates that the site-specific flight height data is of good quality. SNH stated that the argument for the use of the Option 1 outputs presented was compelling. The RSPB however raised questions regarding the justification for the lower flight heights recorded from the site specific data. This AA is based on Option 2 of the Band model which uses generic flight heights, recognising that this is a very precautionary approach.
- 9.4.5.4.5 Further precaution is built into the PVA undertaken for the Forth Islands SPA. The in-combination PVAs were run assuming commencement of development for the other Forth and Tay Developments in 2014, not accounting for growth in the population that has taken place in the intervening time. Further precaution is included in the apportioning of age classes for the Development in-combination with the other North Sea Developments, which were undertaken using a greater weighting

¹⁰ Skov, H., Heinanen, S., Norman, T., Ward, R.M., Mendez-Roldan, S. & Ellis, I. 2018. ORJIP Bird Collision and Avoidance Study. Final report – April 2018. The Carbon Trust. United Kingdom.

¹¹ Pennycuick, C.J., 1997. Actual and 'Optimum' Flight Speeds: Field Data Research. The Journal of Experimental Biology, 200, pp. 2355-2361.

¹² Alerstam, T., Rosén, M., Bäckman, J., Ericson, P.G. & Jellgren, O. (2007). Flight speeds among bird species: allometric and phylogenetic effects. PLoS Biology, 5(8), e197.

towards the adult age class (see further, HRA Report paragraph 99 onwards).

9.4.5.4.6 The WCS assessment completed by ICOL for the 50 year operational life of the Development in-combination with the Forth and Tay Developments (“50 Year Assessment”) assumes a 50 year operational life, within the PVA, for the NnGOWL Development and the Seagreen Developments, whereas the s.36 consents granted in 2014 for these projects were only for 25 years. Therefore the in-combination 50 Year Assessment substantially over-estimates the effects.

9.4.5.4.7 Lastly, basing this assessment on the WCS for the NnGOWL Development and the Seagreen Developments (i.e., the s.36 consents for these projects granted in 2014) is very precautionary because they are unlikely to be constructed. If their current proposals were used in this assessment it would substantially reduce the effects associated with those projects.

9.4.5.5 Gannet – Conclusions

9.4.5.5.1 Based on the information presented in the EIA Report and the HRA Report, SNH advised on 28 September 2018 that the Development will have an adverse effect on site integrity for gannet as a qualifying interest of the Forth Islands SPA in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments.

9.4.5.5.2 In reaching their conclusion, Scottish Ministers have considered the conservation objectives, populations at the sites, predicted levels of effect and population consequences, the fact that the effects are less than in 2014, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that, subject to the appliance of conditions, there will be no adverse effect on the site integrity of the Forth Islands SPA or Outer Firth of Forth and Tay Bay Complex pSPA in respect of the gannet qualifying interest as a result of the Development in isolation or in-combination with the other Forth and Tay Developments or projects detailed in Appendices 1 and 2.

9.4.6 KITTIWAKE – Forth Islands SPA, Fowlsheugh SPA, St Abb’s Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA and Outer Firth of Forth and St Andrews Bay Complex pSPA

9.4.6.1 Scottish kittiwake populations have experienced significant declines over the last 30 years and this decline was highlighted in advice received from both SNH and RSPB Scotland. The reasons for the decline are uncertain, although factors such as climate change and changes to prey distribution are very likely to be key drivers. The results of the modelling for collision and displacement impacts were presented in the HRA Report, as per the Scoping Opinion.

9.4.6.2 During the breeding season, kittiwake from other breeding colonies, which may not be SPAs, may also be present within the Development

area and, therefore, at risk from collision and displacement impacts. The potential impacts on all non-SPA breeding colonies and across all SPA colonies, for which kittiwake is a qualifying interest, within the mean maximum foraging range have been apportioned to take account of the presence of these birds.

- 9.4.6.3 The HRA Report presents the outputs of the collision risk modelling, completed using the methodologies outlined in the Scoping Opinion, which considered the maximum design envelope of 72 WTGs. Displacement effects were also assessed using the matrix approach and in addition displacement effects were also explored using the Seabird Offshore Renewable Development (“SeabORD”) model.
- 9.4.6.4 **Table 13** below provides the cumulative estimated additional mortality during the breeding season from collisions and displacement/barrier effects for kittiwake in relation to the Development in-combination with the Forth and Tay Developments, for both the 2014 and 2017 designs. Collisions during the non-breeding season were assessed for the Forth and Tay Developments in isolation and in-combination with all North Sea Developments (using only the WCS of the 2014 consented and 2017 designs for the Forth and Tay Developments). Displacement and barrier effects were assessed quantitatively for the breeding season only.
- 9.4.6.5 The 2014 designs give the highest collision estimates and the impacts for displacement and barrier effects are unaffected by the design, therefore, the 2014 impacts remain the WCS. Collisions account for over 75% of the estimated additional mortality for kittiwake.

Table 13 Cumulative estimated additional mortality during the breeding season from collision and displacement/barrier effects for kittiwake

Development	Impact	Design	Additional mortality (individuals)		
			Total	Breeding Adults	Sub Adults
Development	Collision	2017	40 (33-47)	33	3
	Displacement/barrier effects	N/A	23	19	2
NnGOWL Development	Collision	2017	7 (6-8)	6	0
		2014	18 (15-21)	15	1
	Displacement/barrier effects	N/A	13	11	1
Seagreen Alpha	Collision	2017	74 (61-87)	62	5
		2014	78 (64-92)	65	5
	Displacement/barrier Effects	N/A	13	11	1

Development	Impact	Design	Additional mortality (individuals)		
			Total	Breeding Adults	Sub Adults
Seagreen Bravo	Collision	2017	80 (60-95)	68	4
		2014	84 (69-99)	72	4
	Displacement/barrier effects	N/A	16	14	1
Forth and Tay total		2017 – all projects	267	225	17
		2014 with 2017 for the Development	286	241	18

9.4.6.6 Forth Islands SPA – Kittiwake – Development in isolation

- 9.4.6.6.1 The kittiwake population at the Forth Islands SPA is in an unfavourable and declining condition (SNH, 2017b)¹³ having declined from 8,400 pairs at the time of designation in 1990 to 4,333 pairs in 2015.
- 9.4.6.6.2 The Development area (including 2km buffer) does not overlap with the Forth Islands SPA. Published information on kittiwake foraging ranges (Thaxter et al, 2012)¹⁴ and tracking from the Isle of May (CEH, 2011a)¹⁵ suggests it is very likely that breeding period kittiwakes from the Forth Islands SPA will occur in the Development area (including 2km buffer), as well as the other Forth and Tay Development areas.
- 9.4.6.6.3 During the non-breeding season, kittiwake are largely pelagic, therefore, it is likely that some SPA kittiwake will pass through North Sea Developments during the autumn and spring passage periods (September-December and January-mid April). Non-breeding season displacement impacts have been considered qualitatively, as per the Scoping Opinion.

¹³ SNH (2017b). Sitelinks. Scottish Natural Heritage.
<https://gateway.snh.gov.uk/sitelink/index.jsp>.

¹⁴ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

¹⁵ Daunt, F., Bogdanova, M., Newell, M., Harris, M. and Wanless, S. (2011a). GPS tracking of common guillemot, razorbill and black-legged kittiwake on the Isle of May, summer 2010. Report to FTOWDG. CEH Edinburgh.

9.4.6.6.4 *Collision*

- 9.4.6.6.4.1 In the HRA Report, the WCS scenario for kittiwake collisions was based on the 40 WTG design (see further, Appendix 11C of the EIA Report). The outputs of the CRM predicted that seven adults and one sub-adult would be impacted per annum, with the majority of impacts predicted during the breeding period. The figures presented correspond to 0.08% and 0.04% of the current and citation population sizes.

9.4.6.6.5 *Displacement*

- 9.4.6.6.5.1 Displacement impacts were calculated following the SNCB matrix approach, as per the Scoping Opinion, using a displacement rate of 30% and a 2% mortality rate. The HRA Report estimated that four adult birds per annum would be impacted by displacement mortality from the Development alone, corresponding to 0.04% and 0.02% of the current and citation population sizes respectively.

9.4.6.6.6 *Collision and displacement combined for the Development in isolation*

- 9.4.6.6.6.1 The combined predicted impacts of collision and displacement are assumed in the HRA Report to be additive. The combined impact from the Development in isolation is predicted to be an additional mortality of 11 adult birds and one sub-adult bird per annum.
- 9.4.6.6.6.2 PVA was undertaken by ICOL for a range of scenarios; for collision only and for collision and displacement combined. The PVA projected continued population decline for the Forth Islands SPA kittiwake for all scenarios, with the projected population size at 50 years always smaller than the predicted population size at 25 years. The PVA results for 25 and 50 years for the Development in isolation are presented below.

Table 14 PVA results for Forth Islands SPA kittiwake for the Development in isolation

Impact	Ratio of impacted to un-impacted population size	
	25 years	50 years
Collision only	0.982	0.966
Collision and displacement combined	0.973	0.950

9.4.6.6.7 *Conclusion*

- 9.4.6.6.7.1 SNH advised that there would be no adverse effect on the site integrity of the Forth Islands SPA in respect of kittiwake as a result of the Development in isolation.

9.4.6.7 Forth Islands SPA – Kittiwake – Development in-combination**9.4.6.7.1 Collision**

9.4.6.7.1.1 The 2014 designs for the NnGOWL Development and the Seagreen Developments represented the WCS for the in-combination assessment (in conjunction with the 40 WTG design for the Development). The outputs of the CRM predicted that the majority of impacts would occur during the breeding period, with 29 birds estimated to be impacted by collision mortality, corresponding to 0.33% and 0.18% of the current and citation population sizes respectively. Across the year, 31 adults and three sub-adults were predicted to be impacted by collision mortality when the Development was considered in-combination with the other Forth and Tay Developments.

9.4.6.7.1.2 Collision estimates were provided for the Development in-combination with the WCS for the other Forth and Tay Developments, plus the passage period collision estimates for the North Sea Developments (see Appendix 2 for full list). The inclusion of these collision impacts increased the predicted number of birds to be impacted. These figures are presented in **Table 15** below. The total number of adult kittiwakes predicted to be impacted by collision mortality per annum was 37 birds, corresponding to 0.40% and 0.22% of the current and citation population sizes.

Table 15 Estimated in-combination collision impacts for Forth Islands SPA kittiwake

Developments	Seasonal period	Estimated number of collisions	
		Breeding adults	Sub-adults
Forth and Tay	Breeding	29	2
Forth and Tay	Autumn passage	0.9	0.5
North Sea		2.9	1.3
Total autumn passage		3.8	1.8
Forth and Tay	Spring passage	0.6	0.2
North Sea		3.4	1.5
Total spring passage		4.0	1.8
Total	All seasons	37	6

9.4.6.7.2 Displacement

9.4.6.7.2.1 Displacement impacts were calculated for the Development in-combination with the other Forth and Tay Developments and a total estimated mortality of 14 breeding adult birds and one sub-adult bird was

predicted (corresponding to 0.15% and 0.08% of the current and citation population sizes).

- 9.4.6.7.2.2 A qualitative assessment of displacement during the non-breeding season was undertaken. The HRA Report considered the outputs of tracking and other studies (see further, paragraph 133 of the HRA Report) regarding the behaviour of adult kittiwake during the non-breeding season. The HRA Report concluded that kittiwake from the Forth Islands SPA are not likely to be dependent on any particular area of the North Sea and, therefore, the likely effects of displacement from the North Sea Developments during the non-breeding season will be limited.
- 9.4.6.7.3 *Collision and displacement combined for the Development in-combination*
- 9.4.6.7.3.1 The combined predicted impacts of collision and displacement are assumed in the HRA Report to be additive. The combined impact from the Development in-combination with the other Forth and Tay Developments is predicted to be an additional mortality of 45 adult birds and four sub-adult birds per annum. For the WCS, comprising the Development in-combination with the other Forth and Tay Developments and the North Sea Developments, this figure rises to 51 adult and seven sub-adult birds per annum.
- 9.4.6.7.3.1 Breeding season effects from other offshore wind farms (in this case Offshore Renewable Energy Catapult (“OREC”) Levenmouth Demonstration Turbine and Forthwind Demonstration Array, see further in Appendix 1) within mean maximum foraging range of the Forth Islands SPA were considered qualitatively. The HRA Report concluded that the collision, displacement and barrier effects from these developments (as reported in their EIA reports) would be minor and not affect the conclusions of the assessment presented in the HRA Report.
- 9.4.6.7.3.2 The cumulative total number of individuals experiencing annual mortality is assessed to be 58 which is less than the cumulative total of 135 estimated in the 2014 AA. The 135 estimate from the 2014 AA was based upon the assessment of adults only. The adults only estimate for this assessment is 51.
- 9.4.6.7.3.3 PVA results were presented for the Development in-combination with the other Forth and Tay Developments and the WCS (the other North Sea Developments). The WCS gave reductions of up to 22% in end population size after 50 years, and 15% after 25 years of impact. The PVA results are presented below for all scenarios.

Table 16 PVA results for Forth Islands SPA kittiwake for the Development in-combination with other plans and projects

Impacts	Scenario	Ratio of impacted to un-impacted population size	
		25 years	50 years
Collision only	Development in-combination with other Forth and Tay Developments	0.926	0.861
	Development in-combination with the North Sea Developments	0.909	0.828
Collision and displacement combined	Development in-combination with other Forth and Tay Developments	0.896	0.807
	Development in-combination with the North Sea Developments	0.878	0.776

9.4.6.7.4 Conclusion

9.4.6.7.4.1 SNH advised that there would be an adverse effect on the site integrity of the Forth Islands SPA in respect of kittiwake as a result of the Development in-combination with other plans and projects.

9.4.6.8 Fowlsheugh SPA – Kittiwake – Development in isolation

9.4.6.8.1 The kittiwake population at the Fowlsheugh SPA is reported as in a favourable and maintained condition (based on latest assessed condition in 1999) (SNH, 2017b).¹⁶ However, the kittiwake population has declined from 36,350 pairs at the time of site designation in 1992 to 9,655 pairs in 2015.

9.4.6.8.2 The Development area (including 2km buffer) does not overlap with the Fowlsheugh SPA, however, from published data (Thaxter et al, 2012 and CEH, 2011b¹⁷) it is likely that during the breeding period kittiwake from the Fowlsheugh SPA will occur in the Development area.

9.4.6.8.3 Collision

9.4.6.8.3.1 The WCS for kittiwake collision risk was represented by the 40 WTG design (see further, Appendix 11C of the EIA Report). The HRA Report

¹⁶ SNH (2017b). Sitelinks. Scottish Natural Heritage.

¹⁷ Daunt, F., Bogdanova, M., Redman, P., Russell, S. and Wanless, S. (2011b). GPS tracking of blacklegged kittiwakes and observations of trip durations and flight directions of common guillemot at Fowlsheugh and St Abb's Head, summer 2011. Report to FTOWDG. CEH Edinburgh.

predicted that collision mortality would mainly impact kittiwake during the breeding season, with a predicted 10 birds per annum estimated, corresponding to 0.05% and 0.01% of the current and citation population sizes respectively.

9.4.6.8.4 *Displacement*

9.4.6.8.4.1 The SNCB matrix approach was used to estimate displacement impacts (as per the Scoping Opinion), using a 30% displacement rate and a 2% mortality rate. The matrix predicted an estimated mortality of six adult birds per annum (corresponding to 0.03% and 0.01% of the current and citation population sizes).

9.4.6.8.5 *Collision and displacement*

9.4.6.8.5.1 The combined predicted impacts of collision and displacement are assumed in the HRA Report to be additive. The combined impact from the Development in isolation is predicted to be an additional mortality of 15 adult birds and approximately one sub-adult bird per annum.

9.4.6.8.5.2 PVA was undertaken by ICOL for a range of scenarios; for collision only and for collision and displacement combined. The PVA projected continued population decline for the Fowlsheugh SPA kittiwake for all scenarios, with the projected population size at 50 years always smaller than the predicted population size at 25 years. The PVA metrics for 25 and 50 years estimated small reductions in population sizes, whilst the decrease in annual population growth was not deemed to be detectable for collisions-only. The PVA metrics for the Development in isolation are presented in **Table 17** below.

Table 17 PVA metrics for Fowlsheugh SPA kittiwake for the Development in isolation

Impact	Ratio of impacted to un-impacted population size	
	25 years	50 years
Collision only	0.988	0.977
Collision and displacement combined	0.981	0.964

9.4.6.8.6 *Conclusion*

9.4.6.8.6.1 SNH advised that there would be no adverse effect on the site integrity of the Fowlsheugh SPA in respect of kittiwake as a result of the Development in isolation.

9.4.6.9 **Fowlsheugh SPA – Kittiwake – Development in-combination**

9.4.6.9.1 *Collision*

9.4.6.9.1.1 The 2014 designs for the NnGOWL Development and the Seagreen Developments represented the WCS for the in-combination assessment

(in conjunction with the 40 WTG design for the Development). The HRA Report considered that the NnGOWL Development site was beyond the mean maximum foraging range of kittiwake from Fowlsheugh SPA (Thaxter et al, 2012)¹⁸ and was therefore not deemed to have connectivity to the SPA population during the breeding period (however see paragraph 0 below). Breeding period impacts were attributed to the Fowlsheugh SPA between the Development (28.7%) and Seagreen Alpha and Seagreen Bravo (41.2%). For the Development in-combination with the other Forth and Tay Developments, based on Option 2 and a 98.9% avoidance rate (as advised in the Scoping Opinion), a mortality increase of 71 breeding adults and seven sub-adults per annum was predicted (corresponding to 0.38% and 0.10% of the current and citation population sizes respectively). The majority of collision impacts were predicted to occur during the breeding season (67 adults and five sub-adults).

- 9.4.6.9.1.2 The Development in-combination with the other Forth and Tay Developments and the North Sea Developments represented the WCS for the CRM, with a substantial increase in collision mortality predicted. A total predicted in-combination mortality of 88 adult kittiwakes per annum was predicted, corresponding to 0.46% and 0.12% of the current and citation population sizes respectively.

9.4.6.9.2 *Displacement*

- 9.4.6.9.2.1 Displacement impacts were calculated for the Development in-combination with Seagreen Alpha and Seagreen Bravo, with a total estimated mortality of 16 breeding adults and one sub-adult per annum, corresponding to 0.08% and 0.02% of the citation and current population sizes respectively.

Table 18 Estimated in-combination breeding season displacement mortality for Fowlsheugh SPA kittiwake for the Development in-combination with the Seagreen Developments.

Development	Additional mortality	
	Breeding adults	Sub-adults
Development (2017)	5.6	0.5
Seagreen Alpha (2014)	4.6	0.4
Seagreen Bravo (2014)	5.7	0.3
Total	16	1.2

- 9.4.6.9.2.2 A qualitative assessment of the displacement effects of the other North Sea Developments was undertaken for the non-breeding season at paragraph 267 of the HRA Report. The HRA Report concluded that the

¹⁸ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

likely effects of displacement from these wind farms would be minimal on the Fowlsheugh SPA population due to the availability of large areas of alternative habitat.

9.4.6.9.3 *Collision and displacement*

- 9.4.6.9.3.1 The combined predicted impacts of collision and displacement are assumed in the HRA Report to be additive. The combined impact from the Development in-combination with the other Forth and Tay Developments is predicted to be an additional mortality of 86 adult birds and eight sub-adult birds per annum. For the WCS, which combines the passage period collisions for the North Sea Developments, the HRA Report estimated an overall additional mortality of 103 adult and 17 sub-adult birds per annum.
- 9.4.6.9.3.2 Breeding season effects from other offshore wind farms (in this case the European Offshore Wind Deployment Centre and Kincardine Floating Offshore Wind Farm, see further in Appendix 1) within mean maximum foraging range of the Fowlsheugh SPA were considered qualitatively. The HRA Report considered the collision mortality estimates presented in the EIA Reports for both projects and concluded that these projects would contribute a further 12 collisions for the Fowlsheugh SPA kittiwake population, corresponding to 0.06% of the current SPA population size and would, therefore, not affect the conclusions of the assessment presented in the HRA Report. Further, due to the scale of the Developments, the HRA Report concluded that the displacement and barrier effects of these wind farms would be minor and not alter the conclusions of the assessment presented.
- 9.4.6.9.3.3 The cumulative total number of individuals at risk of mortality is assessed to be 120 which is less than the cumulative total of 212 estimated in the 2014 AA. The 212 estimate from the 2014 AA was based upon the assessment of adults only. The adults only estimate for this assessment is 103.
- 9.4.6.9.3.4 PVA was undertaken for the Development in-combination with the other Forth and Tay Developments and the WCS of the Development in-combination with the North Sea Developments. The WCS gave reductions of up to 22% in end population size after 50 years, and 12% or less after 25 years of impact. The PVA results are presented in **Table 19** below for all scenarios.

Table 19 PVA results for Fowlsheugh SPA kittiwake for the Development in-combination with other plans and projects for collision and collision and displacement impacts

Impacts	Scenario	Ratio of impacted to un-impacted population size	
		25 years	50 years
Collision only	Development in-combination with	0.919	0.847

	other Forth and Tay Developments		
	Development in-combination with the North Sea Developments	0.896	0.808
Collision and displacement combined	Development in-combination with other Forth and Tay Developments	0.902	0.819
	Development in-combination with the North Sea Developments	0.879	0.779

9.4.6.9.4 Conclusion

9.4.6.9.4.1 SNH advised that there would be an adverse effect on the site integrity of the Fowlsheugh SPA with respect to kittiwake from the Development in-combination with the other Forth and Tay Developments (2014).

9.4.6.9.4.2 SNH subsequently provided advice on the draft AA on 24 January 2019, advising that the plus 1 standard deviation shown in Thaxter et al (2012)¹⁹ should be applied to mean maximum foraging ranges. Therefore, the impacts of the NnGOWL Development site have been considered qualitatively in this assessment. The cumulative assessment of annual adult mortality from collision, presented in Table 16.50 of the Seagreen's HRA Report of 2018,²⁰ concluded that a total of four adult kittiwake (one during the breeding season, two during the post-breeding season and less than one during the pre-breeding season) would be impacted by the NnGOWL Development as proposed in 2014. The cumulative displacement assessment presented in the 2018 Seagreen HRA Report (Table 16.52) calculated that three adult birds would be impacted per annum (one bird during the breeding, post-breeding and pre-breeding seasons).

¹⁹ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. Biological Conservation 156: 53–61.

²⁰ Seagreen Alpha and Seagreen Bravo, Habitats Regulations Appraisal (2018), Available here – http://marine.gov.scot/sites/default/files/chapter_16_habitats_regulations_appraisal_hra.pdf (Last accessed 30/01/2019).

9.4.6.10 St Abb's Head to Fast Castle SPA – Kittiwake – Development in isolation

9.4.6.10.1 The kittiwake population at the St Abb's Head to Fast Castle SPA is reported as in an unfavourable and declining condition (SNH, 2017b).²¹ The population has declined from 21,170 pairs at the time of site designation in 1992 to 3,334 pairs in 2016.

9.4.6.10.2 Collision

9.4.6.10.2.1 The predicted impacts of collision from the Development in isolation were predicted to be small, primarily affecting the breeding adult population. A predicted two birds per annum were estimated to collide, equating to 0.03% of the current population size and 0.005% of the citation breeding adult population of the St Abb's Head to Fast Castle SPA.

9.4.6.10.3 Displacement

9.4.6.10.3.1 The SNCB matrix approach was used to estimate additional mortality impacts attributable to the kittiwake population of the St Abb's Head to Fast Castle SPA as a result of displacement and barrier effects during the breeding period. Displacement effects were calculated using a 30% displacement rate and 2% mortality rate, and the HRA Report estimated a mortality rate of adult bird per annum, equating to 0.01% of the current population and 0.002% of the citation population size.

9.4.6.10.4 PVA

9.4.6.10.4.1 PVA outputs were produced for kittiwake for a range of scenarios, for both 25 and 50 year timeframes and for collision impacts only, and collision plus displacement. After 25 years the median of the ratio of impacted to un-impacted population for the Development in isolation, is 0.992 and for 50 years, 0.985. The PVA metrics predicted a continuing rapid decline for the St Abb's Head to Fast Castle SPA kittiwake population, for both the SPA with and without the Development in isolation. The median end population for each modelled impact was lower than the current SPA population and the projected population size at 50 years was smaller than the predicted population size at 25 years. The PVA metrics for the Development in isolation predicted a small reduction in the end population size, after both 25 and 50 years of impact. The decrease in annual population size was not detectable when collision only impacts were considered.

9.4.6.10.5 In isolation - conclusion

9.4.6.10.5.1 SNH advised that there would be no adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA in respect of kittiwake as a result of the Development in isolation.

²¹ SNH (2017b). Sitelinks. Scottish Natural Heritage.

9.4.6.11 St Abb's Head to Fast Castle SPA – Kittiwake – Development in-combination

9.4.6.11.1 Collision

9.4.6.11.1.1 The in-combination impacts of the 2014 parameters for the NnGOWL Development and the Seagreen Developments on kittiwake were predicted to be three times higher than the impacts estimated for the Development in isolation. The HRA Report concluded that the estimated in-combination collision impacts on breeding adults remains small when compared to the current and citation SPA population size, equating to 0.09% of the current population size and 0.01% of the citation population size for both the 2014 and 2017 design scenarios. The CRM estimates were calculated using Option 2 and a 98.9% avoidance rate, as per the Scoping Opinion.

Table 20 Annual estimated in-combination collision impacts for the kittiwake qualifying interest of St Abb's Head to Fast Castle SPA

Development	Breeding adults	Sub adults
Development (2017)	2	<0.2
NnGOWL Development (2014)	2	<0.2
Seagreen Alpha (2014)	1	<1
Seagreen Bravo (2014)	1	<1
Total	6	1

9.4.6.11.1.2 In-combination CRM for the WCS (including the North Sea Developments) substantially increased the impacts during both passage periods and doubled the estimated total impact. The total predicted in-combination collision mortality estimate presented in the HRA Report for the kittiwake population of the St Abb's Head to Fast Castle SPA is 12 birds per annum (equating to 0.18% of the current population size and 0.03% of the citation population size).

Table 21 Estimated in-combination collision impacts for the St Abb's Head to Fast Castle SPA kittiwake population

Development/Scenario	Seasonal period	Estimated number of collisions	
		Breeding adults	Sub-adult birds
Forth and Tay	Breeding	4	0
Forth and Tay	Autumn passage	1	0.6
North Sea		2.5	1.4
Total autumn passage		3.5	2.0
Forth and Tay	Spring passage	0.6	0.3
North Sea		3.8	1.7

Total spring passage		4.4	1.9
TOTAL	All seasons	12	4

Source: Table 4.52, page 144 HRA Report

9.4.6.11.2 Displacement

9.4.6.11.2.1 Displacement impacts were estimated for the Development in-combination with the NnGOWL development (as it was deemed that there is no connectivity with Seagreen Alpha and Seagreen Bravo during the breeding season). A total estimated mortality rate of three breeding adults and fewer than one sub-adult bird per annum was presented, with adult mortality equating to 0.04% of the current population size and 0.007% of the citation population size. A qualitative assessment of in-combination displacement impacts during the non-breeding season was undertaken, as per the Scoping Opinion.

9.4.6.11.3 PVA

9.4.6.11.3.1 PVA outputs were produced for the kittiwake population for a range of scenarios, for both 25 and 50 year timeframes, as set out in **Table 22** below. The PVA results predicted a continuing rapid decline for the St Abb's Head to Fast Castle SPA kittiwake population for the SPA without the Development, with the Development in isolation and the Development in-combination. The population level impacts were greatest for the scenario incorporating the other Forth and Tay Developments, plus the passage period collision estimates for the North Sea Developments. This equated to a predicted 11% decline in end population size after 50 years and 6% after 25 years. The reductions in annual predicted growth rate were reported as small. The HRA Report estimated that median predicted population size at 25 years (550 pairs) is still likely to be sufficiently large to allow recovery. At 50 years, the HRA Report estimated that the median predicted population size would be 100 pairs, with the lower fifth quantile encompassing zero (suggesting a reasonable likelihood of extinction), however, these impacts were estimated for all scenarios and irrespective of whether the SPA population was subjected to the predicted wind farm impacts.

Table 22 PVA results for the St Abb's Head to Fast Castle SPA kittiwake population after 25 and 50 years for the Development alone and in-combination (for collision impacts and for collision plus displacement impacts)

Impact(s)	Scenario	Counterfactual of end population size	
		25 years	50 years
Collision only	Development in isolation	0.992	0.985
	In-combination with other Forth and Tay Developments	0.978	0.951

	In-combination with the North Sea Developments	0.953	0.904
Collision and displacement combined	Development in isolation	0.988	0.974
	In-combination with other Forth and Tay Developments	0.969	0.938
	In-combination with the North Sea Developments	0.944	0.888

9.4.6.11.4 *In-combination conclusion*

9.4.6.11.4.1 The combined predicted impacts from collision and displacement were assumed to be additive within the assessment. For the in-combination scenario with the other Forth and Tay Developments, an additional mortality rate of eight adult and two sub-adult birds per annum was predicted, whilst the worst-case in-combination scenario (in-combination with the North Sea Developments), gave an overall additive mortality of 14 adult and five sub-adult birds per annum. The HRA Report calculated that these impacts represent relatively small proportions of the current and citation population sizes (ranging from 0.12-0.21% and 0.02-0.003% respectively).

9.4.6.11.4.2 The cumulative total number of individuals experiencing annual mortality is assessed to be 19 which is less than the cumulative total of 60 estimated in the 2014 AA. The 60 estimate from the 2014 AA was based upon the assessment of adults only. The adults only estimate for this assessment is 14.

9.4.6.11.4.3 On 28 September, 2018 SNH advised that there could be an adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA in-combination with the other Forth and Tay Developments. This was clarified on 24 January 2019, when SNH advised that an adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA could not be ruled out with respect to kittiwake.

9.4.6.12 **Buchan Ness to Collieston Coast SPA – Kittiwake – Development in isolation and in-combination**

9.4.6.12.1 The kittiwake population at the Buchan Ness to Collieston Coast SPA is reported as in an unfavourable (SNH, 2017b).²² The population has declined from 30,452 pairs at the time of site designation in 1998 to 11,482 pairs in 2016.

9.4.6.12.2 The HRA Report concluded that there is no connectivity between kittiwake from the Buchan Ness to Collieston Coast SPA with the

²² SNH (2017b). Sitelinks. Scottish Natural Heritage.

Development and therefore, no adverse effects were predicted from the Development in isolation or in-combination with other plans or projects. PVA modelling was not undertaken.

9.4.6.13 Outer Firth of Forth and St Andrews Bay Complex pSPA – Kittiwake – Development in Isolation and In-combination

9.4.6.13.1 The Scoping Opinion advised that the assessment carried out for kittiwake at the breeding colony SPAs detailed above could also be applied to the pSPA, and a separate assessment for the kittiwake qualifying feature at the pSPA was not required.

9.4.6.13.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of kittiwake as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.

9.4.6.14 Kittiwake – Precaution in the Assessment

9.4.6.14.1 There are a number of precautionary assumptions made in this assessment which mean that the estimated cumulative total number of individuals impacted and the population consequences are highly likely to be over-estimates.

9.4.6.14.2 SNH, in its scoping advice, advised that displacement for kittiwake did not require to be included in the assessment due to emerging evidence that kittiwake are not affected by displacement. The inclusion of displacement in this assessment is likely to be precautionary, as is the assumption that collision and displacement effects are additive. The assumption that all birds are displaced from a 2km buffer around each project is also likely to be very precautionary.

9.4.6.14.3 Another example comes from the seabird collision avoidance study undertaken at Thanet offshore wind farm which lends support to the view that the avoidance rates used in this assessment are likely to be highly precautionary (Skov et al, 2018).²³

9.4.6.14.4 The Scoping Opinion advised that flight speed data for use in CRM be taken from published data (Pennycuik 1997;²⁴ Alerstam et al. 2007).²⁵ These flight speeds are based on very small sample sizes (2 kittiwake). The laser rangefinder track data collected at Thanet recorded by Skov et al. (2018) offers species-specific empirical data on flight speeds from large numbers of individuals (287 kittiwake). This information was not

²³ Skov, H., Heinanen, S., Norman, T., Ward, R.M., Mendez-Roldan, S. & Ellis, I. 2018. ORJIP Bird Collision and Avoidance Study. Final report – April 2018. The Carbon Trust. United Kingdom.

²⁴ Pennycuik, C.J., 1997. Actual and 'Optimum' Flight Speeds: Field Data Research. The Journal of Experimental Biology, 200, pp. 2355-2361.

²⁵ Alerstam, T., Rosén, M., Bäckman, J., Ericson, P.G. & Jellgren, O. (2007). Flight speeds among bird species: allometric and phylogenetic effects. PLoS Biology, 5(8), e197.

available at the time of the Application, however the Seagreen EIA Report estimates that using the flight speeds recorded at Thanet would reduce kittiwake collisions by 19%. MSS have advised that across the four wind farm sites, using the Skov (2018) flight speeds would reduce kittiwake collisions by between 20-30% depending on the wind farm site (average of 24%).

- 9.4.6.14.5 The HRA and EIA Reports provided a comparison of the estimates using both Options 1 and 2 of the Band model. When using Option 1, the collision risk estimates for kittiwake were lower, as a lower percentage of kittiwakes were estimated to be at collision risk height using site-specific data (Option 1) when compared to the generic data (Option 2) (with the difference most pronounced during the breeding season). The HRA Report provided justification for the use of site-specific data (stating that the site-specific flight height data used was based upon a large sample size and that there is relatively strong statistical support for the observed differences). SNH supported this view in its consultation response of 28 September 2018, however, RSPB Scotland did not agree that the sample size used for the site-specific data was sufficient to support its usage. The HRA Report stated that the use of Option 2 CRM will over-estimate the collision impacts for the Development in isolation, thereby resulting in a highly precautionary assessment. Table 11C.5 of Appendix 11C²⁶ provides collision modelling outputs using both Option 1 and Option 2. For breeding kittiwake, Option 2 of the CRM (when run for the 72 WTG scenario) estimated that 36 birds would be impacted, whilst Option 1 estimated no birds would be impacted. During the autumn passage period it was predicted that 23 birds would be impacted using Option 2, and 7 when using Option 1. For the 40 WTG scenario, it was estimated that 40 birds would be impacted during the breeding season when Option 2 was used and 1 bird when Option 1 was utilised.
- 9.4.6.14.6 The 50 Year Assessment for the Development assumes a 50 year operational life, within the PVA, for the NnGOWL Development and the Seagreen Developments, whereas the s.36 consents granted in 2014 for these projects are only for 25 years. Therefore the in-combination 50 Year Assessment over-estimates the effects.
- 9.4.6.14.7 Lastly, basing this assessment on the WCS for the NnGOWL Development and the Seagreen Developments (i.e., the s.36 consents for these projects granted in 2014) is very precautionary, as they are unlikely to be constructed due to advances in technology. If their current proposals were used in this assessment it would reduce the effects associated with those projects.

²⁶ Appendix 11C, Estimation of the Development alone and Cumulative Collision Risk (2018). Available here: http://marine.gov.scot/sites/default/files/appendix_11c_estimation_of_the_development_rev_a.pdf (Last accessed 08/02/2019).

9.4.6.15 Kittiwake - Conclusion

- 9.4.6.15.1 Based on the information provided in the HRA Report and EIA Report, SNH advised on 28 September 2018 that the Development will have an adverse effect on site integrity for kittiwake as a qualifying interest of the Forth Islands SPA and Fowlsheugh SPA in-combination with the s.36 consents granted in 2014 for the NnGOWL Development and the Seagreen Developments. Further, on 24 January 2019, SNH advised that an adverse effect on the kittiwake qualifying interest of the St Abb's Head to Fast Castle SPA could not be ruled out when considered in-combination.
- 9.4.6.15.2 In reaching their conclusion Scottish Ministers have considered the conservation objectives, the populations at the sites, the predicted levels of effect and population consequences, the fact that the effects are less than in 2014, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that, subject to the appliance of conditions, there will be no adverse effect on the site integrity of Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA or Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of the kittiwake qualifying interest as a result of the Development in isolation or in-combination with the other Forth and Tay Developments or the projects detailed in Appendices 1 and 2.

9.4.7 HERRING GULL - Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Outer Firth of Forth and St Andrews Bay Complex pSPA

- 9.4.7.1 The closest largest breeding colonies of herring gulls to the Development are on the islands in the Firth of Forth and Isle of May, part of the Forth Islands SPA. Results from site-specific monitoring indicate that herring gulls are present in the Development area throughout the year, although during the breeding season (April to August) numbers are generally lower.
- 9.4.7.2 During the breeding season, herring gulls from other breeding colonies, which may not be SPAs, may also be present within the Development area and, therefore, at risk from collision impacts. The potential impacts on all non-SPA breeding colonies and across all SPA colonies, for which herring gull is a qualifying interest, within the mean maximum foraging range have been apportioned to take account of the presence of these birds.
- 9.4.7.3 The Development was assessed in-combination with the WCS of the 2014 and 2017 designs for the Forth and Tay Developments and the 2017 design for the Forth and Tay Developments. Qualitative consideration was given to the impacts from other wind farms within mean maximum foraging range of the relevant SPA populations.

9.4.7.4 Forth Islands SPA – Herring gull – Development in isolation

- 9.4.7.4.1 The herring gull population decreased between the time of designation and counts undertaken in 2014, however the population has increased again since 2014 and is in a favourable and maintained condition. The herring gull breeding population in the Forth Islands SPA is 6,580 pairs and it is likely that breeding herring gull from this SPA will occur within the Development area and 2km buffer.
- 9.4.7.4.2 The CRM presented in the HRA Report estimated that there would be a loss of fewer than one bird from the breeding adult age class per annum (0.5). This would result in an increase in the mortality of the breeding population by 0.005% as a result of collision impacts.
- 9.4.7.4.3 SNH advised that there would be no adverse effect on the site integrity of the Forth Islands SPA in respect of herring gull as a result of the Development in isolation.

9.4.7.5 Forth Islands SPA – Herring gull – Development in-combination

- 9.4.7.5.1 The estimated collision impacts for the Development in-combination with the other Forth and Tay Developments were ten times higher, when the WCS was assessed. Estimated collisions were higher in the non-breeding season due to the precaution in the assessment (see further discussion at section 19.8). The predicted in-combination collision mortality to adult herring gull was five birds per annum, equating to an increase in the baseline annual adult mortality of 0.24%.
- 9.4.7.5.2 Qualitative assessment of the in-combination impacts with other wind farms within mean maximum foraging range of breeding herring gulls from the Forth Islands SPA was carried out (including OREC Levenmouth Demonstration Turbine and Forthwind Demonstration Array, see further in Appendix 1), the HRA Report concluded that the impacts predicted for these two developments would not alter the conclusions of the assessment.
- 9.4.7.5.3 SNH advised that there would no adverse effect on site integrity of the Forth Islands SPA in respect of herring gull as a result of the Development in in-combination with other plans or projects.

9.4.7.6 Fowlsheugh SPA – Herring gull – Development in isolation

- 9.4.7.6.1 The herring gull population has decreased significantly since the time of designation when the population was 3,190 pairs to the latest population estimate of 125 pairs. The population is in an unfavourable and declining condition (SNH, 2017b).²⁷
- 9.4.7.6.2 The HRA Report provided updated CRM results for herring gull for both the breeding and non-breeding seasons, as per the Scoping Opinion.

²⁷ SNH (2017b). Sitelinks. Scottish Natural Heritage.

The Development area (including 2km buffer) does not overlap with the Fowlsheugh SPA boundary. Published information (Thaxter et al. 2012)²⁸ suggests that it is likely that breeding herring gull from the Fowlsheugh SPA will be present in the Development area and 2km buffer.

9.4.7.6.3 Collision risk modelling was undertaken using the Band model, using Option 3 of the CRM (as per Scoping Opinion), outputs for Options 1 and 2 were also presented in the report. An avoidance rate of 99% for Option 3 and 99.5% for Options 1 and 2 was used in the CRM undertaken.

9.4.7.6.4 The HRA Report predicted extremely small impacts on herring gulls from the Fowlsheugh SPA, with fewer than 0.01 birds from the breeding age class estimated to collide per annum (Option 3). Collision estimates for the sub-adult age range were equally small. The predicted number of collisions per annum for the Development in isolation on breeding adults equate to 0.003% of the current population size and 0.0001% of the citation population size. Outputs using Options 1 and 2 were of similar size, with Option 1 predicted no collisions during the breeding period.

9.4.7.6.5 SNH advised that there would be no adverse effect on the site integrity of the Fowlsheugh SPA in respect of herring gull as a result of the Development in isolation.

9.4.7.7 Fowlsheugh SPA – Herring gull – Development in-combination

9.4.7.7.1 The in-combination assessment presented in the HRA Report considered the impacts of the 2014 parameters for the Seagreen Developments. The NnGOWL Development was not considered within the CRM, as the site is beyond the mean maximum foraging range of herring gulls from Fowlsheugh SPA (as per Thaxter et al. 2012)²⁹ and was therefore deemed not to have connectivity to the SPA population during the breeding or non-breeding seasons. Following SNH advice regarding the inclusion of standard deviation in the mean maximum foraging ranges it was concluded that <1 bird would be impacted from the NnGOWL Development, therefore not considered further within this assessment.³⁰ The breeding season impacts were attributed to the Development and the Seagreen Developments at 0.6% and 1.3% respectively. Apportioning estimates for the breeding season period were applied to the non-breeding season period.

9.4.7.7.2 The estimated in-combination collisions for the Development and the Seagreen Developments did not exceed 0.1 birds per annum. The predicted in-combination collision rates equate to 0.03% of the current

²⁸ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

²⁹Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

³⁰ See further, Seagreen HRA Report (2018), Table 16.50.

population size (and 0.0001% of the citation population size). Based on an annual adult survival rate of 83.4% for adult herring gulls (Horswill and Robinson, 2015)³¹ the mortality of adult herring gulls from the Fowlsheugh SPA was predicted to be 41 individuals per annum in the absence of any wind farm impacts. Therefore, the in-combination collision estimates would represent an increase from the baseline mortality of 0.19%.

9.4.7.7.3 Other wind farms within mean maximum foraging range of the Fowlsheugh SPA were considered qualitatively within the in-combination assessment (in this instance, EOWDC and Kincardine Floating Offshore Wind Farm, see further Appendix 1). The estimated collision mortality to adult herring gulls during the breeding season was one bird or less from each of these wind farms and the HRA Report therefore concluded that this did not alter the conclusions of the assessment presented.

9.4.7.7.4 SNH advised that there would no adverse effect on site integrity of the Fowlsheugh SPA in respect of herring gull from the Development in-combination with other plans and projects.

9.4.7.8 St Abb's Head to Fast Castle SPA – Herring gull – Development in isolation

9.4.7.8.1 The herring gull population has decreased significantly since the time of designation when the population was 1,160 pairs to the latest population estimate of 325 pairs. The population is in an unfavourable and declining condition (SNH, 2017b).³²

9.4.7.8.2 Updated CRM results were presented in the HRA Report for the breeding and non-breeding season, as per the Scoping Opinion. Data from site-specific surveys of the Development area and 2km buffer zone indicate there is a potential for collisions to occur and the apportioning estimates for the breeding season were applied to the non-breeding season.

9.4.7.8.3 The HRA Report presented predicted collision impacts of fewer than 0.1 for the breeding age class (0.0 for sub-adults) per annum using Option 3 of the CRM, corresponding to 0.002% of the current SPA population and 0.0004% of the citation SPA population. CRM using Options 1 and 2 produced similar results, whilst Option 1 predicted no collisions during the breeding period.

9.4.7.8.4 SNH advised that there would be no adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA in respect of herring gull as a result of the Development in isolation.

³¹Horswill, C. and Robinson, R.A. (2015). Review of seabird demographic rates and density dependence. JNCC report no. 552, JNCC, Peterborough. ICOL (2017).

³² SNH (2017b). Sitelinks. Scottish Natural Heritage.

9.4.7.9 St Abb’s Head to Fast Caste SPA – Herring gull – Development in-combination

- 9.4.7.9.1 The in-combination collision estimates for St Abb’s Head to Fast Castle SPA, for both the breeding and non-breeding season, predicted less than 0.1 adult birds per annum would be impacted. The in-combination assessment for herring gull of the St Abb’s Head to Fast Castle SPA did not consider impacts from the Seagreen Developments, which are beyond mean maximum foraging range for this species (Thaxter et al).³³ These impacts correspond to 0.008% of the current population and 0.002% of the citation population size. Based on an annual survival rate of 83.4% for herring gulls,³⁴ the HRA Report predicted that the mortality of adult herring gull from the St Abb’s Head to Fast Castle SPA would equate to 108 adults per year in the absence of any wind farm impacts. The HRA Report predicted that the in-combination collision estimates would therefore represent an increase in the baseline adult mortality of 0.05%.
- 9.4.7.9.2 Impacts from other wind farms (in this instance, OREC Levenmouth Demonstration Turbine and Forthwind Demonstration Array, see further in Appendix 1) were considered qualitatively in the HRA Report, as per the Scoping Opinion. The HRA Report concluded that, due to the scale of these impacts, the conclusions of the in-combination assessment would not be altered.
- 9.4.7.9.3 SNH advised that there would no adverse effect on site integrity of the St Abb’s Head to Fast Castle SPA in respect of herring gull from a result of the Development in-combination with other plans or projects.

9.4.7.10 Outer Firth of Forth and St Andrews Bay Complex pSPA – Herring Gull – Development in Isolation and In-combination

- 9.4.7.10.1 The Scoping Opinion advised that the assessment carried out for herring gull at the breeding colony SPAs detailed above could also be applied to the pSPA, and a separate assessment for the herring gull qualifying feature at the pSPA was not required.
- 9.4.7.10.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of herring gull as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.

³³ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

³⁴ Horswill, C. and Robinson, R.A. (2015). Review of seabird demographic rates and density dependence. JNCC report no. 552, JNCC, Peterborough. ICOL (2017).

9.4.7.11 Herring gull – Conclusion

- 9.4.7.11.1 SNH advised that there would be no adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA, Forth Islands SPA or the Fowlsheugh SPA in respect of the qualifying interest from the Development in isolation or in-combination with other plans or projects.
- 9.4.7.11.2 In reaching their conclusion, Scottish Ministers have considered the conservation objectives, the populations at the sites, the predicted levels of effect and population consequences and the advice from SNH. Scottish Ministers conclude subject to the appliance of conditions, there will be no adverse effect on the site integrity of the Forth Islands SPA, Fowlsheugh SPA and St Abb's Head to Fast Castle SPA in respect of the herring gull qualifying interest as a result of the Development in isolation or in-combination with the Forth and Tay Developments and other projects detailed in Appendix 1.

9.4.8 RAZORBILL - Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Outer Firth of Forth and St Andrews Bay Complex pSPA

- 9.4.8.1 The Scoping Opinion advised that ICOL was only required to consider displacement effects as razorbill fly lower than the height of the turbine blades and, therefore, are not at risk from collision impacts.
- 9.4.8.2 As the footprints of the Development site and the sites for the NnGOWL Development and the Seagreen Developments have not changed, the displacement effects from the s.36 consents as granted in 2014 will be no different to those from the 2018 applications for s.36 consent, therefore it was not necessary to assess the revised scenarios as it was for the collision risk assessment. However methods of assessment for displacement have changed since 2014 as detailed in Appendix 3.
- 9.4.8.3 The closest large razorbill colonies to the Development are at the Isle of May (part of the Forth Islands SPA), St Abb's Head to Fast Castle SPA and Fowlsheugh SPA. These three SPAs were identified as being at possible risk from the impacts of displacement. The population sizes at Forth Islands SPA and Fowlsheugh SPA have increased significantly since the time of designation.
- 9.4.8.4 This assessment follows the advice on displacement of razorbill provided in the Scoping Opinion and assesses the wind farm areas plus 2km buffers. A 60% displacement rate and 1% mortality rate are assumed during the breeding and non-breeding seasons.
- 9.4.8.5 Forth Islands SPA – Razorbill – Development in isolation**
- 9.4.8.5.1 The razorbill population at Forth Islands SPA is in a favourable maintained condition with an increase in population from 2,800 birds at the time of site designation in 1990 to 7,792 birds in 2017 (SNH,

2017b).³⁵ Published information on razorbill foraging ranges (Thaxter et al, 2012)³⁶ and the outputs of tracking studies on the Isle of May (Daunt et al. 2011a)³⁷ demonstrate that it is very likely that breeding razorbills from the Forth Islands SPA will occur within the Development area and 2km buffer.

9.4.8.5.2 The HRA Report predicted a displacement mortality of four adult birds per breeding period (equating to around 0.14% of the citation population size). During the non-breeding season, the HRA Report predicted a mortality of four birds, resulting in a total estimated annual mortality of eight adult razorbill from the Forth Islands SPA (representing 0.29% of the citation population size).

9.4.8.5.3 PVA was undertaken by ICOL for razorbill breeding in the Forth Islands SPA over 25 and 50 year periods for a number of scenarios. After 25 years the median of the ratio of impacted to un-impacted population for the Development in isolation, is 0.969 and for 50 years, 0.938. The PVA results predicted a small reduction in end population sizes after both 25 and 50 years of impact, with a minimal decline in the annual population growth rate.

9.4.8.5.4 SNH advised that the Development taken alone would not result in an adverse effect on site integrity to the Forth Islands SPA with respect to razorbill.

9.4.8.6 Forth Islands SPA – Razorbill – Development in-combination

9.4.8.6.1 The apportioning calculations were undertaken for the Development area and 2km buffer and the NnGOWL Development (plus buffer). The sites for the Seagreen Developments are beyond the mean maximum foraging range of razorbill from the Forth Islands SPA and were therefore deemed not to have connectivity.

9.4.8.6.2 The predicted in-combination mortality arising from displacement during the breeding season is approx. 1.5 times greater than the Development in isolation, resulting in a total estimated mortality of seven breeding adults and eight sub-adult birds – equating to 0.25% of the citation population size. Impacts during the non-breeding season were predicted to be greater, however, the contribution of the Development to the non-breeding season impacts was predicted to be lower. During the non-breeding season, the HRA Report estimated an additional mortality of 11 adult birds and 13 sub-adult birds – resulting in a total annual mortality of

³⁵ SNH (2017b). Sitelinks. Scottish Natural Heritage.
<https://gateway.snh.gov.uk/sitelink/index.jsp>

³⁶ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

³⁷ Daunt, F., Bogdanova, M., Newell, M., Harris, M. & Wanless, S. (2011a). GPS tracking of common guillemot, razorbill, black-legged kittiwake on the Isle of May Summer 2010. Report for FTOWDG. Centre for Ecology and Hydrology, Edinburgh.

19 breeding adults and 21 sub-adult birds, representing 0.64% of the citation population size of breeding adults.

Table 23 Estimated in-combination annual displacement effects on Forth Islands SPA - Razorbill

Project	Breeding adults	Sub-adults
Development (2017)	8	10
NnGOWL Development (2017)	10	11
Total	18	21

- 9.4.8.6.3 The PVA results for in-combination effects indicated small population-level impacts, with a predicted reduction in end population size of 7% after 25 years and 13% after 50 years, with a small reduction in annual population growth rate. After 25 years the predicted median of the ratio of impacted to un-impacted population size for the in-combination assessment is 0.933 and after 50 years, 0.868 (see further: Table 4.24 of HRA Report).
- 9.4.8.6.4 The 2014 AA estimated a loss of 41 individual adults only, which is larger than the effects predicted by this assessment. The adults only estimate presented by ICOL is 18. SNH subsequently provided advice on the draft AA on 24 January 2019, advising that the plus 1 standard deviation shown in Thaxter et al (2012) should be applied to mean maximum foraging ranges. The impact of the Seagreen Developments have therefore been considered qualitatively.
- 9.4.8.6.5 The in-combination displacement assessment undertaken for the NnGOWL Development, as presented in Table 17 of the AA, completed by Scottish Ministers in 2018,³⁸ concluded that an additional five birds per annum would be impacted by the Seagreen Developments. Therefore, a total of 23 birds per annum would be impacted by the Development in-combination with the NnGOWL Development and the Seagreen Developments. These impacts remain lower than those presented in the 2014 AA.
- 9.4.8.7 Fowlsheugh SPA – Razorbill – Development in isolation**
- 9.4.8.7.1 The razorbill population is in a favourable maintained condition with an increase in population from 5,800 birds at the time of site designation to 9,950 birds in 2017 (SNH, 2017c).³⁹

³⁸ Neart na Gaoithe Offshore Wind Farm (Revised Design) – Appropriate Assessment (December 2018) – Available here: <http://marine.gov.scot/data/neart-na-gaoithe-offshore-windfarm-revised-design-appropriate-assessment-2018>.

³⁹ SNH (2017c). SNH advice to Marine Scotland dated 11 May 2018.

- 9.4.8.7.2 The Development area (including 2km buffer) does not overlap with the Fowlsheugh SPA. Published data (Thaxter et al 2012)⁴⁰ suggests it is likely that breeding razorbill from the Fowlsheugh SPA will occur within the Development area and 2km buffer, as well as the Forth and Tay Development areas.
- 9.4.8.7.3 The HRA Report estimates that four adult birds may be impacted by displacement mortality during the breeding season, corresponding to 0.04% and 0.07% of the current and citation population sizes respectively. During the non-breeding season, based on a mean peak population of 4,905 birds, it was estimated that four adult birds may be impacted by displacement mortality. Therefore, an annual total of eight adult razorbill was predicted, corresponding to 0.08% and 0.15% of the current and citation SPA population sizes.
- 9.4.8.7.4 PVA was undertaken by ICOL for razorbill at Fowlsheugh SPA over 25 and 50 year periods for a range of scenarios. The PVA projected gradual population growth for the Fowlsheugh SPA razorbill population both with and without the Development in isolation and in-combination with other plans and projects over both 25 and 50 year periods. The projected population size at 50 years was always larger than that projected for 25 years, for all scenarios modelled. The PVA predicted small reductions in the end population size after both 25 and 50 year periods for the Development in isolation, with values of the median of the ratio of the impacted to un-impacted population size being 0.977 (after 25 years) and 0.952 (after 50 years). The HRA Report concluded that the decline in population growth rate was minimal.
- 9.4.8.7.5 SNH advised that the Development taken alone would not result in an adverse effect on site integrity to the Fowlsheugh SPA with respect to razorbill.
- 9.4.8.8 Fowlsheugh SPA – Razorbill – Development in-combination**
- 9.4.8.8.1 The NnGOWL Development is beyond the mean maximum foraging range of razorbill from the Fowlsheugh SPA, therefore, was deemed not to have connectivity, therefore the displacement matrix predictions in the HRA Report were only presented for the Development in-combination with the Seagreen Developments.
- 9.4.8.8.2 **Table 24** below represents the apportioned total effects (breeding and non-breeding seasons) for Fowlsheugh SPA. The predicted in-combination mortality during the breeding season is approximately 2.5 times greater than the impacts predicted for the Development in isolation, corresponding to 0.10% and 0.17% of the current and citation population sizes respectively.

⁴⁰ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

- 9.4.8.8.3 Impacts during the non-breeding season were predicted to be similar to those predicted for the breeding season, however, the contribution of the Development to the in-combination mortality was slightly greater in the non-breeding season (around 45%). The total estimated annual mortality of breeding adults from displacement corresponds to 0.19% and 0.33% of the current and citation SPA population sizes respectively.

Table 24 Estimated annual displacement effects on Fowlsheugh SPA razorbill

Seasonal period	Project	Breeding adults	Sub-adults
Breeding	Development (2017)	4.0	4.5
	Seagreen Alpha (2014)	4.6	5.1
	Seagreen Bravo (2014)	1.6	1.8
	Total	10.2	11.4
Non-breeding	Development (2017)	4.2	4.7
	Seagreen Alpha (2014)	2.1	2.3
	Seagreen Bravo (2014)	2.9	3.2
	Total	9 (9.2)	10 (10.2)
Annual	Total	19 (19.4)	22 (21.6)

- 9.4.8.8.4 Impacts from other offshore wind farms within mean maximum foraging range were considered qualitatively, as per the Scoping Opinion, including Kincardine Floating Offshore Wind Farm (comprising up to 7 WTGs) and the European Offshore Wind Deployment Centre (comprising 11 WTGs). Full details of these projects can be found in Appendix 1. The HRA Report concluded that impacts from displacement and barrier effects from these offshore wind farms would be minor and would not affect the conclusions of the assessment presented.
- 9.4.8.8.5 The HRA Report presented PVA results for the Development in-combination with other plans and projects. After 25 years, the median of the ratio of the impacted to un-impacted population size for the in-combination assessment is 0.944, and after 50 years, 0.890, corresponding to a 6% and 11% reduction in end population size respectively. The HRA Report concluded that the predicted impacts from the Development in-combination and the PVA outputs indicate small population-level effects, the achievement of the conservation objectives for Fowlsheugh SPA with respect to razorbill will not be hindered.
- 9.4.8.8.6 The 2014 AA estimated negligible effects on razorbill at Fowlsheugh SPA as that assessment was based on a different approach using the Searle

et al. (2014)⁴¹ model. Although there were practically no effects on razorbill at Fowlsheugh, the 2014 AA did identify a threshold of acceptable level of impact. This ratio of impacted to un-impacted population size was 0.79. The effects identified above are less than this value i.e., produce a larger population ratio value (0.89 after 50 years).

- 9.4.8.8.7 SNH subsequently provided advice on the draft AA on 24 January 2019, advising that the plus 1 standard deviation shown in Thaxter et al (2012)⁴² should be applied to mean maximum foraging ranges. The impact of the NnGOWL Development site has therefore been considered qualitatively. The in-combination displacement assessment undertaken for the NnGOWL Development, as presented in Table 17 of the 2018 NnGOWL AA,⁴³ concluded that an additional seven birds per annum (less than one bird during the breeding season and seven during the non-breeding season) would be impacted by the NnGOWL Development.
- 9.4.8.8.8 SNH advised that the Development in-combination with the other Forth and Tay Developments would result in an adverse effect on site integrity to the Fowlsheugh SPA with respect to razorbill.
- 9.4.8.9 St Abb's Head to Fast Castle SPA - Razorbill – Development in isolation and in-combination**
- 9.4.8.9.1 The razorbill population is in a favourable maintained condition with an increase in the population since the time of designation from 2,180 birds to 2,770 in 2016 (although a decrease since 2014 when the population was 4,230).
- 9.4.8.9.2 The HRA Report concluded that there is no connectivity between razorbill from the St Abb's Head to Fast Castle SPA with the Development due to the distance between the Development site and the colony, and therefore no adverse effects were predicted from the Development in isolation or in-combination with other plans or projects. PVA modelling was not undertaken.
- 9.4.8.9.3 Following SNH advice received on 24 January 2019, regarding the inclusion of 1 standard deviation in the consideration of the mean

⁴¹ Searle, K., Mobbs, D., Butler, A., Bogdanova, M., Freeman, S., Wanless, S. & Daunt, F. (2014) Population consequences of displacement from proposed offshore wind energy developments for seabirds breeding at Scottish SPAs (CR/2012/03). (Final Report to Marine Scotland Science).

⁴² Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

⁴³ Neart na Gaoithe Offshore Wind Farm (Revised Design) – Appropriate Assessment (December 2018) – Available here: <http://marine.gov.scot/data/neart-na-gaoithe-offshore-windfarm-revised-design-appropriate-assessment-2018>.

maximum foraging range, the figures used in the 2018 NnGOWL AA⁴⁴ have been included here for completeness.

- 9.4.8.9.4 **Table 25** below presents the apportioned total effects (breeding and non-breeding seasons) on the St Abb's Head to Fast Castle SPA based on information provided by SNH on 26 and 27 September 2018.

Table 25 Estimated annual displacement effects on St Abb's Head to Fast Castle SPA - razorbill

Project	Individuals
NnGOWL Development (2017)	3
Development (2014)	5
Seagreen Developments (2014)	2
Total	10

- 9.4.8.9.5 SNH advised that the Development taken alone or in-combination would not result in an adverse effect on site integrity to the St Abb's Head to Fast Castle SPA with respect to razorbill.

9.4.8.10 Outer Firth of Forth and St Andrews Bay Complex pSPA – Razorbill – Development in Isolation and In-combination

- 9.4.8.10.1 The Scoping Opinion advised that the assessment carried out for razorbill at the breeding colony SPAs detailed above could also be applied to the pSPA, and a separate assessment for the razorbill qualifying feature at the pSPA was not required.

- 9.4.8.10.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of razorbill as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.

9.4.8.11 Razorbill – Precaution in the Assessment

- 9.4.8.11.1 Scottish Ministers consider that the assessment completed by ICOL with respect to razorbill is precautionary. In particular, the inclusion of a 2km buffer to all the sites of the Forth and Tay Developments, and no habituation to the wind farms. The inclusion of the 2km buffer in the displacement assessment has led to predicted displacement effects which are much greater than if the wind farm areas had been considered without the buffer.

- 9.4.8.11.2 The 50 Year Assessment for the Development assumes a 50 year operational life, within the PVA, for the Seagreen Developments, whereas the s.36 consents granted in 2014 and the 2018 s.36

⁴⁴ See further, paragraph 18.7, Neart na Gaoithe Offshore Wind Farm (Revised Design) – Appropriate Assessment (December 2018) – Available here: <http://marine.gov.scot/data/neart-na-gaoithe-offshore-windfarm-revised-design-appropriate-assessment-2018>.

applications for these projects are only for 25 years. Therefore the in-combination 50 Year Assessment over-estimates the effects.

- 9.4.8.11.2 The apportioning of impacts during the non-breeding season was undertaken using the same apportioning method as for breeding season, on the basis that a proportion of breeding razorbill population may remain in the vicinity. This approach to apportioning impacts during the non-breeding season is precautionary, due to the influx of birds from more northern breeding colonies to Forth and Tay Region (as per Furness, 2015)⁴⁵ during the non-breeding season.

9.4.8.12 Razorbill – Conclusions

- 9.4.8.12.1 SNH advised that there would be an adverse effect on the site integrity of the Forth Islands SPA and Fowlsheugh SPA in respect of razorbill as a result of the Development in-combination with the other Forth and Tay Developments due to displacement impacts.
- 9.4.8.12.2 SNH advised that there would be no adverse effect on the site integrity of any SPA in respect of razorbill as a qualifying interest as a result of the Development in isolation, or on the site integrity of the St Abb's Head to Fast Castle SPA as a result of the Development in-combination with the other Forth and Tay Developments.
- 9.4.8.12.3 In reaching their conclusion, Scottish Ministers have considered the conservation objectives, the populations at the sites, the predicted levels of effect and population consequences, the fact that the effects are in the case of Forth Islands SPA less than those predicted in 2014, and in the case of Fowlsheugh SPA less than the threshold identified in 2014. Scottish Ministers have also considered the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that, subject to the appliance of conditions, the Development will not adversely affect the site integrity of the Forth Islands SPA, Fowlsheugh SPA or St Abb's Head to Fast Castle SPA with respect to razorbill, either alone or in-combination with the other Forth and Tay Developments and projects detailed in Appendix 1.

9.4.9 GUILLEMOT - Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Buchan Ness to Collieston Coast SPA

- 9.4.9.1 The Scoping Opinion advised that ICOL was only required to consider displacement effects on this species, as guillemot fly lower than the height of the turbine blades and are therefore not at risk from collision.
- 9.4.9.2 As the footprints of the Development area and the sites for the NnGOWL Development and the Seagreen Developments have not changed, the displacement effects from the s.36 consents granted in 2014 will be no

⁴⁵ Furness, R.W. (2015) Non-Breeding season populations of seabirds in UK waters: population sizes for Biologically Defined Minimum Population Scales BDMPS. Report Number 164. Natural England Commissioned Reports.

different to those from the 2018 applications, therefore it was not necessary to assess the different scenarios. However methods of assessment for displacement have changed since 2014 (as detailed in Appendix 3).

9.4.9.3 The closest large guillemot colonies to the Development are at Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA and Buchan Ness to Collieston Coast SPA. These four SPAs were identified as being at possible risk from the impacts of displacement.

9.4.9.4 This assessment follows the advice on displacement of guillemot provided in the Scoping Opinion and assesses the wind farm areas plus 2km buffers. A 60% displacement rate and 1% mortality rate are assumed during the breeding and non-breeding seasons.

9.4.9.5 Forth Islands SPA - Guillemot – Development in isolation

9.4.9.5.1 The guillemot population is in a favourable maintained condition with an increase in population from 8,000 birds at the time of site designation to 28,786 birds in 2017(SNH 2017b).⁴⁶ Published data on guillemot foraging ranges (Thaxter et al 2012)⁴⁷ and tracking from the Isle of May (Daunt et al. 2011a)⁴⁸ suggests that it is very likely that breeding guillemots from the Forth Islands SPA will occur within the Development area and 2km buffer.

9.4.9.5.2 The HRA Report estimated a mortality rate of seven adult birds per breeding season resulting from displacement, which represents 0.02% of the current population and 0.09% of the citation population. During the non-breeding season, an estimated three adult birds were predicted to be impacted. This results in an estimated annual mortality of adult guillemots of nine birds from displacement impacts.

9.4.9.5.3 PVA was undertaken by ICOL for Forth Islands SPA for 25 and 50 year periods (see Table 4.19 of HRA Report). The predicted median end population size is greater than the current SPA population size and increased over the projection period (irrespective of whether impacts were incorporated or not). After 25 years the median of the ratio of impacted to un-impacted population size for the assessment of the Development in isolation is 0.992. After 50 years the ratio value is 0.984 (Table 4.20 of HRA Report). A decrease in annual growth rate was not detectable.

⁴⁶ SNH (2017b). Sitelinks. Scottish Natural Heritage.

⁴⁷ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

⁴⁸ Daunt, F., Bogdanova, M., Newell, M., Harris, M. & Wanless, S. (2011a). GPS tracking of common guillemot, razorbill, black-legged kittiwake on the Isle of May Summer 2010. Report for FTOWDG. Centre for Ecology and Hydrology, Edinburgh.

- 9.4.9.5.4 SNH advised that the Development taken alone would not result in an adverse effect on the site integrity of the Forth Islands SPA with respect to guillemot.

9.4.9.6 Forth Islands SPA – Guillemot – Development in-combination

- 9.4.9.6.1 The in-combination displacement impacts were apportioned between the Development, the NnGOWL Development and the Seagreen Developments: 35%, 65.7% and 16.5% (Seagreen Alpha and Seagreen Bravo combined). Displacement impacts were broadly similar for both the breeding and non-breeding seasons, however, the contribution of the Development during the non-breeding season was predicted to be smaller than that during the breeding season. The combined annual estimated mortality was 42 adult birds and 58 sub-adults, equating to 0.11% and 0.13% of the current and citation SPA population sizes, as outlined in **Table** below.

Table 26 Estimated mortality of Forth Islands SPA guillemots as a result from displacement from the Development in-combination

Seasonal period	Project plus 2km buffer	Breeding adults	Sub adults
Breeding	Development (2017)	7	10
	NnGOWL Development (2014)	5	7
	Seagreen Alpha (2014)	5	7
	Seagreen Bravo (2014)	4	6
Total		21	30
Non Breeding Season	Development (2017)	3	5
	NnGOWL Development (2014)	12	17
	Seagreen Alpha (2014)	2	3
	Seagreen Bravo (2014)	3	4
Total		21	29
Annual	Total	42	58

- 9.4.9.6.2 Cumulative impacts with other wind farms within mean maximum foraging range of the Forth Islands SPA (OREC Levenmouth Demonstration Turbine and Forthwind Demonstration Array, see further in Appendix 1) were assessed qualitatively. The HRA Report concluded that the impacts from these developments are minor and would not alter the conclusions of the assessment presented.
- 9.4.9.6.3 PVA was undertaken by ICOL for guillemot breeding in the Forth Islands SPA over 25 and 50 year periods for a number of scenarios. The PVA results for in-combination effects indicated small population-level

impacts. After 25 years the median of the ratio of impacted to un-impacted population size for the in-combination assessment is 0.968. After 50 years the ratio value is 0.936 (Table 4.20 of HRA Report).

- 9.4.9.6.4 SNH advised that the Development in-combination would not result in an adverse effect on the site integrity of the Forth Islands SPA with respect to guillemot.

9.4.9.7 Fowlsheugh SPA – Guillemot – Development in isolation

- 9.4.9.7.1 The guillemot population is in a favourable maintained condition with a small decrease in population from 56,450 birds at the time of site designation to 55,507 birds in 2017 (SNH, 2017b).⁴⁹

- 9.4.9.7.2 The Development area (including 2km buffer zone) does not overlap with the Fowlsheugh SPA. Published data (Thaxter et al 2012)⁵⁰ and tracking from the Fowlsheugh SPA (Daunt et al 2011a)⁵¹ demonstrate that it is likely that breeding guillemots from the Fowlsheugh SPA will occur within the Development area and 2km buffer.

- 9.4.9.7.3 Displacement impacts were assessed using a 60% displacement rate and 1% mortality rate, as per the Scoping Opinion and the HRA Report estimated eight birds per annum would be impacted during the breeding period, equating to a displacement mortality of 0.01% of the current and citation population sizes. During the non-breeding season, the estimated annual mortality rate for adult guillemots was 14 birds, representing 0.005% and 0.007% of the current and citation population sizes.

- 9.4.9.7.4 PVA was undertaken for a range of scenarios, including 25 and 50 year timeframes. The PVA predicted a decline for the Fowlsheugh SPA guillemot population with and without the impacts of the Development (both in isolation and in-combination). After 25 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.995 and after 50 years, 0.991.

- 9.4.9.7.5 SNH advised that the Development in isolation would not adversely affect the site integrity of the Fowlsheugh SPA with respect to guillemot.

9.4.9.8 Fowlsheugh SPA – Guillemot – Development in-combination

- 9.4.9.8.1 In-combination impacts from the Development were apportioned between the NnGOWL Development, Seagreen Developments and

⁴⁹ SNH (2017b). Sitelinks. Scottish Natural Heritage.

⁵⁰ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

⁵¹ Daunt, F., Bogdanova, M., Newell, M., Harris, M. & Wanless, S. (2011a). GPS tracking of common guillemot, razorbill, black-legged kittiwake on the Isle of May Summer 2010. Report for FTOWDG. Centre for Ecology and Hydrology, Edinburgh.

attributed as follows: Development (37.7%), NnGOWL Development (8.5%) and Seagreen Developments (55.2%).

- 9.4.9.8.2 The displacement matrix predictions for the Development in-combination with the other Forth and Tay Developments predicted a total estimated mortality of 40 adult birds and 53 sub-adult birds during the breeding season (equating to 0.05% and 0.07% of the current and citation population sizes). Impacts during the non-breeding season were lower, but the contribution of the Development to the total in-combination impacts remained similar, with predicted total of 23 breeding adults and 31 sub-adults being impacted by displacement mortality.

Table 27 Estimated annual in-combination displacement impacts on Fowlsheugh SPA guillemot

Seasonal period	Project plus 2km buffer	Breeding adults	Sub adults
Breeding	Development (2017)	8	10
	NnGOWL Development (2014)	1	1
	Seagreen Alpha (2014)	17	22
	Seagreen Bravo (2014)	15	20
Total		40	53
Non Breeding Season	Development (2017)	4	5
	NnGOWL Development (2014)	2	2
	Seagreen Alpha (2014)	8	11
	Seagreen Bravo (2014)	9	12
Total		23	31
Annual	Total	64	83

- 9.4.9.8.3 As outlined in **Table** above, the total annual estimated mortality from in-combination impacts was 64 breeding adults and 83 sub-adult birds (equating to 0.09% and 0.11% of the current and citation population sizes).
- 9.4.9.8.4 PVA was undertaken for a range of scenarios, for 25 and 50 year timeframes. After 25 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.974 and after 50 years, 0.948. The predicted reduction in annual population growth rate was minimal.
- 9.4.9.8.5 SNH advised that the Development in-combination would not adversely affect the site integrity of the Fowlsheugh SPA with respect to guillemot.

9.4.9.9 St Abb's Head to Fast Castle SPA – Guillemot – Development in isolation

- 9.4.9.9.1 The guillemot population is in a favourable maintained condition with an increase in the population from 31,750 birds at the time of site designation to 36,206 birds in 2017 (SNH 2017b).⁵²
- 9.4.9.9.2 The HRA Report considered the impacts of displacement during the breeding season using a 60% rate of displacement and 1% mortality rate. The HRA Report predicted that three adult guillemots may suffer mortality due to the effects of displacement during the breeding season and two adult guillemots during the non-breeding season. The potential loss of five adult birds across the year equates to 0.01% of the current breeding population.
- 9.4.9.9.3 PVA analysis was undertaken for this SPA for a range of scenarios for 25 and 50 year periods. The median end population size for each modelled impact was higher than the current SPA population size. The PVA results for the Development in isolation indicated a small reduction in end population size after 25 and 50 years of impact. After 25 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.997 and after 50 years, 0.995. A decrease in annual population growth rate was not detectable.
- 9.4.9.9.4 SNH advised that the Development in isolation would not result in an adverse effect on site integrity to the St Abb's Head to Fast Castle SPA with respect to guillemot.

9.4.9.10 St Abb's Head to Fast Castle SPA – Guillemot – Development in-combination

- 9.4.9.10.1 **Table 28** below presents the apportioned total effects (breeding and non-breeding season) on the St Abb's Head to Fast Castle SPA based on the information contained in the HRA Report (Table 4.62). The estimated in-combination annual mortality rates comprise 21 breeding adults and 29 sub-adult birds, which equates to an estimated annual mortality of 0.04% of the current population for adult guillemots. Impacts from the OREC Levenmouth Demonstration Turbine and Forthwind Demonstration Array (see further in Appendix 1) were considered qualitatively in the HRA Report and these are considered further in Appendix 1 to this AA.

Table 28 Estimated in-combination annual displacement effects on guillemot of St Abb's Head to Fast Castle SPA

Project plus 2km buffer	Individuals
Development (2017)	11
NnGOWL Development (2014)	13

⁵² SNH (2017b). Sitelinks. Scottish Natural Heritage.

Seagreen Alpha (2014)	13
Seagreen Bravo (2014)	13
Total	50

- 9.4.9.10.2 PVA analysis was undertaken for the Development in-combination for a range of scenarios. After 25 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.986 and after 50 years, 0.974. PVA results indicated a small population level-impact, with a predicted reduction in end population size of 3% after 50 years. The population projections for all scenarios estimated that the end population size would be greater than the population size at citation and that the population would continue to increase over the projection period.
- 9.4.9.10.3 SNH advised that the Development in-combination would not result in adverse effect on the site integrity of the St Abb's Head to Fast Castle SPA with respect to guillemot.
- 9.4.9.11 Buchan Ness to Collieston Coast SPA - Guillemot – Development in isolation**
- 9.4.9.11.1 The guillemot population is in a favourable maintained condition with an increase in the population from 17,280 birds at the time of site designation to 45,060 birds in 2017 (SNH, 2017c).⁵³
- 9.4.9.11.2 Published data (Thaxter et al 2012)⁵⁴ suggests that it is possible that breeding guillemots from the Buchan Ness to Collieston Coast SPA will be present within the Development area (including the 2km buffer).
- 9.4.9.11.3 For the Development in isolation during the breeding period, impacts were calculated using a 60% displacement rate and 1% mortality rate. The HRA Report estimated that one breeding adult per annum would be impacted, equating to 0.002% of current population size and 0.006% of citation population size. During the non-breeding season, the HRA estimated that zero birds would be impacted. The total annual mortality of adult guillemots from the Buchan Ness to Collieston Coast SPA was estimated to be one bird, which represents 0.004% and 0.006% of the current and citation SPA population sizes.
- 9.4.9.11.4 PVA analysis was undertaken for the Development in-combination for a range of scenarios. After 25 and 50 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.999 for both time periods. A decrease in annual growth rate was not detectable.

⁵³ SNH (2017c). SNH advice to Marine Scotland dated 11 May 2018.

⁵⁴ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

9.4.9.11.5 SNH advised that the Development in isolation would not result in adverse effects on the site integrity of the Buchan Ness to Collieston Coast SPA in respect to guillemot.

9.4.9.12 Buchan Ness to Collieston Coast SPA - Guillemot – Development in-combination

9.4.9.12.1 In-combination impacts were calculated for the Development in-combination with the Seagreen Developments. The NnGOWL Development is beyond the mean maximum foraging range for guillemots from the Buchan Ness to Collieston Coast SPA (Appendix 11B, Thaxter et al 2012) and was therefore deemed not to have connectivity.

9.4.9.12.2 The HRA Report estimated that the in-combination mortality rates from displacement for the Buchan Ness to Collieston Coast SPA guillemots, during the breeding season, is approx. six times greater than the Development in isolation. Levels of predicted mortality during the non-breeding season were predicted to be slightly more than half those estimated for the breeding season. **Table 29** below outlines the predicted in-combination displacement mortality impacts during the breeding and non-breeding seasons for the Buchan Ness to Collieston Coast SPA guillemots.

Table 29 Estimated seasonal displacement mortality of Buchan Ness to Collieston Coast SPA guillemots in-combination with the Seagreen Developments

Seasonal period	Project	Additional Mortality	
		Breeding adults	Sub adults
Breeding	Development (2017)	1	1
	Seagreen Alpha (2014)	2	2
	Seagreen Bravo (2014)	1	2
	Total	4	5
Non Breeding	Development (2017)	<1	<1
	Seagreen Alpha (2014)	1	1
	Seagreen Bravo (2014)	1	1
	Total	2	3

9.4.9.12.3 The combined two seasonal estimates gave an estimated annual mortality from in-combination impacts of six breeding adults and eight sub-adult birds. The annual estimated mortality of breeding adult birds from displacement equates to 0.01% and 0.03% of the current and citation SPA population sizes for the Buchan Ness to Collieston Coast SPA guillemot population.

9.4.9.12.4 Impacts from other offshore wind farms with mean maximum foraging range of breeding guillemots from the Buchan Ness to Collieston Coast SPA were considered qualitatively within the assessment. These wind

farms (European Offshore Wind Deployment Centre, Hywind Scotland Pilot Park Project and Kincardine Floating Offshore Wind Farm) are detailed in Appendix 1.

- 9.4.9.12.5 PVA analysis was undertaken for a range of scenarios, which indicated small population level impacts arising from the Development in-combination with the other Forth and Tay Developments. After 25 years the median of the ratio of the impacted to un-impacted population size is estimated at 0.997 and after 50 years, 0.992. A predicted reduction in end population size of <1% after 50 years. A reduction in annual population growth rate was undetectable. The population projections for all scenarios estimated that the end population size was greater than the population size at citation and that the population increased over the projected period.
- 9.4.9.12.6 On 24 January 2019, SNH advised that the plus 1 standard deviation in Thaxter et al (2012) should be applied to mean maximum foraging ranges. The impacts of the NnGOWL Development have therefore been considered qualitatively here. The assessment undertaken for the NnGOWL Development and as presented in the 2018 NnGOWL AA⁵⁵ concluded that less than one bird per annum would be impacted by the NnGOWL Development. This does not alter the conclusions of the assessment presented above.
- 9.4.9.12.7 SNH advised that the Development in-combination would not result in adverse effects on the site integrity of the Buchan Ness to Collieston Coast SPA in respect to guillemot.
- 9.4.9.13 Outer Firth of Forth and St Andrews Bay Complex pSPA – Guillemot – Development in Isolation and In-combination**
- 9.4.9.13.1 The Scoping Opinion advised that the assessment carried out for guillemot at the breeding colony SPAs detailed above could also be applied to the pSPA, and a separate assessment for the guillemot qualifying feature at the pSPA was not required.
- 9.4.9.13.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of guillemot as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.
- 9.4.9.14 Guillemot – Precaution in the Assessment**
- 9.4.9.14.1 Scottish Ministers consider that the assessment completed by ICOL with respect to guillemot is precautionary. In particular, the inclusion of a 2km buffer to all the sites of the Forth and Tay Developments, and no habituation to the wind farm. The inclusion of the 2km buffer in the

⁵⁵ Neart na Gaoithe Offshore Wind Farm (Revised Design) – Appropriate Assessment (December 2018) – Available here: <http://marine.gov.scot/data/neart-na-gaoithe-offshore-windfarm-revised-design-appropriate-assessment-2018>.

displacement assessment has led to predicted displacement effects which are much greater than if the wind farm areas had been considered without the buffer.

- 9.4.9.14.2 The 50 Year Assessment for the Development assumes a 50 year operational life, within the PVA, for the Seagreen Developments, whereas the s.36 consents granted in 2014 and the 2018 s.36 applications for these projects are only for 25 years. Therefore the in-combination 50 Year Assessment over-estimates the effects.

9.4.9.15 Guillemot – Conclusions

- 9.4.9.15.1 In its advice provided on 28 September 2018, SNH stated that for guillemot as a qualifying interest of the Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA and Outer Firth of Forth and St Andrews Bay Complex pSPA, the Development would not have an adverse effect on the site integrity in-combination with the NnGOWL Development and the Seagreen Developments.
- 9.4.9.15.2 In reaching their conclusion Scottish Ministers have considered the conservation objectives, the populations at the sites, the predicted levels of effect and population consequences, the precaution in the assessment methods and the advice from SNH. Scottish Ministers conclude that the Development, subject to the appliance of conditions, will not adversely affect the site integrity of the Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA and the Outer Firth of Forth and St Andrews Bay Complex pSPA with respect to guillemot, either alone or in-combination with the other Forth and Tay Developments and projects detailed in Appendix 1.

9.4.10 PUFFIN – Forth Islands SPA

- 9.4.10.1 The Scoping Opinion advised that ICOL was only required to consider displacement effects as puffin fly lower than the height of the turbine blades so are not at risk from collision. Displacement impacts during the non-breeding season were not required to be assessed as, following breeding, puffins disperse widely and are not present within the Forth and Tay region in significant numbers.
- 9.4.10.2 As the footprints of the Development site and the sites for the NnGOWL Development and the Seagreen Developments have not changed, the displacement effects from the s.36 consents granted in 2014 will be no different to those from the 2018 applications, therefore it was not necessary to assess the different scenarios as it was for the collision risk assessment. However methods of assessment for displacement have changed since 2014 (as detailed in Appendix 3).
- 9.4.10.3 The closest large puffin colony to the Development is located on the Isle of May, which is part of the Forth Islands SPA. The population is in a favourable maintained condition with an increase in population from

14,000 pairs at the time of site designation to 45,005 pairs between 2009 and 2017 (SNH, 2017b).⁵⁶

- 9.4.10.4 The assessment follows the advice on displacement of puffin provided in the Scoping Opinion and assesses the wind farm areas plus 2km buffers. A 60% displacement rate and 2% mortality rate are assumed during the breeding season.

9.4.10.5 Forth Islands SPA – Puffin – Development in isolation

- 9.4.10.5.1 Published data (Thaxter et al, 2012)⁵⁷ suggests it is very likely that breeding puffins from the Forth Islands SPA will occur in the Development area and 2km buffer, as well as within the sites of the other Forth and Tay Developments.

- 9.4.10.5.2 Using the 60% displacement and 2% mortality rates, this equated to a mortality of up to 22 adult birds per annum (see Table 4.26, HRA Report). A displacement mortality rate of 22 adult birds during the breeding season corresponds to 0.02% and 0.08% of the current and citation population sizes respectively.

- 9.4.10.5.3 PVA undertaken by ICOL concluded that there would be no decrease in the current population, with a continuous significant increase in the breeding population over the next 25 and 50 years. Over 25 years, it is predicted that the population will have increased from its current level (45,005 pairs) to 143,475 pairs, with no wind farms present. The additional mortality from displacement effects from the proposed Development may cause a reduced level of population increase, with the future population predicted to be 142,550 pairs with the Development present (after 25 years). After 25 years, the median of the ratio of the impacted to un-impacted population size from the Development in isolation is 0.993 (n.b. ratio values are referred to in the HRA Report as the counterfactuals). After 50 years, the ratio value is 0.986.

- 9.4.10.5.4 SNH advised that Development taken alone would not result in an adverse effect on site integrity to the Forth Islands SPA with respect to puffin.

9.4.10.6 Forth Islands SPA – Puffin – Development in-combination

- 9.4.10.6.1 The HRA Report estimated that the predicted in-combination mortality rate from displacement during the breeding season would be three times higher than the impacts of the Development in isolation. The HRA Report estimated that 77 breeding adults and 135 sub-adults could suffer mortality due to in-combination displacement impacts per annum,

⁵⁶ SNH (2017b). Sitelinks. Scottish Natural Heritage.

⁵⁷ Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W., Burton, N.H.K. (2012) Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas. *Biological Conservation* 156: 53–61.

corresponding to an adult mortality rate of 0.08% and 0.28% of the current and citation population size respectively.

Table 30 Estimated adult puffin mortality from displacement impacts from the Forth and Tay Developments during the breeding season

Project	Breeding adults
Development	22
NnGOWL Development	25
Seagreen Alpha	12
Seagreen Bravo	18
Total	77

- 9.4.10.6.2 Impacts from other offshore wind farms within mean maximum foraging range of breeding puffins from the Forth Islands SPA were considered qualitatively (in this instance, OREC Levenmouth Demonstration Turbine and Forthwind Demonstration Array, see further details in Appendix 1). The HRA Report concluded that the any impacts from displacement or barrier effects would be minor due to the scale of the projects and, therefore, would not impact the conclusions presented in the HRA Report.
- 9.4.10.6.3 PVA undertaken by ICOL for the Forth Islands SPA over 25 and 50 year periods. The additional mortality from displacement effects arising from the Development in-combination with the other Forth and Tay Developments may cause a reduced level of population increase (when compared to the population without any development), with a predicted population size of 139,925 pairs after 25 years. After 25 years, the median of the ratio of the impacted to un-impacted population size from the Development in-combination with the other Forth and Tay Developments is 0.975 (n.b. ratio values are referred to in the HRA Report as the counterfactuals). After 50 years, the ratio value is 0.952.
- 9.4.10.6.4 SNH advised that the Development in-combination with the NnGOWL Development and the Seagreen Developments would not result in an adverse effect on site integrity to the Forth Islands SPA with respect to puffin.
- 9.4.10.7 Outer Firth of Forth and St Andrews Bay Complex pSPA – Puffin – Development in Isolation and In-combination**
- 9.4.10.7.1 The Scoping Opinion advised that the assessment carried out for puffin at the Forth Islands breeding colony SPAs detailed above could also be applied to the pSPA, and a separate assessment for the puffin qualifying feature at the pSPA was not required.
- 9.4.10.7.2 SNH advised that there would be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA in respect

of puffin as a result of the Development in isolation or in-combination with the other Forth and Tay Developments.

9.4.10.8 Puffin – Conclusions

9.4.10.8.1 The 2014 AA estimated a much greater effect on puffin from the Forth and Tay Developments, the total estimated mortalities in 2014 was 1251 puffin per year from the Forth Islands SPA. This was due to the different assessment methodologies advised in 2014. The assumptions in the 2014 AA were overly precautionary for example a mortality rate of 50% was assumed for puffin. The mortality rate used in the current assessment is 2%, which was advised by SNH, and detailed in the Scoping Opinion. The 2014 AA concluded that there would be no adverse effect on site integrity, the predicted effects in the current AA are significantly less.

9.4.10.8.2 SNH advised that, based on the information contained within the EIA and HRA Report, there would be no adverse effect on the site integrity of the Forth Islands SPA or Outer Firth of Forth and St Andrews Bay Complex pSPA in respect of the puffin qualifying interest as a result of the Development in isolation and in-combination with the other Forth and Tay Developments.

9.4.10.8.3 In reaching their conclusion Scottish Ministers have considered the conservation objectives, the populations at the sites, the predicted levels of effect and population consequences, the fact that the effects are less than in 2014 and the advice from SNH. Scottish Ministers conclude that, subject to the appliance of conditions, the Development will not adversely affect the site integrity of Forth Islands SPA or Outer Firth of Forth and St Andrews Bay Complex pSPA with respect to puffin in isolation or in-combination with the other Forth and Tay Developments and projects detailed in Appendix 1.

9.4.11 OUTER FIRTH OF FORTH AND ST ANDREWS BAY COMPLEX pSPA

9.4.11.1 The offshore transmission infrastructure associated with the Development overlaps the pSPA boundary, with the OEC corridor passing through the pSPA for approx. 85% of its 83km length. Due to overlap with the pSPA boundary, LSEs on the qualifying interests of the pSPA are predicted arising from direct disturbance or displacement, indirect disturbance of seabed habitats and/or prey species of seabirds and loss of seabed habitats. Impacts during construction and operational phases were considered in the HRA Report.

9.4.11.2 Potential impacts from displacement and barrier effects as a result of the presence of the Development and of collisions with the rotor blades for gannet, kittiwake, herring gull, guillemot, razorbill and puffin are considered earlier in this AA.

9.4.11.3 The OEC corridor will consist of up to two cables from the OSPs to the landfall site at Cockenzie, East Lothian. Each OEC corridor will be

around 250m wide and gives a WCS affected area of approx. 20.75km². In total, the HRA Report estimates that around 0.7% of the pSPA area will be affected. The HRA Report estimates that OEC cable laying activities will result in around 30 vessel movements per cable during the installation period (which take place over a 9 months). Cable protection may be required (mattresses and/or sand/grout bag placement, see further detail at para 477 of HRA Report). The total area of original habitat loss from cable protection is estimated to be around 0.2km², resulting from protection of areas six metres wide over 20% of each OEC, equating to around <0.01% of the pSPA area.

9.4.11.4 Under the WCS, each OEC will be laid in a separate trench through the sub-tidal areas. The sub-tidal area of the seabed disturbed during the installation of the OEC will be less than the area of the cable corridor, around 2.5km², which the HRA Report estimates equates to <0.1% of the pSPA area. It is estimated that cable laying activities in the sub-tidal area will take place over a nine month period.

9.4.11.5 Operational and maintenance activities associated with the OEC were considered in the HRA Report including vessel movements associated with inspections and monitoring and remedial action to repair OEC or cable protection. Temporary habitat disturbance associated with operation and maintenance was estimated to affect a maximum of 0.0025km² of seabed per annum, equating to <0.0001% of the pSPA area.

9.4.11.6 Direct disturbance/displacement

9.4.11.6.1 The HRA Report considered impacts arising during the construction (and decommissioning), operational and maintenance phases of the Development on the achievement of the conservation objective of the pSPA to “avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long term.”

9.4.11.6.2 Construction activities are expected to take place over a period of nine months. Disturbance would not take place simultaneously over the entirety of the OEC corridor, but would be limited to the vicinity of the cable laying vessels (which would move slowly and remain static for long periods) and would represent a fractional increase in existing shipping traffic levels (see Chapter 15 of the EIA Report for further detail). Visual disturbance would be limited to vessels and activities on board the vessels and below water areas in close proximity to the cable-laying tools and the cable itself. Further, cable laying activities are predicted to emit low levels of noise above and below water.

9.4.11.6.3 Disturbance and habitat flexibility scores for the pSPA qualifying interests were presented in Table 4.70 of the HRA Report. The following species were predicted to have high overall sensitivity to disturbance/displacement; common scoter, red-throated diver, velvet scoter, goldeneye, Slavonian grebe, eider and long-tailed duck.

Guillemot, razorbill and shag were predicted to have medium overall sensitivity. The remaining species were predicted to have low/very low sensitivity and were therefore not assessed further within the HRA Report.

9.4.11.6.4 For the species considered in the HRA Report, the short-presence of a slow-moving vessel with low levels of associated visual and noise disturbance was considered likely to cause temporary and localised disturbance and displacement impacts. The HRA Report therefore predicted that there would be no adverse effects on the site integrity of the pSPA from the Development in isolation. The HRA Report further considered in-combination impacts from the construction phase of the Development with wider shipping activities and considered that there would be minimal potential for in-combination impacts.

9.4.11.6.5 The HRA Report considered displacement and disturbance impacts arising during the operational phase of the Development (very small-scale repair requirements – around 10% of each OEC during the operational phase of the Development, vessel and other activities associated with cable repair works and/or reburial) and considered that there would be infrequent, temporary and localised sources of disturbance of a smaller scale than construction impacts. In-combination impacts with existing shipping activities were also considered in the HRA Report.

9.4.11.6.6 The HRA Report concluded that the impacts of disturbance and displacement from the Development, both in isolation and in-combination with other plans and projects, and during all phases (construction, operation, maintenance and decommissioning) would not hinder the achievement of the conservation objectives of the pSPA and therefore would not have significant adverse effects on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA.

9.4.11.7 Habitat disturbance and prey availability

9.4.11.7.1 The HRA Report considered potential impacts during the construction, decommissioning and operational phases of the Development. Habitat disturbance arising from laying of the OEC and placement of cable protection could disturb foraging habitat and affect the availability and abundance of prey for pSPA qualifying species. Disturbance would not affect the whole area simultaneously, during the installation period of nine months disturbance would be limited to the area where works are being undertaken and recovery of habitat is anticipated as soon as cable laying is completed.

9.4.11.7.2 The HRA Report estimated that the area to be impacted would be small in relation to the area of alternative seabed habitat and any losses of benthic prey species would be so small as to be virtually undetectable in relation to the sizes of local populations. Further, construction works were not predicted to displace birds from any offshore foraging areas within the pSPA boundary. Recovery of disturbed seabed areas is

expected in the short to medium term.⁵⁸ It is expected that fish species would be able to move away from areas of seabed disturbed during cable-laying activities and the small-scale disturbance of habitat would not be expected to cause any detectable changes in the abundance and distribution of fish in the vicinity of the OEC and therefore, in the prey availability for the qualifying bird interests of the pSPA.

9.4.11.7.3 The HRA Report estimated that the in-combination effects of the construction and decommissioning of the offshore transmission infrastructure for the Development would result in temporary impacts on the habitat for prey species and prey availability for the qualifying interests of the pSPA and that the effects would be of a such small scale that the impacts would be of negligible magnitude. The HRA Report therefore concluded that the conservation objective to “maintain the habitats and food resources of the qualifying features in favourable condition” would not be compromised for the qualifying features of the pSPA as a result of the predicted impacts from the Development in isolation and in-combination from disturbance of habitats and prey species associated with the construction and decommissioning of the OEC.

9.4.11.7.4 During the operational phase, the temporary habitat disturbance is anticipated to affect a maximum of 0.0025km² of seabed per year (equating to <0.0001% of the pSPA area). The HRA Report predicted no detectable loss of habitat for prey species or depletion of prey resource arising for the Development and therefore, no effect on the achievement of the pSPA conservation objective to “maintain habitats and food resources of the qualifying features in favourable condition”.

9.4.11.8 Habitat loss

9.4.11.8.1 Habitat loss was considered in the HRA Report for the operational phase only, as habitat loss during construction activities was considered as part of disturbance impacts during cable laying activities (see above). The extent of construction (and decommissioning) habitat loss (temporary and permanent) would be greater than operational impacts.

9.4.11.8.2 The total area of original seabed habitat predicted to be lost due to the presence of the OEC is estimated to <0.01% of the pSPA area. The HRA Report concluded that these impacts were virtually undetectable in terms of extent of habitat available to prey species and the prey resource of the qualifying interests of the pSPA.

9.4.11.8.3 The HRA Report concluded that the predicted impacts had negligible potential to contribute to in-combination effects with other plans or projects within the outer Forth and Tay. The HRA Report concluded that the achievement of the conservation objectives for the pSPA would not be hindered or compromised by the Development both in isolation and in-combination with other plans and projects. The in-combination impacts

⁵⁸ See further, para. 510 of HRA Report and UK Marine SACs Project 2018.

of other plans and projects on the pSPA are considered in Appendix 1 to this AA.

9.4.11.9 Prey Availability and Habitat Loss – Outer Firth of Forth and St Andrews Bay Complex pSPA - Conclusion

9.4.11.9.1 SNH advised that there would no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA as a result of the Development in isolation or in-combination with other plans and projects.

9.4.11.9.2 In reaching their conclusion, Scottish Ministers have considered the conservation objectives, the limited impacts on prey species and the large area of habitat available. Scottish Ministers conclude that there will be no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA as a result of impacts arising from prey availability or habitat loss.

9.4.11.10 Consideration of the Outer Firth of Forth and St Andrews Bay Complex pSPA under Article 4(4) of the Birds Directive

9.4.11.10.1 As detailed in paragraph 0, as the Outer Firth of Forth and St Andrews Bay Complex pSPA has not yet been designated, it also falls within the regime governed by the first sentence of Article 4(4) of the Birds Directive as follows:

“In respect of the protection areas referred to in paragraphs 1 and 2, Member States shall take appropriate steps to avoid pollution or deterioration of habitats or any disturbances affecting the birds, in so far as these would be significant having regard to the objectives of this Article. Outside these protection areas, Member States shall also strive to avoid pollution or deterioration of habitats.”

9.4.11.10.2 The Scottish Ministers have considered the information contained within the HRA Report and the advice provided by SNH and conclude that the works will not cause pollution or deterioration of habitats and any disturbance will be negligible.

9.4.12 Overall conclusion

9.4.12.1 In the ornithology assessments above, Scottish Ministers have considered the conservation objective of “maintaining the population of the species as a viable component of the site” on the individual qualifying features of the SPAs, as well as additional conservation objectives in relation to the pSPA.

9.4.12.2 For the qualifying interests of the sites concerned Scottish Ministers have determined that the Development in isolation and in-combination will not affect the populations as viable components of the SPAs. Scottish Ministers also conclude that the Development will not, taken alone or in-

combination with the projects detailed in Appendices 1 and 2, adversely affect the integrity of the Forth Islands SPA, Fowlsheugh SPA, Buchan Ness to Collieston Coast SPA, St Abb's Head to Fast Castle SPA, or the Outer Firth of Forth and St Andrews Bay Complex pSPA, where each SPA is taken as a whole.

- 9.4.12.3 In reaching their conclusion Scottish Ministers consider that the most up to date and best scientific evidence available has been used and are satisfied that no reasonable scientific doubt remains. The Scottish Ministers conclude that, subject to the appliance of conditions, the Development with a 50 year operational life will not have an adverse effect on the site integrity of the Isle of May SAC, Berwickshire and North Northumberland Coast SAC, Firth of Tay and Eden Estuary SAC, Moray Firth SAC, Forth Islands SPA, Fowlsheugh SPA, Buchan Ness and Collieston Coast SPA, St Abb's Head to Fast Castle SPA, and the Outer Firth of Forth and St Andrews Bay Complex pSPA in isolation or in-combination with the NnGOWL Development and the Seagreen Developments and other projects detailed in Appendices 1 and 2.

10. Reasons for diverging from SNH advice

- 10.1 In reaching their conclusions Scottish Ministers have given considerable weight to SNH's advice. The methods advised by SNH through scoping and subsequent clarifications have been fully incorporated into this assessment. As such, divergence from its advice is limited to differing conclusions in relation to site integrity for gannet at Forth Islands SPA, kittiwake at Forth Islands SPA, Fowlsheugh SPA, and St Abb's Head to Fast Castle SPA and razorbill at Forth Islands SPA and Fowlsheugh SPA. In reaching a different conclusion, Scottish Ministers consider that the level of impact being adverse to site integrity is a subjective opinion. In reaching their own conclusions, Scottish Ministers have taken account of the entire context of this assessment, in particular its highly precautionary assumptions, which make it very unlikely the number of impacted individuals will be as large as the values presented in the assessment. For these reasons Scottish Ministers consider the levels of assessed impact to be reasonable and are convinced there will be no adverse impacts on site integrity of any of the SACs, SPAs or the pSPA considered in this AA.

SECTION 4: CONDITIONS

11. Requirement for conditions

- 11.1 The requirement for the below conditions is as a result of ICOL's commitments in the EIA and HRA Reports, along with SNH's advice regarding mitigation measures to ensure that there will be no adverse effect on the site integrity of the Natura sites listed above.
- 11.2 The conditions below relate to Natura concerns as well as covering other interests. The conditions here are written in their complete form and so may also refer to non-Natura interests. Where reference is made to other conditions these are numbered as per the condition numbers which will be used in the s.36 consent if granted.

1. Duration of the Consent

The consent is for a period of 50 years from the date of Final Commissioning of the Development.

Written confirmation of the dates of First Commissioning of the Development and Final Commissioning of the Development must be provided by the Company to the Scottish Ministers and to Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council, Scottish Borders Council and Scottish Ministers no later than one calendar month after these respective dates.

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

2. Decommissioning

There must be no Commencement of Development unless a Decommissioning Programme ("DP") has been submitted to and approved in writing by the Scottish Ministers. The DP must outline measures for the decommissioning of the Development, restoration of the seabed and will include without limitation, proposals for the removal of the Development, the management and timing of the works and, environmental management provisions.

The Development must be decommissioned in accordance with the approved DP, unless otherwise agreed in writing in advance with the Scottish Ministers.

Reason: *To ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner, and in the interests of safety and environmental protection.*

3. Construction Method Statement

The Company must, no later than six months prior to the Commencement of the Development submit a Construction Method Statement (“CMS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, MCA, NLB and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CMS must include, but not be limited to:

- a. Details of the commencement dates, duration and phasing for the key elements of construction, the working areas, the construction procedures and good working practices for installing the Development.
- b. 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 Development.
- c. Details of how the construction related mitigation steps proposed in the Application are to be delivered.

The CMS must adhere to the construction methods assessed in the Application. The CMS also must, so far as is reasonably practicable, be consistent with the Design Statement (“DS”), the Environmental Management Plan (“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”).

The final CMS must be sent to Aberdeenshire Council, Angus Council, East Lothian Council, Fife Council and Dundee City Council for information only.

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

4. Piling Strategy

The Company must, no later than six months prior to the Commencement of the Development, submit a Piling Strategy (“PS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, Fisheries Management Scotland (“FMS”), Whale and Dolphin Conservation (“WDC”) and any such other advisors as may be required at the discretion of the Scottish Ministers.

The PS must include, but not be limited to:

- a. Details of expected noise levels from pile-drilling/driving in order to inform point d below;
- b. Full details of the proposed method and anticipated duration of piling to be carried out at all locations;
- c. Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and

- d. Details of any mitigation such as Passive Acoustic Monitoring (“PAM”), Marine Mammal Observers (“MMO”), use of Acoustic Deterrent Devices (“ADD”) and monitoring to be employed during pile-driving, as agreed by the Scottish Ministers.

The PS must be in accordance with the Application and must also reflect any monitoring or data collection 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 to harbour porpoise, minke whale, bottlenose dolphin, harbour seal, grey seal and Atlantic salmon.

The PS must, so far as is reasonably practicable, be consistent with the EMP, the Project Environmental Monitoring Programme (“PEMP”) and the CMS.

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

5. Environmental Management Plan

The Company must, no later than six months prior to the Commencement of the Development, submit an Environmental Management Plan (“EMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, Royal Society for the Protection of Birds Scotland (“RSPB Scotland”), WDC, FMS and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. All construction as required to be undertaken before the Final Commissioning of the Development; and
- b. The operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation (environmental management during decommissioning is addressed by the Decommissioning Programme provided for by condition 2).

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

- a. Mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the Application and pre-consent and pre-construction monitoring or data collection, and include reference to relevant parts of the CMS;
- b. A pollution prevention and control method statement, including contingency plans;
- c. Management measures to prevent the introduction of invasive non-native marine species;

- d. A site waste management plan (dealing with all aspects of waste produced during the construction period), including details of contingency planning in the event of accidental release of materials which could cause harm to the environment. Wherever possible the waste hierarchy of reduce, reuse and recycle should be encouraged; and
- e. The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The EMP must be regularly reviewed by the Company and the Scottish Ministers or Forth and Tay Regional Advisory Group (“FTRAG”), at intervals agreed by the Scottish Ministers. Reviews must include, but not be limited to, the reviews of updated information on construction methods and operations of the Development and updated working practices.

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

Reason: *To ensure that all construction and operation activities are carried out in a manner that minimises their impact on the environment, and that mitigation measures contained in the Application, or as otherwise agreed are fully implemented.*

6. Vessel Management Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Vessel Management Plan (“VMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, WDC, FP, MCA, NLB, SFF and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. The number, types and specification of vessels required;
- b. How vessel management will be coordinated, particularly during construction but also during operation;
- c. Location of working port(s), the routes of passage, how often vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Development; and

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

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

Reason: *To mitigate the impact of vessels.*

7. Cable Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Cable Plan (“CaP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, MCA, SFF, East Lothian Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CaP must be in accordance with the Application.

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

- a. The vessel types, location, duration and cable laying techniques for the inter array cables, export cables and inter-connector cables;
- b. The results of monitoring or data collection work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c. Technical specification of inter array cables, export cables and inter-connector cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- d. A burial risk assessment to ascertain burial depths and where necessary alternative protection measures;
- e. Methodologies for surveys (e.g. over trawl) of the inter array cables, export cables and inter-connector cables through the operational life of the wind farm where mechanical protection of cables laid on the sea bed is deployed; and
- f. Methodologies for inter array cable, export cable and inter-connector cable inspection with measures to address and report to the Scottish Ministers any exposure of inter array cables, export cables and inter-connector cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Scottish Ministers will accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum. Any greater reduction in depth must be agreed in writing by the Scottish Ministers.

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

APPENDIX 1: IN-COMBINATION ASSESSMENT – OTHER PLANS AND PROJECTS

12. In-Combination Assessment (Other Plans & Projects) - Introduction

- 12.1 The AA above provides a detailed in-combination assessment with the NnGOWL Development and the Seagreen Developments (and where relevant other UK wind farms) for ornithology and also with the Moray East, Moray West and Beatrice offshore wind farms for bottlenose dolphin.
- 12.2 Scottish Ministers are aware of a number of activities which currently have a marine licence and/or s.36 consent and where LSE was identified on the qualifying interests of the Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA, Outer Firth of Forth and St Andrews Bay Complex pSPA, Moray Firth SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC and Isle of May SAC. Scottish Ministers have considered these other projects in reaching their conclusions above.
- 12.3 Table 31 below provides a summary of the projects which have been considered in this assessment. An overall conclusion regarding in-combination effects is included within the main body of the AA.

Table 31 Projects for which there is currently an active marine licence or s.36 consent and where LSE was identified on the qualifying interests of the sites

Project Name	Licence/Consent Type(s)	Relevant site(s)
Aberdeen Harbour Expansion Project	Construction	Moray Firth SAC Berwickshire & North Northumberland Coast SAC Isle of May SAC Forth Islands SPA Fowlsheugh SPA Buchan Ness to Collieston Coast SPA
Beatrice Offshore Wind Farm	Offshore wind farm	Moray Firth SAC
Dounreay Tri – Hexicon	Offshore wind farm	Forth Islands SPA Fowlsheugh SPA Buchan Ness to Collieston Coast SPA

Annex B - Appropriate Assessment

Appendix 1 – In-combination assessment – other plans and projects

		Outer Firth of Forth and St Andrews Bay Complex pSPA
European Offshore Wind Deployment Centre (“EOWDC”)	Offshore wind farm (operational phase only)	Moray Firth SAC Fowlsheugh SPA Buchan Ness to Collieston Coast SPA
Forth Ports – Leith and Rosyth	Maintenance dredge and sea disposal	Outer Firth of Forth and St Andrews Bay Complex pSPA
Forth Road Bridge	Maintenance Works	Forth Islands SPA
Forthwind, Methil	Offshore wind farm	Outer Firth of Forth and St Andrews Bay Complex pSPA
Hywind Scotland Pilot Park	Offshore wind farm (Operational phase only)	Moray Firth SAC Forth Islands SPA Fowlsheugh SPA Buchan Ness to Collieston Coast SPA
Kincardine Floating Offshore Wind Farm	Offshore wind farm	Moray Firth SAC Forth Islands SPA Fowlsheugh SPA Buchan Ness to Collieston Coast SPA Outer Firth of Forth and St Andrews Bay Complex pSPA
Moray East Offshore Transmission Infrastructure	Offshore transmission infrastructure	Moray Firth SAC
Moray Offshore Eastern Development	Offshore wind farm	Moray Firth SAC
ORE Catapult – Levenmouth Demonstration Turbine	Offshore wind farm	Outer Firth of Forth and St Andrews Bay Complex pSPA
Port of Cromarty Firth – Phase 4 (Invergordon)	Construction, dredging, sea disposal and land reclamation	Moray Firth SAC
University of St Andrews, Guardbridge, Fife	Seawall Repair	Firth of Tay and Eden Estuary SAC

12.4 Project Descriptions

12.4.1 Descriptions of the projects considered in the in-combination assessment are detailed below.

12.4.1.1 Offshore Renewables Projects

12.4.1.1.1 The Seagreen Developments

12.4.1.1.1.1 Installation and operation of the Seagreen Developments, located 27km off the Angus coastline, in the outer Firth of Forth and Firth of Tay region. Section 36 consent was granted in respect of both Seagreen Alpha and Seagreen Bravo and the associated transmission infrastructure in October 2014. In total, the Seagreen Developments cover an area of approximately 391km². The operational lifespan for both projects is expected to be 25 years. The offshore transmission infrastructure will consist of up to 5 offshore substation platforms and 6 offshore export cables, in addition to inter-array cabling and scour protection. The s.36 consents for both projects were subsequently varied in 2018, to remove the maximum generating capacity for each site.

12.4.1.1.1.2 In September 2018, Seagreen submitted applications for s.36 consent for revised designs for Seagreen Alpha and Seagreen Bravo, within the same boundary as the consented projects. Seagreen has submitted new applications for s.36 consent in order to reflect technological advancements in the intervening years since the s.36 consents were originally granted in 2014. The operational lifespan of the revised design is expected to be 25 years. The Seagreen Developments will utilise the existing marine licence granted in respect of the offshore transmission infrastructure. It is anticipated that construction activities would take place over a period of four years.

Table 32 Summary of design parameters for the as-consented Seagreen Alpha and Bravo (2014) and new applications for s.36 consent (2018)

Design Parameter	As-consented (2014)	Application (2018)
Maximum number of WTGs	150	120
Rotor diameter	220m	167m
Blade tip height	209.7m	280m
Minimum blade tip clearance above LAT	29.8m	32.5m
Foundation options	Gravity base structures, pin piled jackets, suction caisson	As per 2014, expanded to include monopile foundation option at up to 70 WTG locations

12.4.1.1.1.3 A full project description of the existing consents can be found [here](#) and a description of the new applications can be found [here](#).

12.4.1.1.2 The NnGOWL Development

12.4.1.1.2.1 Construction and operation of the NnGOWL Development and associated offshore transmission infrastructure, located 15.5km east of Fife Ness in the Firth of Forth, for which s.36 consent was granted in October 2014. The operational lifespan of the project is expected to be 25 years. The s.36 consent for the NnGOWL Development was subsequently varied in 2015 to increase the maximum rated turbine capacity and increase the maximum turbine hub heights and platform heights. The project covers a total area of approx. 150km².

12.4.1.1.2.2 In March 2018, NnGOWL submitted applications for marine licences and s.36 consent in respect of the revised design for the wind farm and offshore transmission infrastructure to take advantage of technological advancements in the time period since s.36 consent was granted. In December 2018, s.36 consent and marine licences were granted and the NnGOWL Development is expected to have an operational lifespan of 50 years. Construction activities are anticipated to take between the third quarter of 2019 and the fourth quarter of 2022.

Table 33 Summary of design parameters for the NnGOWL Development s.36 consent (as varied in 2015) and the s.36 consent granted in 2018

Design Envelope Parameter	s.36 consent (2018)	As-varied s.36 consent (2015)
Maximum number of WTGs	54	75
Maximum rotor tip height (above LAT)	208 metres	197 metres
Maximum hub height	126 metres	115 metres
Maximum rotor diameter	167 metres	126-152 metres
Minimum spacing between WTGs	800 metres	450 metres
Blade clearance above LAT	35 metres	30.5 metres
Maximum number of piles per foundation (Offshore Substation Platforms)	8	8
Number of piles per foundation (turbines)	6	4
Foundation Options	Jackets	1. Gravity Base Structures 2. Jackets
Inter-array cables	Up to 10 WTGs per collector unit Up to 14 circuits 14km cable length	Up to 6 WTGs per collector unit Up to 15 circuits 75- 120km cable length
Offshore Substation Platforms – maximum	21 metres	18 metres

level of topside above LAT		
Offshore Export Cable Length (per cable)	43km	33km

12.4.1.1.2.3 A full project description can be found [here](#).

12.4.1.1.3 Beatrice Offshore Wind Farm

12.4.1.1.3.1 Installation and operation of the Beatrice Offshore Wind Farm which is located in the outer Moray Firth 13.5km from the Caithness coast. The total area of the development is 131.5km². The operational lifespan of the wind farm is expected to be 25 years.

12.4.1.1.3.2 The original application was for a design envelope of up to 277 wind turbine generators (“WTGs”) and a maximum generating capacity of up to 1,000MW. Since s.36 consent was granted in 2014, the design has been revised and the development will comprise 84 turbines. Piling operations and cable laying activities are now complete.

12.4.1.1.3.3 Also included in the infrastructure is:

- Up to a maximum of three Offshore Substation Platforms (“OSPs”);
- Up to a maximum of three meteorological masts; and
- Up to 350km of inter-array cabling linking the turbines, OSPs and meteorological masts.

12.4.1.1.3.4 Construction started in April 2017 and will continue until approximately the end of 2019. A full project description can be found [here](#).

12.4.1.1.4 Hywind Scotland Pilot Park

12.4.1.1.4.1 Five 6MW turbines have been installed approximately 25km off the coast at Peterhead, north east Scotland, just outside the 12 nautical mile territorial water limit. The project will be expected to produce up to 135GWh per year of electricity. The turbines are positioned between 800 to 1,600m apart and attached to the seabed by a three-point mooring spread and anchoring system. Three anchors are required per turbine and the radius of the mooring system extends 600 to 1,200m out from each turbine.

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

12.4.1.1.4.3 This project has now finished construction and moved into the operational phase. A full project description can be found [here](#).

12.4.1.1.5 Dounreay Trì Floating Wind Demonstration Project

12.4.1.1.4.1 The Development will consist of a demonstration floating offshore wind farm called Dounreay Trì which shall consist of:

- A two turbine offshore wind farm with an installed capacity of between 8 to 12MW, at least 6km off Dounreay, Caithness;
- A single, 33 kV, export cable to bring the power to shore immediately to the west of the Dounreay Restoration Site fence line; and
- Subject to a Connection Offer from Scottish and Southern Energy Power Distribution (“SSEPD”), the associated onshore electrical infrastructure to connect the project at, or near, the existing substation at Dounreay.

12.4.1.1.4.2 The main offshore components will include:

- Two offshore wind turbines;
- A floating foundation;
- Mooring clump weight;
- Mooring chain and/or steel lines;
- Drag embedment anchors;
- One cable to bring the renewable electricity ashore; and
- Scour protection for the anchors and the export cable, where necessary.

12.4.1.1.4.3 A full project description can be found [here](#).

12.4.1.1.4.4 The AA for this project concluded that there would be no adverse effect on the site integrity of any SPAs provided the conditions set out in the AA were complied with.

12.4.1.1.6 ORE Catapult Levenmouth Demonstration Turbine (“LDT”)

12.4.1.1.6.1 The project involves the construction, operation and decommissioning of a site for the testing of new designs of offshore wind turbines with a capacity of up to 7MW at the Fife Energy Park, Methil. The development will be operational for 15 years, until 2029. During this timescale there is potential for more than one turbine model to be tested at the site. Once one turbine has been tested it will be removed from the site and replaced with a new turbine which falls within the same design parameters (maximum hub height of 110m, rotor diameter of 172m, and maximum height to turbine tip from MSL of 196m). Only one turbine will ever be installed at any one time. The base will remain in place throughout the development.

12.4.1.1.6.2 The development comprises:

- A single, three bladed demonstration wind turbine with an installed capacity of up to 7MW. The turbine tower is up to 110m tall, from Mean

Sea Level (“MSL”) including the base jacket. The turbine has a maximum rotor diameter of 172m, giving a maximum level from the MSL to turbine tip of up to 196m;

- A personnel bridge connection between the Fife Energy Park (“FEP”) and turbine tower;
- Construction of an onshore crane pad on the FEP; and
- Construction of an onshore control compound

12.4.1.1.6.3 A full project description can be found [here](#).

12.4.1.1.6.4 The AA for this project concluded that, based on the outputs of surveys during the first three years of operation, the population level impacts arising from the displacement of the wintering sea duck qualifying interests would not result in an adverse effect on the site integrity of the SPA.

12.4.1.1.7 Forthwind Offshore Development – Methil

12.4.1.1.7.1 The current licence and s.36 consent in respect of this project, is for the construction and operation of the Forthwind Offshore Wind Demonstration Project (“Forthwind”), approximately 1km from the coast of Methil, Fife. The Forthwind development consists of 2, two-bladed lattice structure WTGs, associated infrastructure, 2 electricity offshore export cables with an overall project footprint of 37,400m². The WTG parameters are as follows;

- Maximum hub height 121 metres (measured from LAT)
- Generating capacity of up to 9MW per turbine
- Maximum rotor diameter of 155m
- 3 pin piled foundations per turbine

12.4.1.1.7.2 Construction has not yet commenced but is anticipated to take place over a 3 to 6 month period, followed by testing and commissioning before becoming operational.

12.4.1.1.7.3 A full project description can be found [here](#). At present, the timescales for commencement of construction activities are unclear and the current marine licence expires on 12 September 2037.

12.4.1.1.7.4 The AA for this project concluded that there would be no adverse effect on the site integrity of any SPA.

12.4.1.1.8 Kincardine Floating Offshore Wind Farm

12.4.1.1.8.1 The works consist of the construction and operation of a demonstrator floating offshore wind farm development, located to the south east of Aberdeen, approximately eight miles from the Scottish coastline. The development is considered a commercial demonstrator site, which will utilise floating semi-submersible technology to install six or eight WTGs, with a combined maximum generating capacity of 50MW, in approximately 60 to 80m of water. The proposal also includes inter-array

cabling to the connection point at the onshore Redmoss substation, Altens, Aberdeen. A full project description can be found [here](#). The construction works are scheduled to take place in three phases between March 2018 and June 2020.

12.4.1.1.9 European Offshore Wind Deployment Centre (“EOWDC”)

12.4.1.1.9.1 Installation and operation of a European Offshore Wind Deployment Centre consisting of 11 turbines, inter-array and export cables located 2 to 4.5km east of Blackdog, Aberdeenshire. Construction commenced in November 2017, beginning with foundations and cabling. Construction works are concluded and the project is now in the operational phase. A full project description can be found [here](#).

12.4.1.1.9.2 The AA for this project concluded that there would be no adverse effect on any SPAs or SACs subject to conditions attached to the consent.

12.4.1.1.10 Moray Offshore Eastern Development

12.4.1.1.10.1 The Moray Offshore Eastern Development consists of three proposed wind farm sites: the Telford, Stevenson and MacColl wind farms all situated within the development area. The original design envelope was for up to 339 WTGs with a maximum generating capacity of up to 1,500MW. This has since been reduced to a design with a maximum generating capacity of up to 1,116MW and for a maximum of 186 WTGs. The proposals are located on the Smith Bank in the outer Moray Firth (approximately 2km from the Caithness coastline, in water depths of 38 – 57m). The operational lifespan of the wind farms is expected to be 25 years.

12.4.1.1.10.2 Substructure and foundation design for the WTGs will consist of either a mixture of, or one design option of:

- Concrete gravity base foundation with ballast and a gravel/grout bed; or
- Steel lattice jackets with pin piles.

12.4.1.1.10.3 A full project description for the Moray Offshore Eastern Development can be found [here](#). Construction is anticipated to commence in April 2019, with piling activities due to commence in July 2019.

12.4.1.1.11 Moray East Modified Offshore Transmission Infrastructure

12.4.1.1.11.1 The construction and operation of offshore transmission infrastructure in the Outer Moray Firth, to support the Moray Offshore Eastern Development, consisting of:

- Up to 2 OSPs with associated substructures and foundations;
- Inter-platform cabling within the three consented Telford, Stevenson and MacColl wind farms; and
- Up to 4 triplecore submarine export cables between the OSPs and the shore.

12.4.1.1.11.2 Recent project updates advised construction is likely to commence in March 2019.

12.4.1.2 Large-scale construction projects

12.4.1.2.1 Aberdeen Harbour Expansion Project (“AHEP”) – construction works, capital dredging and sea disposal operations

12.4.1.2.1.1 Development of a new harbour facility at Nigg Bay, Aberdeen, approximately 0.8km south of the existing harbour in Aberdeen City centre. The works include the construction of two breakwaters, quaysides and associated infrastructure, as well as a large-scale capital dredge and dredge spoil deposit operation. Works commenced in late 2016 and are scheduled to take place over a 3 year period. Construction works began in May 2017 with the construction of the northern breakwater.

12.4.1.2.1.2 Dredging operations are expected to last until September 2018, which is when their dredging licence expires. Blasting operations are expected to commence in August 2018 for a maximum of 7 consecutive months, however, these timescales may be subject to change. Impact piling will no longer be used and rotary piling used instead, which is thought to produce less noise. All marine elements of the works are scheduled to be complete by February 2020.

12.4.1.2.1.3 Full details of the project can be found in the documentation [here](#).

12.4.1.2.1.4 The AA for this project concluded that there would be no adverse effect on the site integrity of any SPAs or SACs provided that the conditions set out in the AA were complied with.

12.4.1.2.2 Port of Cromarty Firth Phase 4 – Construction of Laydown Area & Capital Dredging

12.4.1.2.2.1 These works involve land reclamation to provide an additional 4.5Ha of laydown space to the west of the previously completed phase 3 development, including the construction of 215m of quay wall to create a new berth adjacent to the existing berth 5, providing a 369m long combined quay face. Fendering will then be installed along berth 5 and the new berth 6.

12.4.1.2.2.2 A rock armour revetment will be constructed along the north and west sides of the new laydown area with a tubular and sheet piled wall forming the new quay. The existing rock armour will be removed from the western edge of the phase 3 development and re-used on phase 4. The area will then be lined with a geotextile membrane and infilled, before appropriate drainage, bollards and services are installed prior to surfacing.

12.4.1.2.2.3 Dredging will be required along the toe of the new revetment structure and a second campaign will be required to create a finished depth of 12 metres along the new berth. The total dredge volume is estimated to be

110,000m³. It is anticipated that up to 60,000m³ of dredge material will be suitable for re-use within the land reclamation and that the remainder will be deposited at the Sutors dredge spoil deposit area.

12.4.1.2.2.4 The works are scheduled to take place between 1 November 2018 and 31 March 2020.

12.4.1.3 Dredging operations, maintenance works and small-scale construction projects

12.4.1.3.1 Forth Road Bridge - Maintenance Works

12.4.1.3.1.1 Bridge maintenance works, incorporating various schemes as outlined in the supporting information submitted to Marine Scotland as part of the marine licence application. The programme of works is scheduled for an initial period of 5 years, with the option for 5 additional 1 year extensions and is currently anticipated to conclude by October 2020.

12.4.1.3.1.2 The AA for this project concluded that there would be no adverse effect on the site integrity of any SPA due to the extensive alternative areas of habitat available for wintering birds. SNH advised that population, displacement and disturbance effects would be minor, temporary and very limited in area.

12.4.1.3.2 Rosyth and Leith Docks - Maintenance dredging and sea disposal operations

12.4.1.3.2.1 Maintenance dredge and sea disposal at the Leith and Rosyth docks and approaches. The Leith works comprise maintenance dredging of the docks and approach channel consisting of 100,000m³ of spoil per year and disposal at Narrow Deep B spoil ground for a period of 3 years. The Rosyth works comprise maintenance dredging of the docks and approach channel consisting of 400,000m³ of spoil per year and disposal at the Oxcars spoil ground for a period of 3 years.

12.4.1.3.2.2 A combined AA was undertaken for these activities due to the close proximity, complete overlap of active licence period and potentially affected Natura sites. The AA concluded that there would be no adverse effect on the site integrity of the Firth of Forth SPA.

12.4.1.3.3 Old Guardbridge Paper Mill – Seawall Repairs

12.4.1.3.3.1 Repair to the East Seal Wall in Guardbridge, Fife, which forms the boundary between the old Guardbridge Paper Mill and the Eden Estuary. The repairs will be over 385m of seawall and include the removal and replacement of wall cope, removal of rubble behind the seawall, concrete repairs to the seawall and replacement of revetment using concrete and rock armour. Works will be carried out over four phases during 2018-2021. Works cannot be carried out between 1 October and 31 April in any calendar year, thus ensuring works are carried out outside the period

that the qualifying interests of the Firth of Tay and Eden Estuary SAC are present.

12.5 Assessment of in-combination effects

12.5.1 Assessment of in-combination effects on the Fowlsheugh SPA

12.5.1.1 The following projects have the potential to have a LSE on the relevant qualifying interests of the Fowlsheugh SPA in addition to the Forth and Tay Developments considered in detail above:

- Aberdeen Harbour Expansion Project (“AHEP”)
- EOWDC
- Hywind Scotland Pilot Park Project
- Kincardine Floating Offshore Wind Farm

12.5.1.2 The AAs for these projects concluded that there would no adverse effect on the site integrity of the Fowlsheugh SPA, either in isolation or in-combination with other plans or projects, provided that the conditions set out in the AAs and marine licences and s.36 consents were implemented and complied with. The proposed timeframes for the Development will overlap with the operational phases of the projects listed above. The AAs for these projects identified LSEs on the relevant qualifying interests of the SPA during the operational phases of the works as a result of collision risk and displacement and barrier effects.

12.5.1.3 Scottish Ministers have considered these projects in the in-combination assessment completed.

12.5.2 Assessment of in-combination effects on the St Abb’s Head to Fast Castle SPA

12.5.2.1 The Scottish Ministers identified no additional projects to the Forth and Tay Developments which would have an in-combination effect with the Development on the site integrity of the St Abb’s Head to Fast Castle SPA.

12.5.3 Assessment of in-combination effects on the Buchan Ness to Collieston Coast SPA

12.5.3.1 The following projects have the potential to have a LSE on the relevant qualifying interests of the Buchan Ness to Collieston Coast SPA:

- AHEP
- Dounreay Tri – Hexicon
- EOWDC
- Hywind Scotland Pilot Park Project
- Kincardine Floating Offshore Wind Farm

12.5.3.2 The AAs for these projects concluded that there would no adverse effect on the site integrity of the Buchan Ness to Collieston Coast SPA, either in isolation or in-combination with other plans or projects, provided that

the conditions set out in the AAs and marine licences and s.36 consents were implemented and complied with. The proposed timeframes for the Development will overlap with the operational phases of the projects listed above. The AAs for these projects identified LSEs on the relevant qualifying interests of the SPA during the operational phases of the works as a result of collision risks and displacement and barrier effects.

- 12.5.3.3 Scottish Ministers have considered these projects in the in-combination assessment completed.

12.5.4 Assessment of in-combination effects on the Forth Islands SPA

- 12.5.4.1 The following projects have the potential to have a LSE on the relevant qualifying interests of the Forth Islands SPA:

- AHEP
- Dounreay Tri – Hexicon
- Forth Road Bridge Maintenance Works
- Hywind Scotland Pilot Park Project
- Kincardine Floating Offshore Wind Farm

- 12.5.4.2 The AAs for these projects concluded that there would no adverse effect on the site integrity of the Forth Islands SPA, either in isolation or in-combination with other plans or projects, provided that the conditions set out in the AAs and marine licences and s.36 consents were implemented and complied with. The AAs for these projects identified LSEs on the relevant qualifying interests of the SPA. Conditions were attached to the respective AAs, marine licences and s.36 consents to mitigate the impacts on the relevant qualifying interests of the SPA.

- 12.5.4.3 Scottish Ministers have considered these projects in the in-combination assessment completed.

2.5.5 Assessment of in-combination effects on the Outer Firth of Forth and St Andrews Bay Complex pSPA

- 2.5.5.1 The following projects have the potential to have a LSE on the relevant qualifying interests of the Outer Firth of Forth and St Andrews Bay Complex pSPA:

- Dounreay Tri – Hexicon
- Forthwind, Methil
- Kincardine Floating Offshore Wind Farm
- ORE Catapult – Levenmouth Demonstration Turbine
- Rosyth and Leith Harbour Maintenance Dredge and Sea Disposal

- 12.5.5.2 The Rosyth and Leith Harbour Maintenance Dredge and Sea Disposal operations are anticipated to conclude by February 2021, therefore, there may be minimal temporal overlap with the indicative construction schedule for the Development. The AA for these works concluded that there would be no adverse effect on site integrity due to the availability of extensive alternative areas of habitat, the ability of marine birds to

move away from the disposal operations and the long history of dredge spoil disposal at the location to be utilised.

12.5.5.3 The AAs for the offshore wind farm projects listed above (Dounreay Tri, Forthwind, Kincardine and ORE Catapult) concluded that there would no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA, either in isolation or in-combination with other plans or projects, provided that the conditions set out in the AAs and marine licences and s.36 consents were implemented and complied with. Conditions were attached to the respective AAs, marine licences and s.36 consents to mitigate the impacts on the relevant qualifying interests of the SPA.

12.5.5.3 Scottish Ministers have considered these projects in the in-combination assessment completed.

12.5.6 Assessment of in-combination effects on the Moray Firth SAC

12.5.6.1 In addition to the Forth and Tay Developments, the following projects have the potential to have a LSE on the relevant qualifying interests of the Moray Firth SAC:

- AHEP
- Beatrice Offshore Wind Farm
- EOWDC
- Hywind Scotland Pilot Park Project
- Moray East Offshore Transmission Infrastructure
- Moray Offshore Eastern Development
- Port of Cromarty Firth – Phase 4 (Invergordon)

12.5.6.2 The AAs for these projects concluded that there would no adverse effect on the site integrity of the Moray Firth SAC, either in isolation or in-combination with other plans or projects, provided that the conditions set out in the AAs and marine licences and s.36 consents were implemented and complied with.

12.5.6.3 The construction works for the AHEP works and Port of Cromarty Firth Phase 4 development are scheduled to conclude by the end of February 2020 and March 2020 respectively and, therefore, prior to the commencement of offshore activities for the Development.

12.5.6.3 The AA for the Hywind, Beatrice and Moray East offshore wind farm works concluded that there would be LSE on the bottlenose dolphin qualifying interest of the SAC as a result of construction activities. Scottish Ministers have considered these projects in the in-combination assessment completed.

12.5.7 Assessment of in-combination effects on the Firth of Tay and Eden Estuary SAC

12.5.7.1 Repair works to the seawall, Guardbridge, Fife was the only project identified by Scottish Ministers as having a potential in-combination effect on the site integrity of the Firth of Tay and Eden Estuary SAC. The works will conclude by September 2021, therefore there may be temporal overlap with the timeframes for the Development. The works are of relatively small-scale and are scheduled to be carried out outside the period that the qualifying interests are present (1 October – 31 April each year).

12.5.7.2 Scottish Ministers have considered this project in the in-combination assessment completed.

12.5.8 Assessment of in-combination effects on the Berwickshire and North Northumberland Coast SAC

12.5.8.1 The Scottish Ministers identified no plans or projects apart from the Forth and Tay Developments which would have an in-combination effect with the Development on the site integrity of the Berwickshire and North Northumberland Coast SAC.

12.5.9 Assessment of in-combination effects on the Isle of May SAC

12.5.9.1 The AHEP was the only plan or project in addition to the Forth and Tay Developments identified by the Scottish Ministers as having potential in-combination effects on the Isle of May SAC with the Development. The AHEP AA concluded that there would be no adverse effect on the site integrity of the Isle of May SAC during the construction or operational phase of the works, provided that the conditions set out in the AA, to mitigate the impacts of underwater noise, vessel movements, reduced water quality and prey availability on the grey seal qualifying interest of the SAC.

12.5.9.2 Scottish Ministers have considered this project in the in-combination assessment completed.

APPENDIX 2: IN-COMBINATION ASSESSMENT – NORTH SEA OFFSHORE WIND FARMS

List of the North Sea Developments assessed for non-breeding season effects:

1. East Anglia 3
2. East Anglia 1
3. Hornsea 3
4. Blyth Demonstrator
5. Dogger Creyke Beck A&B
6. Dogger Teeside A&B
7. Dudgeon
8. Hornsea 1
9. Hornsea 2
10. Humber Gateway
11. Lincs
12. Race Bank
13. Sheringham Shoal
14. Teeside
15. Triton Knoll
16. Westermest Rough
17. Aberdeen demonstrator
18. Beatrice
19. Galloper
20. Greater Gabbard
21. Kentish Flats
22. London Array
23. Moray Firth 1
24. Thanet
25. Rampion

APPENDIX 3: DIFFERENCES BETWEEN 2014 AND 2018 SEABIRD ASSESSMENT METHODS

The table below identifies the main differences between the 2014 and 2018 assessment methodologies. These differences mean that a direct comparison of the results of the 2014 and 2018 assessments is not appropriate. Consequently, where results from 2014 and 2018 are presented in this document, the methodological differences identified here provide context.

Table 34 Differences in methodologies between the 2014 and 2018 assessments

Difference	2018 Method(s)	2014 Method(s)
1. Displacement (required for puffin, guillemot, razorbill and kittiwake).		
1. a) Overall method	<p>Matrix approach used for all species, which applies an assumed displacement rate to the number of birds estimated to be present in the wind farm and surrounding buffer, and then a mortality rate is applied to those displaced birds.</p> <p>The Scoping Opinion noted the development of the SeabORD model which is an updated version of the Searle <i>et al</i> model used in the 2014 assessment. The model has not been used to inform this assessment as there is not yet agreement on how it should be used (i.e., what assumptions should be made when running the model). However, outputs from the SeabORD and Searle <i>et al</i> (2014) models have been presented in the EIA Report (Appendix 11D) to provide further context.</p>	<p>Assessment of kittiwake, razorbill and guillemot used effect estimated in Searle <i>et al</i> (2014) individual based simulation model of impacts of changes to time and energy budgets resulting from displacement from the wind farm and buffer on survival. Puffin assessment used the matrix approach.</p>

	<p>Modelling using SeabORD was undertaken for various scenarios, with the percentage of birds within each population assumed to be susceptible to displacement being equivalent to the species-specific displacement rates stated in the Scoping Opinion. All displacement susceptible birds were assumed to be susceptible to barrier effects.</p> <p>Outputs were also produced using the Searle et al (2014) model and when compared, the outputs from the two models demonstrated little evidence of a close correlation between the chick and adult mortalities presented when a heterogeneous prey distribution was used. Direct comparison between the predicted effects from the SeabORD and SNCB matrix models were limited to predicted adult mortality during the breeding period, due to differences in the outputs produced by both models. Comparison suggests that SeabORD estimates of adult mortality during the breeding period may be unrealistically high for some SPA populations (in particular the Forth Islands SPA).</p>	
1. b) seabird data informing method	At sea density estimates	Tracking data from adult birds tagged at breeding colonies

Annex B - Appropriate Assessment

Appendix 3 – Differences between 2014 and 2018 seabird assessment methods

1. c) output	Change to adult survival rate	Changes to adult survival and productivity rates
1. d) buffer area	All birds displaced from 2km buffer around offshore wind farm	All birds avoid a 1km buffer around offshore wind farm
1. e) non-breeding season	Assessed for Forth and Tay Developments	Not assessed
2. Collision Risk Modelling (CRM) differences		
2 a) (CRM) – Band model option	Assessment is based on Band model Option 2. The Option 2 model assumes an even distribution of birds across the rotor swept heights. Option 1 outputs have been provided using site-specific data to provide further context.	Assessment was based on Band model Option 3. The Option 3 model assumes the observed distribution of birds across the rotor swept heights and calculates the appropriate collision risk at each height.
2 b) CRM - avoidance rates	Kittiwake & gannet 98.9% Herring gull 99.5%	All species 95%
2 d) CRM- nocturnal activity	Nocturnal activity scores of 2 (25%) should be used for herring gull and kittiwake and 1 (0%) for gannet).	Nocturnal activity scores of 2 (25%) should be used for herring gull and kittiwake and 2 (25%) for gannet).
2 f) CRM – non breeding season	Scope of quantitative assessment includes all the North Sea Developments for gannet and kittiwake.	Scope of quantitative assessment limited to Forth and Tay Developments, with qualitative consideration given to the North Sea Developments other UK offshore wind farms.
3. Apportioning		
3. a) non-breeding season	BDMPs (Furness, 2015) used for gannet and kittiwake following SNH scoping advice.	None

Annex B - Appropriate Assessment

Appendix 3 – Differences between 2014 and 2018 seabird assessment methods

3. b) non-breeding season months	Gannet – Autumn, October to November; Spring, December to mid-March Kittiwake – Autumn, September to December; Spring, January to mid-April Guillemot and razorbill all non-breeding season impacts should be assigned to SPA as per the breeding season.	N/A
3. c) Age classes	Using proportions derived from at sea survey data or, if not available, PVA stable age structure	
3. d) breeding season	Apportioned to SPA and non-SPA colonies using seabird 2000 data and then between SPA colonies using most recent count data. Used SNH apportioning approach for all species.	Species and colonies included in Searle et al displacement model did not require apportioning of displacement effects. For other species and collision effects, the SNH approach and seabird 2000 data were used.
4. Population Viability Analysis (“PVA”)		
4. a) population modelling approach	Stochastic Leslie matrix PVA	Bayesian state-space models for most populations.
4. b) effect period	25 and 50 years	25 years
4. c) effect scenarios	Reductions in survival of all age classes estimated for the wind farm in isolation, with the other existing 2014 consented Forth and Tay Developments, and with the other consented or operational offshore wind farms in the eastern UK.	A range of reductions in adult survival and productivity values that were selected and run prior to the wind farm/s effects being known.

██████████
Inch Cape Offshore Limited
5th Floor, 40 Princes Street
Edinburgh
EH2 2BY

Our Reference: 048/OW/RRP-10

17 June 2019

Dear ██████████

THE ELECTRICITY ACT 1989 (AS AMENDED)

**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2017 (AS AMENDED)**

**DECISION NOTICE FOR THE SECTION 36 CONSENT FOR THE CONSTRUCTION
AND OPERATION OF THE INCH CAPE OFFSHORE WIND FARM,
APPROXIMATELY 15-22KM EAST OFF THE ANGUS COASTLINE**

**DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 (AS
AMENDED) TO EXTINGUISH PUBLIC RIGHTS OF NAVIGATION SO FAR AS
THEY PASS THROUGH THOSE PLACES WITHIN THE TERRITORIAL SEA
WHERE STRUCTURES FORMING PART OF THE INCH CAPE OFFSHORE WIND
FARM GENERATING STATION ARE TO BE LOCATED**

1 Application and Description of the Development

1.1 On 15 August 2018, Inch Cape Offshore Limited (Company Number SC373173) having its registered office at 5th Floor, 40 Princes Street, Edinburgh EH2 2BY (“ICOL” or “the Company”), submitted to the Scottish Ministers applications under the Electricity Act 1989 (as amended) (“the Electricity Act 1989”) for:

- A consent under section 36 (“s.36”) of the Electricity Act 1989 for the construction and operation of the Inch Cape Offshore Wind Farm, approximately 15-22km east off the Angus coastline; and

- A declaration under section 36A (“s.36A”) of the Electricity Act 1989 to extinguish public rights of navigation so far as they pass through those places within the Scottish marine area (essentially the territorial sea adjacent to Scotland) where structures forming part of the Inch Cape Offshore Wind Farm are to be located.
- 1.2 These applications are collectively referred to as “the Application”. The Application was accompanied by an Environmental Impact Assessment report (“EIA Report”) as required under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (“the 2017 EW Regulations”) and a Habitats Regulations Appraisal (“HRA Report”) as required under the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) and the Conservation of Habitats and Species Regulations 2017 (collectively referred to as “the Habitats Regulations”).
- 1.3 In addition to the Application, the Company has also applied for two marine licences (under the Marine (Scotland) Act 2010) to construct and operate the marine renewable energy works and offshore transmission infrastructure. Separate decision notices will be issued in respect of any marine licences granted.
- 1.4 The Application is for the construction and operation of an offshore energy generating station, with a maximum generating capacity of around 700 megawatts (“MW”). The offshore generating station shall be comprised of:
1. No more than 72 three-bladed horizontal axis Wind Turbine Generators (“WTGs”), each with:
 - a) A maximum height to blade tip of 291 metres (measured from Lowest Astronomical Tide (“LAT”));
 - b) A maximum rotor diameter of 250 metres;
 - c) A minimum blade tip clearance of 27.4 metres (measured from LAT);
 - d) A maximum blade width of 7.8 metres; and
 - e) A nominal turbine spacing of 1,278 metres.
 2. No more than 72 substructures and foundations and ancillary equipment; and
 3. No more than 190km of inter-array cabling.
- All as described in the application.
- 1.5 The total area within the Development site boundary is 150km². The location and boundary of the Development site is shown in Figure 1.

This decision notice contains the Scottish Ministers’ decision to grant consent for the Development detailed above, in accordance with regulation 21 of the 2017 EW Regulations.

2 Summary of environmental information

2.1 The environmental information provided was:

- An [EIA Report](#) that provided an assessment of the impact on a range of receptors; and
- An [HRA Report](#).

2.2 In April 2017, the Company submitted a [scoping report](#) and a request for a scoping opinion in respect of the Development to the Scottish Ministers. Following consultation with statutory and other consultees, a [scoping opinion](#) was issued by Scottish Ministers on 28 July 2017, advising on the scope of the impacts to be addressed and the methods of assessment to be used within the EIA Report. Separate addendums providing opinions on the marine mammals and ornithology aspects of the scoping report were issued on 3 August 2017 and 10 August 2017 respectively. [Further clarifications and updates](#) in relation to the advice contained in the ornithology scoping opinion addendum were issued between September and December 2017.

2.3 The Company currently holds a s.36 consent (“the Original Consent”) and marine licences (which the Scottish Ministers granted in October 2014) for an offshore wind farm development within the same boundary as the current Application. As the Company had substantial evidence from the previous [Environmental Statement](#) submitted on 1 July 2013 (“the 2013 ES”) for the application made for the Original Consent, it was possible to scope out a range of potential effects which were not found to be significant previously and where the baseline and assessment methodologies had not changed since 2013. A number of receptors were scoped out of the assessment completely, including: air quality, physical processes, geology and water quality. For the receptors which were scoped in, the assessment was limited to those effects which could be significant.

2.4 The EIA Report assessed the impact pathways identified in the scoping opinion and was prepared in accordance with the terms of the 2017 EW Regulations. As the request for a scoping opinion was made before 16 May 2017, the transitional arrangements within the 2017 EW Regulations applied.

2.5 A summary of the environmental information provided in the EIA Report is given below.

2.6 Fish and Shellfish ecology

2.6.1 Impacts on shellfish and salmon migration were scoped out of the EIA Report during the scoping phase and following further consultation on discussion papers produced by the Company in the period before it submitted its Application. These discussion papers (on particle motion, salmon migration behaviour and the impacts of suspended sediment and smothering on

scallops) were appended to the EIA Report for information only and were subject to consultation during 2017/18. Scottish Ministers confirmed that the findings of these discussion papers were valid and therefore further assessment of the effects on salmon migration behaviour, the impacts of suspended sediment and smothering on scallops and the effects of particle motion was not required in the EIA Report.

2.6.2 During the construction phase, the EIA Report identified potential impacts resulting from barrier effects, disturbance or physical injury associated with construction noise on hearing specialist fish species (herring, sprat, cod and shad). Within the EIA Report, the Company has committed to mitigation measures to reduce the potential noise impacts on fish species, through the incorporation of a soft-start procedure during piling operations. This procedure is likely to reduce mortality effects, as a result of fish leaving the affected area during the period of piling operations.

2.6.3 The residual effects of construction phase impacts, from the Development, both in isolation and in-combination with the other Forth and Tay Developments, were deemed to be not significant in EIA terms.

2.7 Marine mammals

2.7.1 Displacement and Permanent Threshold Shift (“PTS”) from piling operations and disturbance from increased noise from geophysical systems during the construction (and decommissioning) phase were assessed in the EIA Report. All other construction phase impacts and all operation and maintenance impacts were scoped out of the EIA Report.

2.7.2 The effects during the decommissioning phase (for both the offshore wind farm and offshore transmission infrastructure) were considered to be equivalent to, or potentially lower, than those associated with the construction phase as decommissioning will not involve piling activities. The use of geophysical surveys during the decommissioning phase were deemed to be equivalent to the impacts associated with the construction phase.

2.7.3 The Company committed to a range of mitigation measures in the EIA Report to reduce the effects on marine mammals including the implementation of marine mammal protection plans for pile driving and geophysical survey systems and the utilisation of a soft-start procedure during piling operations.

2.7.4 The potential residual effects of the Development were projected to be negligible in all cases, with the exception of the effect of pile driving noise upon harbour porpoise, bottlenose dolphin, minke whale and harbour seal, where minor adverse impacts were anticipated when considering the Development in isolation.

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- 2.7.5 The assessment of cumulative impacts considered the potential effects of pile driving noise in relation to all offshore wind farm projects in the Firths of Forth and Tay, and in the Moray Firth, and concluded potential significant effects on bottlenose dolphin, minke whale and grey seal.
- 2.7.6 In addition to the EIA Report, the HRA Report considered the impacts of the Development on the Moray Firth Special Area of Conservation (“SAC”), the Firth of Tay and Eden Estuary SAC, Isle of May SAC and Berwickshire and Northumberland Coast SAC. The HRA Report concluded that the Development would not adversely affect the integrity of these protected sites alone or in-combination with other plans or projects.
- 2.8 Ornithology
- 2.8.1 Impacts during the construction, operational and decommissioning phases were assessed in the EIA Report. Impacts scoped into the EIA Report were disturbance from the offshore export cable installation; displacement, barrier and collision impacts during the operational phase; impacts during the decommissioning phase; and cumulative displacement, barrier and collision impacts.
- 2.8.2 All impacts assessed in respect of the Development alone were considered to be of negligible or minor significance in the EIA Report.
- 2.8.3 In respect of cumulative collision impacts, two scenarios were assessed:
- i. Scenario 1: the Development alongside the 2014 consented designs for Seagreen Phase 1 (comprising two offshore wind generating stations, Seagreen Alpha and Seagreen Bravo Offshore Wind Farms, hereinafter known as (“Seagreen Phase 1”)) and Neart na Gaoithe Offshore Wind Farm Electricity Generating Station (“Neart na Gaoithe”); and
 - ii. Scenario 2: the Development alongside the 2017 designs for the revised Seagreen Alpha and Bravo offshore wind farms, (“the Optimised Seagreen Project”) and Neart na Gaoithe Offshore Windfarm (Revised Design).
- 2.8.4 In addition, during the breeding season, cumulative impacts with the European Offshore Wind Deployment Centre, Hywind Scotland Pilot Park Project, Kincardine Floating Offshore Wind Farm and Forthwind Offshore Wind Demonstration Project were considered. During the non-breeding season, impacts from additional North Sea wind farm developments were also considered for gannet and kittiwake.

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- 2.8.5 During the operational phase, cumulative impacts predicted moderate effects on the regional breeding population of guillemot, razorbill (as a result of the impacts of displacement and barrier effects), kittiwake (when collision impacts were also included) and gannet (for collision only). These effects were not considered to be significant in EIA terms.
- 2.8.6 The Company considers it highly unlikely that Neart na Gaoithe and Seagreen Phase 1 will be built to the maximum extent of their 2014 consented envelopes, therefore the EIA Report concluded that the Scenario 1 outcome is underpinned by a precautionary approach. The Company committed to embedded mitigation, including an environmental clerk of works, to ensure compliance with mitigation and best practice to reduce disturbance to bird species during the construction phase of the works.
- 2.8.7 The EIA Report concluded that no ecologically significant residual effects as a result of the Development, either alone or cumulatively, for any ornithology receptor had been identified.
- 2.8.8 In addition to the EIA Report, the HRA Report considered the impacts of the Development on Forth Islands SPA, Fowlsheugh SPA, St Abbs Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA and the Outer Firth of Forth and St Andrews Bay Complex proposed SPA ("pSPA"). The HRA Report concluded that the Development would not adversely affect the integrity of these protected sites alone or in-combination with other plans or projects.
- 2.9 Commercial Fisheries
- 2.9.1 Impacts during the construction, operational, maintenance and decommissioning phases of the Development were considered within the EIA Report. The potential effects of decommissioning are considered to be equivalent to, or potentially lower than, the worst case effects assessed for the construction phase.
- 2.9.2 The EIA Report considered the worst case scenario as comprising the structures with the largest combined footprint, maximum duration of construction activities, associated safety zones and the highest number of WTGs (with smallest spacing) and maximum number of additional infrastructure. The EIA Report assessed a construction period of 24 months within a three year period, a total Development area of 150km² (with 4.24km² in total disturbed during construction) and progressive installation of WTGs and infrastructure.
- 2.9.3 The EIA Report states that commercial fishing will not be excluded from the Development site entirely during the construction phase, however, rolling safety zones of up to 500m will be implemented around major construction

vessels. Installed infrastructure may also result in safety zones of 50m (as appropriate).

- 2.9.4 During the construction (and decommissioning) phase, impacts resulting from temporary loss or restricted access to fishing grounds were deemed to be of moderate residual significance for the scallop fishery. Impacts resulting from increased steaming times to fishing grounds were deemed to be of minor significance for all fisheries. Displacement of fishing activity was deemed to be of minor/moderate significance for all fisheries.
- 2.9.5 Operational phase impacts included the impacts arising from the physical presence of infrastructure leading to: reduction in access to, or exclusion from, established fishing grounds, gear snagging, additional steaming times to alternative fishing grounds for vessels and increased vessel traffic within fishing grounds (arising from changes to shipping routes and maintenance vessel traffic from the Development). The EIA Report states that it is expected that fishing activities will be able to be resumed to some degree within the Development site, recognising that certain fishing methods may be restricted in their ability to operate as normal.
- 2.9.6 During the operation and maintenance phase of the Development, impacts arising from complete loss or restricted access to fishing grounds were deemed to be of moderate significance for scallop fisheries and of minor/moderate significance for creel fishing and squid fisheries. Displacement of fishing activity into other areas was deemed to be of moderate significance for the scallop fisheries and of minor/moderate significance for creel fishing and squid fisheries.
- 2.9.7 A cumulative impact assessment was presented in the EIA Report. During the construction phase, the residual cumulative effects resulting from the impacts of temporary loss or restricted access to fishing grounds were reported as being of moderate significance for nephrops and scallop fisheries and of minor/moderate significance for squid and creel fisheries. The effects of increased steaming times were reported as being of minor/moderate significance for all four fisheries and displacement effects were reported as being of minor/moderate significance for squid and creel fisheries and moderate for nephrops and scallop fisheries.
- 2.9.8 During the operation and maintenance phase, the residual cumulative effects arising from complete loss or restricted access to fishing grounds were assessed as being of minor/moderate significance for squid and creel fisheries and of moderate/major significance for scallop fisheries. The EIA Report stated that the assessment of moderate/major impacts for scallop fisheries was based on a worst case scenario without the appliance of mitigation measures and on the assumption that scallop fishing does not return to the Development site. Should fishing activity return, the EIA Report assessed that the residual effects will be reduced in significance from

moderate/major to non-significant. Impacts from increased steaming times were deemed to be of minor significance. Impacts resulting from displacement of activity were deemed to be of minor/moderate significance for squid and creel fisheries and of moderate impact for scallop fisheries.

2.10 Shipping and Navigation

2.10.1 The impacts of the Development on shipping and navigation receptors during the operational phase were assessed within the EIA Report. Potential impacts were assessed resulting from increased vessel to vessel collision risk, creation of vessel to structure allision risk, and effects on anchoring operations and fishing gear snagging risk (navigational safety). In addition, the cumulative impact assessment presented in the EIA Report also considered the impacts of increased transit times and distances for commercial vessels, increase of visual confusion when navigating and deviations to avoid wind farm areas.

2.10.2 All effects were assessed as being of negligible/minor significance in EIA terms, with the exception of cumulative impacts. Following the application of mitigation measures, effects on commercial vessels as a result of increased transit times and distances, vessel to vessel collision risk, vessel to structure allision risk and increased visual confusion when navigating were assessed as being of moderate residual significance. For commercial fishing vessels, the impact of deviations to avoid the wind farm areas and creation of vessel to structure allision risk were assessed as being of minor/moderate residual significance. For recreational vessels, the impact of the creation of vessel to structure allision risk was identified as being of negligible/moderate significance. The Company committed to mitigation measures regarding lighting and marking requirements, keel clearance, marine co-ordination, communication and monitoring for the offshore export cables to address the impacts identified within the EIA Report.

2.10.3 Construction and decommissioning phase impacts were scoped out of the EIA Report, as the worst case parameters for these impacts have already been considered within the 2013 ES. The 2013 ES concluded that all construction phase impacts could be reduced to a negligible/low level following the implementation of additional mitigation measures.

2.11 Military and Aviation

2.11.1 The following potential impacts were considered in respect of the Development alone during its operational phase: wind turbines causing persistent interference to the Leuchers Station Primary Surveillance Radar ("PSR") from reflected turbine signals; wind turbines causing persistent interference to the Leuchers Station Precision Approach Radar ("PAR") from reflected turbine signals; wind turbines causing persistent interference to Remote Radar Head ("RRH") Brizlee Wood and RRH Buchan Air Defence

Radar (“ADR”) from reflected turbine signals; effects on activities carried out in military Practice and Exercise Areas (“PEXA”); and the use of helicopters for operation and maintenance of the Development area.

2.11.2 The cumulative effects of wind turbines causing persistent interference to the Leuchars Station PSR from reflected turbine signals and of wind turbines causing persistent interference to RRH Brizlee Wood and RRH Buchan ADR from reflected turbine signals were also considered.

2.11.3 With the exception of those effects relating to the use of helicopters for operation and maintenance (the residual effect of which is minor and not significant), all effects were considered to be major adverse, which is significant in EIA terms. However, a range of mitigation measures have been identified, some of which are temporary measures pending agreement of a long-term technical solution. Following the implementation of these additional mitigation measures, the residual effects of all impacts previously classified as of major adverse impact is reduced to being of minor adverse impact, which is not significant in EIA terms.

2.12 Cultural Heritage

2.12.1 The EIA Report considered impacts on the setting of a range of onshore receptors of varying degrees of cultural heritage significance during the operational phase. Construction phase impacts were scoped out of the EIA Report. Setting impacts were considered for a number of designated coastal heritage assets.

2.12.2 Impacts resulting from a change in setting of a number of designated coastal heritage assets were assessed as having a moderate effect on Tentsmuir Coastal Defences, St Andrews Cathedral and adjacent ecclesiastical remains and St Andrews Castle. These effects were not considered to be significant in EIA terms.

2.12.3 The cumulative assessment presented in the EIA Report considered the impact of the Development alongside WTGs from Neart na Gaoithe and Seagreen offshore wind farms in relation to the setting of each onshore receptor. During the operation and maintenance phase, setting changes were deemed to have a moderate effect on Bell Rock Lighthouse Signal Tower, Ladyloan, Bell Rock Lighthouse, Tentsmuir Coastal Defences, St Andrews Cathedral and adjacent ecclesiastical remains and St Andrews Castle and a minor/moderate effect on Crail Airfield, pillbox, Foreland Head. These effects were not deemed to be significant in EIA terms.

2.13 Seascape and Landscape Visual Impact Assessment

2.13.1 The EIA Report concluded that the following potential effects were of minor or negligible adverse significance: impact of landfall construction activities on

landscape receptors at Thorntonloch Beach; impact of landfall construction activities on visual receptors at Thorntonloch Beach; impact of the operational wind farm on landscape character; impact of aviation and navigation lighting on landscape character; and cumulative impacts on landscape character arising from the additional presence of the offshore wind farms.

2.13.2 A number of potential effects were assessed as being significant: impact of the Development on the coastal character on east Fife and north-east East Lothian; impact of the Development on visual amenity within 35km; impact of aviation and navigation lighting on coastal character along the eastern Fife coast; impact of aviation and navigation lighting on visual amenity within 30km; cumulative impacts on coastal character arising from the additional presence of the Development on receptors in east Fife and south-east Angus; and cumulative impacts on visual amenity arising from views of the Development in addition to other wind farms, where both Neart na Gaoithe offshore wind farm and the Development are viewed at closer range.

2.13.3 The residual effects of these potential impacts remain significant in EIA terms since no additional mitigation measures beyond the embedded mitigation have been identified.

2.14 Socio-Economics

2.14.1 Impacts on tourism were scoped out of the EIA Report, and the EIA Report assessed impacts related to the offshore elements of the Development on the Economic Study Area and across Scotland. The “Economic Study Area” was defined as the labour market catchment areas (60 minute drive-time catchments) around eight locations considered as representative of the type of locations that may be able to support the offshore wind sector (Leith, Rosyth, Dundee, Montrose, Methil, Burntisland, Cromarty Firth and Aberdeen).

2.14.2 Base and high scenarios were presented in the EIA Report. The base scenario assumed a moderate supply chain capacity capable of supplying around 36% of whole life expenditures from the Economic Study Area, 14% from the rest of Scotland and 18% from the rest of the UK. The high scenario assumed a more developed supply chain capable of supplying around 36% of whole life expenditure from the Economic Study Area, 14% from the rest of Scotland and 27% from the rest of the UK. Both scenarios presented assumed a worst case scenario of 560MW generating capacity.

2.14.3 The EIA Report estimated that net additional employment from the Development is estimated to be between 321 full-time equivalent (“FTE”) and 832 FTE direct, indirect and induced construction jobs at an Economic Study Area level, dependent on the impact scenario considered. For the rest of Scotland, net additional employment from the Development was estimated

to be between 108 FTE and 216 FTE direct, indirect and induced construction jobs (and a total of between 858 and 1854 net additional construction jobs in the UK). This would represent between £41.8 million and £108.2 million Gross Value Added (“GVA”) per annum at an Economic Study Area level and between £55.8 million and £136.2 million at a Scottish level.

- 2.14.4 During the operation and maintenance phase, the EIA Report estimated that the net additional employment generated would represent a new GVA at an Economic Study Area of between £4.9 million to £10.7 million per annum and £18.6 million per annum for Scotland as a whole. The Company estimated that 202 FTE jobs will be created in total (with 38 within the Economic Study Area and 42 within the rest of Scotland).
- 2.14.5 During the decommissioning phase the number of jobs is likely to be lower than those estimated for the construction phase. The EIA Report estimated that during the decommissioning phase approx. 110 FTE net additional jobs will be generated by the Development.

3 Consultation

- 3.1 In accordance with the 2017 EW Regulations, on 15 August 2018, the Company submitted an EIA Report and HRA Report describing the Development and giving an analysis of its environmental effects.
- 3.2 Advertisement of the Application was made in the local and national press and the application website. The notices were placed in the public domain, and the opportunity given for those wishing to make representations to do so.
- 3.3 The dates of the consultation exercises are given below. The regulatory requirements regarding consultation and public engagement have been met and the responses received taken into consideration. Where matters have not been fully resolved, conditions have been included to ensure appropriate action is taken post consent.

Document	Date received	Dates of consultation	Publication
EIA Report and Application	15 August 2018	21 August 2018 – 1 October 2018 21 August 2018 – 21 December 2018 (for planning authorities)	The Courier (22 and 29 August 2018) Arbroath Herald (24 and 31 August 2018) Edinburgh Gazette – (24 August 2018) The Scotsman (22 August 2018) Fishing News (30 August 2018) <u>Company Website</u> (30 August 2018)

- 3.4 A summary of the responses received is set out at sections 4, 5 and 6. In addition, specialist advice was provided by Marine Scotland Science (“MSS”) and the advice received is set out at section 7.
- 3.5 The responses to the consultation on the EIA Report are available to view [here](#).
- 3.6 In addition, Scottish Natural Heritage (“SNH”) was consulted on the Appropriate Assessment (“AA”) completed by Scottish Ministers.

4 Summary of statutory consultee consultation

- 4.1 Under the 2017 EW Regulations, the statutory consultees are as follows: SNH, the Scottish Environment Protection Agency (“SEPA”) and Historic Environment Scotland (“HES”). The planning authorities whom the Scottish Ministers considered appropriate to consult in respect of the proposed Development are Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council and Scottish Borders Council.
- 4.2 In addition, the Maritime and Coastguard Agency (“MCA”) and Northern Lighthouse Board (“NLB”) are statutory consultees under the Marine (Scotland) Act 2010.
- 4.3 Aberdeenshire Council
- 4.3.1 Aberdeenshire Council did not initially object to the Development, subject to the resolution of the concerns regarding ornithology raised by SNH in its consultation response. Aberdeenshire Council advised that, whilst the potential for direct impacts within the local authority area are limited due to

the distance from the Development, any impacts identified have been assessed against the Aberdeenshire Local Development Plan 2017 (“the 2017 Aberdeenshire LDP”). Aberdeenshire Council advised that the Development is likely to impact upon landscape, visual amenity, ecology and built heritage.

- 4.3.2 Aberdeenshire Council advised that the Development will likely be most prominent when viewed from the South East Coast Special Landscape Area (“SLA”). Aberdeenshire Council advised that Policy E2 Landscape of the 2017 Aberdeenshire LDP (“Policy E2”) makes provision for development which may impact upon the SLA where the effects are clearly outweighed by social, environmental or economic benefit of at least local importance. Following its review of the Seascape Landscape Visual Impact Assessment (“SLVIA”), Aberdeenshire Council consider that the Development would be permissible under Policy E2. Having reviewed the SLVIA presented, Aberdeenshire Council advised that the impacts of the Development (both in isolation and in-combination) are likely to be limited to the southern section of the SLA and, therefore, would not fundamentally alter the qualifying interests of the entire designation. Aberdeenshire Council noted that the Development will make a significant contribution towards the transition to the low carbon economy.
- 4.3.3 Aberdeenshire Council advised that Policy E1 Natural Heritage of the 2017 Aberdeenshire LDP (“Policy E1”) seeks to prevent development which would have an unacceptable impact upon nature conservation sites. Aberdeenshire Council stated that it agreed with SNH’s conclusions regarding the predicted impact of the Development on the Fowlsheugh Special Protection Area (“SPA”) within Aberdeenshire. Aberdeenshire Council advised that the mitigation measures outlined in the EIA Report do not appear to suitably mitigate against the identified impacts on the SPA and would, therefore, not constitute appropriate compensatory measures as required by Policy E1.
- 4.3.4 Aberdeenshire Council further considered the Development in light of Policies HE1 and HE2 of the 2017 Aberdeenshire LDP as regards the built environment. Aberdeenshire Council advised that the Development would not have a direct impact upon heritage designations within Aberdeenshire but that the most likely impact would be a change on the setting of listed buildings and conservation areas within the south east Aberdeenshire coastline. Aberdeenshire Council advised, however, that due to the distance between the Development and the local authority area (approximately 22km at the closest point) the impacts of the Development in isolation on the historic context and setting of the area are likely to be minor.
- 4.3.5 Aberdeenshire Council concluded that the Development will likely have some degree of impact on the local authority area in relation to landscape/visual amenity, ecology and built heritage.

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- 4.3.6 Aberdeenshire Council advised that it deferred to SNH advice as regards the potential ecological impacts of the Development. Aberdeenshire Council advised that a degree of uncertainty remained regarding the potential impacts of the Development and as to whether further mitigation measures could alleviate the impacts predicted in the EIA Report.
- 4.3.7 A response from the Company was forwarded to Aberdeenshire Council on 19 January 2019. The Company welcomed the comments submitted by Aberdeenshire Council and reiterated its commitment to working with SNH, Royal Society for the Protection of Birds Scotland (“RSPB Scotland”) and other stakeholders to discuss ornithological matters further.
- 4.3.8 SNH advised that there would be an adverse effect on the site integrity of the Fowlsheugh SPA in respect of the black-legged kittiwake and razorbill qualifying interests as a result of the Development in-combination with the other Forth and Tay Developments (see further, SNH response at paragraph 4.13 below).
- 4.3.9 As SNH advised that there would be an adverse effect on the site integrity of the Fowlsheugh SPA in respect of the black-legged kittiwake and razorbill qualifying interests, Marine Scotland – Licensing Operations Team (“MS-LOT”) contacted Aberdeenshire council to confirm its position. On 12 February 2019 Aberdeenshire Council advised that its original comments should be taken as an objection.
- 4.3.10 Aberdeenshire Council reiterated the comments made within its original response: namely that with regard to ecology, Aberdeenshire Council is aware of SNH’s consultation response objecting to the Development partially on the basis of the predicted impact upon Fowlsheugh SPA within Aberdeenshire. Policy E1 seeks to prevent development which would have an unacceptable impact upon nature conservation sites. In this instance, development which would impact upon Fowlsheugh SPA to the extent indicated by SNH, would only be permissible where there are imperative reasons of overriding public importance, where there is no alternative solution, and where appropriate compensatory measures are implemented.
- 4.3.11 Aberdeenshire Council highlighted that the EIA Report indicates that embedded mitigation has been taken into account in assessing the impact of the Development on the qualifying interests of the SPA, as have wider best practice measures such as the employment of an environmental clerk of works. These measures have informed Aberdeenshire Council’s assessment of the impact, and were considered by SNH in assessing the Application. Aberdeenshire Council states that the measures do not appear to suitably mitigate against the identified impact upon the SPA and therefore it considers that the mitigation measures would not constitute appropriate compensatory measures as required by Policy E1.

- 4.3.12 Aberdeenshire Council further stated that as the it stands, the Development would not comply with Policy E1 as a result of the predicted impact upon the Fowlsheugh SPA. The Scottish Ministers, however, concluded in their AA that, subject to the appliance of conditions, there would be no adverse effect on the site integrity of the Fowlsheugh SPA. and as such the development is not considered to breach Policy E1 insofar as it relates to internationally designated nature conservation sites.

4.4 Angus Council

- 4.4.1 Angus Council did not object and advised that the impacts of the Development, in terms of material considerations relevant to Angus Council's administrative area, do not raise any new or significant issues. Angus Council stated that its comments provided on the 2014 Application remain valid. Angus Council considered the seascape and visual impacts of the 2014 Application to be significant and raised concerns regarding the impacts, particularly from aviation lighting, on the setting of the Bell Rock Lighthouse. Angus Council, however, did not object to the 2014 Application.
- 4.4.2 Angus Council considered that there would be significant impacts upon landscape and seascape character, however, these were not considered to be unacceptable. Angus Council stated that the WTGs would result in a significant visual impact, however, the visual impact on Angus was not considered to be unacceptable in its view.
- 4.4.3 Angus Council considered that its concerns regarding the lighting of the Development for both shipping navigation and aviation raised in response to the 2014 Application have been considered in greater detail in the EIA Report. However, Angus Council advised that it considered that there is a limitation to this assessment and that the night time viewpoints presented confirm that the lighting would be viewed in close association and at a greater height to the light at Bell Rock Lighthouse, thus resulting in significant impacts on the setting of the Bell Rock Lighthouse. Angus Council considered that the aviation and navigation lighting will have significant night seascape impacts and stated that further consideration of this matter is required. Angus Council stated that, if an appropriate technical solution is identified, the associated effects would be unlikely to be unacceptable.
- 4.4.4 Angus Council stated its concerns in relation to cumulative impacts remain as per its concerns regarding the 2014 Application. Angus Council stated that a level of consistency is important to prevent the collective view of the Development, in-combination with Neart na Gaoithe and Seagreen Alpha and Seagreen Bravo offshore wind farms, being inconsistent or distorting seascape perspective. Angus Council highlighted that the Development in-combination with the Neart na Gaoithe wind farm, would present a situation whereby larger turbines from the Development are located in the foreground, with smaller turbines in the background. Angus Council highlighted that these

impacts would not be unacceptable, but that a co-ordinated approach to the finalised height of the Development and the Neart na Gaoithe wind farm should be considered further. Angus Council made further comments regarding the cumulative impacts of lighting associated with the Forth and Tay Developments. Angus Council stated that the lighting will be likely to be visible in prominent views from long distances across Angus, with navigation lighting likely to be visible from higher ground, increasing the cumulative impacts of the Forth and Tay Developments, with attendant impacts on the setting of the Bell Rock Lighthouse. Angus Council stated that further consideration is required in relation to lighting of the Forth and Tay Developments to ensure a consistent solution is identified to mitigate adverse impacts.

- 4.4.5 Angus Council stated that it concurs with the assessment of Historic Environment Scotland (“HES”) regarding the impact of the Development on the Bell Rock Lighthouse. However, Angus Council highlighted that, in its opinion, the EIA Report has limitations in terms of assessing impacts of aviation and navigation lighting on the setting of the asset.
- 4.4.6 Angus Council noted the potential impacts on commercial fishing and recreational use of the waters, during the construction and operation phases of the Development, outlined in the EIA Report. Angus Council stated that the impacts could affect much of the Angus coastline (in particular the commercial fishing fleet, pleasure craft industries and yachting located at Arbroath Harbour and marine and commercial port operations at Montrose). Angus Council stated that disruption to these activities resulting access, exclusion and increased steaming time, are regarded as material considerations. Angus Council considers that the potential socio-economic impacts on industry and tourism reported in the EIA Report have the potential to be higher and may, in some instances (particularly during the construction phase) be significant. Angus Council stated that these impacts were not considered to be unacceptable, subject to the mitigation measures being implemented.
- 4.4.7 A response from the Company was forwarded to Angus Council on 18 January 2019. The Company acknowledged Angus Council’s concerns in relation to the impacts on the setting of Bell Rock Lighthouse. The Company stated that the worst-case scenarios for cumulative impacts and night time lighting presented in the EIA Report are not expected to occur. The Company stated that the night time lighting assessment presented in the EIA Report considered aviation lighting at full intensity, which would only occur in low visibility conditions (e.g., fog) and that these low visibility conditions were not replicated within the assessment.
- 4.4.8 The Company stated that it would not be possible to take the co-ordinated approach to the finalised height of the Forth and Tay Developments

suggested by Angus Council, due to technical and commercial constraints. The Company, however, committed to reducing visual impacts as far as possible through consultation with Angus Council during the post-consent phase.

4.4.9 The Company maintained that the EIA Report provides a realistic assessment of the impacts on recreational yachting and fishing; however, the Company reiterated its commitment to the implementation of mitigation measures and that fishing and recreational vessels would not be restricted from entering the Development site during the operational phase.

4.4.10 Conditions have been attached to mitigate the impacts highlighted by Angus Council, including the requirement to prepare, consult on and adhere to the terms of a Design Specification and Layout Plan (“DSL P”), Design Statement (“DS”) and Lighting and Marking Plan (“LMP”).

4.5 Dundee City Council

4.5.1 Dundee City Council had no detailed comments to make and advised that it did not object to the Development.

4.6 East Lothian Council

4.6.1 East Lothian Council did not object to the Development, subject to the application of conditions to any consent granted to address its concerns. East Lothian Council advised that conditions relating to the intertidal works, light emission, noise, design layout and specification, decommissioning and pollution prevention and control be attached to any consent granted.

4.6.2 East Lothian Council advised that the Development will have a significant adverse cumulative impact on areas of the coast of East Lothian, beyond the 50km study area agreed at scoping. East Lothian Council advised that the increased size of the WTGs, when compared to the Original Consent, would increase the visual impact of the Development on views from East Lothian, particularly in-combination with the Neart na Gaoithe Offshore Wind Farm.

4.6.3 East Lothian Council advised that the SLVIA presented in the EIA Report did not consider the impact on SLA within East Lothian. East Lothian Council advised that the Company had failed to take into account the proposed SLA, despite being kept duly informed of the progress of the Local Landscape Designation Review and East Lothian Local Development Plan 2018 (“ELLD P”) process. East Lothian Council advised that this information should have been included to facilitate public understanding of the impacts of the Development.

4.6.4 East Lothian Council provided information on the SLA not included within the EIA Report (Tantallon Coast SLA, Belhaven Bay SLA, Dunbar to Barns Ness

Coast SLA, North Berwick to Seton Sands SLA) and advised that it would define the sensitivity of each SLA as High. East Lothian Council advised that the Development would introduce a permanent new feature to the seascape, changing the open undeveloped character of the seascape and introducing lighting to a previously dark scene. East Lothian Council advised that this would lead to the loss of an unbroken horizon line of the sea and could detract from the appreciation of the coast as a natural area.

- 4.6.5 East Lothian Council further advised that the impact of the Development on the A198 east of North Berwick has not been considered within the SLVIA, despite the closest point of the A198 to the Development falling within the agreed 50km study area (as advised in the scoping opinion). East Lothian Council stated that it had previously noted the importance of the A198 as a tourist route at scoping and that the Company had agreed to provide a wireline from this route. East Lothian Council advised that whilst this information had not been provided in the EIA Report, it was able to assess the landscape and visual impacts of the Development. East Lothian Council advised that it had no comments to make in respect of the historic environment for the offshore elements of the Development.
- 4.6.6 East Lothian Council advised that lighting, if visible from the East Lothian coast, will have a significant detrimental impact on the landscape character of the SLA. East Lothian Council advised, however, that due to the distance of the Development from the East Lothian Council area, the lights will be positioned below the horizon and thus will not impact on the appreciation of the landscape character of the views from East Lothian. However, due to the potential impacts arising from the visibility of lighting, East Lothian Council requested that a condition be placed on any consent granted to monitor the impacts of lighting and for the implementation of mitigation measures, should light be visible from East Lothian. East Lothian Council further stated that maximum and minimum lighting requirements should be specified and that dimming should be required when visibility is greater than five km. East Lothian Council provided detailed comments regarding matt finish and colour of the WTGs.
- 4.6.7 East Lothian Council provided detailed comments on the viewpoints presented in the EIA Report. East Lothian Council advised that, in its opinion, the SLVIA underestimates the magnitude of cumulative change that the Development will have on the viewpoints presented in the SLVIA and on the SLA. East Lothian Council advised that it considers the magnitude of cumulative change arising from the Development to be moderate, where the WTGs represent a notable increase in the proportion of the seascape and view affected by the Forth and Tay Developments. East Lothian Council advised that an offset grid layout may potentially address the issues arising from cumulative impacts. East Lothian Council advised that the Development would have impacts of moderate/major detrimental significance on both

seascape character and visual amenity for viewpoint 26 (North Berwick Law). East Lothian Council further advised that the Development would have significant detrimental effects on the viewpoint from the A198 road east of North Berwick and moderate, but not significant effects, on the Tantallon Castle, Ravensheugh Sands and Yellowcraig viewpoints.

- 4.6.8 At scoping, East Lothian Council advised that the impacts of the Development on local weather should be considered. East Lothian Council noted that, following further discussion, the Scottish Ministers subsequently agreed that these impacts could be scoped out of the EIA Report. East Lothian Council noted that the Company had briefly considered these impacts in the EIA Report, but advised that provision for monitoring of weather effects should be included in any new consent granted.
- 4.6.9 East Lothian Council advised that it does not support development which would have an adverse impact on the integrity of European sites within East Lothian, or involving such an effect on qualifying interest species of sites outwith East Lothian that visit East Lothian or its coast. East Lothian Council noted SNH's advice regarding adverse effects on the integrity of a Natura 2000 site but that the impacts of the Development would be less than those predicted for the Original Consent. East Lothian Council therefore advised that it considers the Development to be preferable to the Original Consent.
- 4.6.10 East Lothian Council advised that risks of pollution should be minimised and appropriate arrangements made if an incident, for which the Company is responsible, occurs via remediation. East Lothian Council noted that the EIA Report considers shipping collision risk to be moderate and moderate to minor for recreational vessels. East Lothian Council advised that conditions should be attached to any consent granted to ensure environmental best practice is implemented and suitable financial arrangements are in place throughout the lifespan of the Development.
- 4.6.11 East Lothian Council advised that it does not consider that there will be any significant impacts on noise or air quality arising from the Development. On 27 September 2018, the Company confirmed that helicopters will not be operated over the East Lothian Council area. East Lothian Council requested that a specific condition be added to any consent granted to secure this commitment, which was not stated explicitly in the EIA Report.
- 4.6.12 East Lothian Council requested that a condition be placed upon any consent granted regarding decommissioning and financial arrangements to support decommissioning. East Lothian Council further advised that, in its opinion, East Lothian should be considered as part of the community, should community benefits be considered.
- 4.6.13 A response from MS-LOT was provided to East Lothian Council on 31 January 2019, advising that, should consent be granted, the Company will

not be required to undertake monitoring of the impacts of the Development on recreational users, or any such remedial works required as a result of said monitoring, as no significant effects on recreational users were identified through the EIA process.

- 4.6.14 Further, MS-LOT advised that, should consent be granted, the Company will not be required to undertake monitoring of the impacts of lighting and visibility from the East Lothian area, nor will the Company be required to replace said lighting with new systems/methods when such systems/methods become available to address these concerns. MS-LOT further advised that, should consent be granted, the Company will not be required to dim the lighting when visibility is greater than 5km. Lighting and marking requirements will be agreed in consultation with the Ministry of Defence (“MOD”), the Civil Aviation Authority (“CAA”), NLB and MCA to ensure navigational safety. East Lothian Council, however, will be consulted on the terms of the LMP and the Company will be required to install the minimum lighting necessary to meet said navigational safety requirements, to reduce the impacts of lighting on the residents of East Lothian. Should the Company wish to alter the lighting and marking of the Development, the Company would be required to seek and obtain prior written approval from the Scottish Ministers.
- 4.6.15 MS-LOT further advised that air transport is a matter reserved to Westminster under the Scotland Act 1998 (Schedule 5, Head E4) and that the Scottish Ministers do not have devolved powers in connection with these matters (except in limited circumstances, which do not apply in this instance). MS-LOT, therefore, advised that a condition excluding the flight of helicopters over the East Lothian Council could not be attached to any consent granted. In the event that helicopter operations are required, the Company will be required to provide details of said operations within the Operational and Maintenance Plan (“OMP”) and East Lothian Council will be consulted on the terms of the OMP.
- 4.6.16 East Lothian Council will be consulted on the Construction Method Statement (“CMS”) in order to identify and address its concerns relating to the intertidal works.
- 4.6.17 A response from the Company was forwarded to East Lothian Council on 7 February 2019. The Company noted East Lothian Council’s comments regarding the SLVIA and the exclusion of SLA within East Lothian and referred to a pre-submission meeting held between both parties on 13 March 2018, where the Company advised that the assessment would be carried out on the basis of extant Areas of Great Landscape Value (“AGLV”) due to time constraints. The Company stated that the SLA cover similar areas to the AGLV assessed (with some revisions to boundaries) and are supported by Supplementary Planning Guidance, the underlying character of local designated areas remains largely unchanged. The Company stated that,

whilst the AGLV assessed was not supported by documentation defining its qualifying characteristics, AGLV were afforded high sensitivity within the SLVIA,

- 4.6.18 The Company noted East Lothian Council's comments regarding potential impacts on the A198. The Company advised that the SLVIA presented in the EIA Report did not consider the A198 as no significant effects were anticipated and that the scope of the SLVIA had been agreed via the scoping process. The Company stated that no significant effects on viewpoints 25 and 26 had been identified within the SLVIA undertaken.
- 4.6.19 The Company noted East Lothian Council's comments regarding cumulative visual impacts with the Neart na Gaoithe Wind Farm and reiterated that no significant cumulative effects were identified within the SLVIA undertaken. The Company stated that multiple constraints would need to be taken into consideration regarding turbine locations (including landscape and visual considerations) and that the approach to the layout of WTGs is included in section 12.5.3 of the SLVIA and that issues regarding detailed site design and layout would be considered within the DSLP and DS.
- 4.6.20 The Company stated that it is content to investigate mitigation measures to reduce the potential effects of aviation lighting. The Company stated, however, that any solution would need to satisfy the needs of other stakeholders and meet health and safety obligations. The Company further stated that it did not consider that it was proportionate or appropriate to require monitoring of effects or replacement of lighting when new technology becomes available via consent conditions.
- 4.6.21 The Company noted East Lothian Council's comments regarding monitoring of impacts on local weather. The Company reiterated that these effects had been scoped out of the assessment and stated that it does not consider that there is a requirement to monitor weather effects given, in its view, the rarity of the potential impact and the negligible likelihood that there would be significant impacts.
- 4.6.22 The Company noted East Lothian Council's concerns regarding the potential visual impacts of the cable landfall location and cable marker boards on the Prestonpans Coast SLA. The Company stated that, once buried, there will be no visual impacts from the Offshore Export Cable ("OEC") during the operational phase. The Company stated that it would prefer not to install cable marker boards (particularly if horizontal direct drilling ("HDD") is used as the installation method), the requirement to install cable marker boards is related to navigational safety concerns and any proposal not to install cable marker boards would require further consultation and agreement with other stakeholders. The Company clarified that the offshore cable corridor is wider than the area indicated in the onshore planning application to ensure there is sufficient space for vessels to operate during cable installation activities.

The Company confirmed that the cable would be installed in line with the onshore planning application documents.

- 4.6.23 The Company noted East Lothian Council's comments regarding impacts on Natura sites and qualifying interests and stated that it considers that the conclusions of the EIA Report remain valid. The Company considers that the precaution contained within the assessment could result in the impacts of the Development being overestimated. The Company committed to preparing an environmental management plan to address East Lothian Council's concerns regarding the potential risks of pollution.
- 4.6.24 The Company noted East Lothian Council's comments regarding paint finishes of the WTGs and stated that these would be agreed in consultation with stakeholders during the pre-construction phase.
- 4.6.25 The Company noted East Lothian Council's comments regarding potential impacts on recreational users and the need to monitor said impacts. The Company referred to the requirement within the 2017 EW Regulations for monitoring measures to be proportionate to the nature, size and location of the proposed Development and the significance of its effects on the environment. The Company stated that the EIA Report had not identified any significant effects on recreational users and therefore, the imposition of monitoring requirements regarding these effects would not be consistent with the terms of the EW Regulations.
- 4.6.26 The Company stated that it was content to submit a Decommissioning Programme ("DP") to address concerns regarding decommissioning.
- 4.6.27 Conditions have been attached to the s.36 consent to mitigate the impacts highlighted by East Lothian Council, including the requirement to prepare, consult on and adhere to the terms of a DSLP, LMP, DP, CMS, Environmental Management Plan ("EMP") and Project Environmental Monitoring Programme ("PEMP") to address the concerns outlined above. Further, conditions will be attached to any marine licence(s) granted, requiring the Company to bear the costs of any remediation works required and to obtain any other necessary statutory permissions/approvals prior to commencing works.

4.7 Fife Council

- 4.7.1 Fife Council did not object to the Development. Fife Council advised that its concerns regarding the impact of the Original Consent on the seabird qualifying interests of the European designated sites in the Firth of Forth, in particular the Forth Islands SPA, in-combination with the other Forth and Tay Developments remained valid. Fife Council advised that it deferred to advice from SNH regarding these matters.

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4.7.2 A response from the Company was forwarded to Fife Council on 18 January 2019. The Company maintained that the results of the EIA Report remain valid and that there will be no significant adverse effect on the site integrity of any SPA. The Company, however, reiterated its commitment to working with SNH, RSPB Scotland and other stakeholders to discuss ornithological matters further.

4.8 Scottish Borders Council

4.8.1 Scottish Borders Council did not object to the Development. Scottish Borders Council advised that, whilst the Development represents an increase in tip height from the Original Consent, the increase would be unlikely to create any significant effects due to the distance of the Development from the Borders coastline. Scottish Borders Council further advised that any effects resulting from the increase would be offset by the reduction in WTG numbers from the Original Consent.

4.8.2 Scottish Borders Council provided detailed comments on the kittiwake qualifying interest of the St Abb's Head to Fast Castle SPA, recommending conditions be attached to any consent granted (including the requirement for a Piling Strategy ("PS") to ensure sequential pile driving is avoided in relation to other in-combination proposals). Further, Scottish Borders Council advised that a condition to enable mitigation (e.g., curtailment) be attached to any consent granted to address any significant adverse impacts on seabird populations at St Abb's Head to Fast Castle SPA identified through monitoring mechanisms.

4.8.3 Scottish Borders Council, however, advised that it was content that SNH was considering the impacts of the Development on Special Areas of Conservation ("SAC") and SPAs fully.

4.8.4 A response from the Company was forwarded to Scottish Borders Council on 18 January 2019. The Company maintained that the results of the EIA Report remain valid and that there will be no significant adverse effect on the site integrity of any SPA. The Company, however, reiterated its commitment to working with SNH, RSPB Scotland and other stakeholders to discuss ornithological matters further.

4.8.5 Conditions have been attached to the s.36 consent requiring the Company to prepare, consult on and adhere to a PS and PEMP (to include monitoring of the impacts of the Development on ornithology and marine mammal receptors) to address the concerns raised. Further, conditions will be attached to any marine licence(s) granted, requiring the Company to bear the costs of any remediation works required.

4.9 Historic Environment Scotland (“HES”)

4.9.1 HES was content that the EIA Report provided sufficient information and HES did not object to the Application. HES stated that the Application does not raise historic environment issues of national significance. HES consider its key interest in the Development to be the impacts on the setting of two category A listed buildings – Bell Rock Lighthouse (LB 5197) and Ladyloan, Bell Rock Lighthouse Signal Tower and Entrance Lodges (LB 21230). HES were content that there will not be a significant impact on the settings of these listed buildings as a result of the Development.

4.9.2 HES welcomed the references to their [Managing Change in the Historic Environment](#) guidance series and HES [Policy Statement](#) within the EIA Report. HES was content that the methodology utilised in the EIA Report was appropriate and provided some detailed comments on the methodology and assessment presented. HES had comments on the method used to rate the sensitivity of heritage assets (included at table 13.9 of the EIA Report). The method used means that no value is available for nationally important assets with a medium or low contribution for setting and therefore, HES stated that this has the potential to obscure the manner in which sensitivity is assigned in such cases.

4.9.3 HES welcomed the inclusion of visualisations and wirelines to support the conclusions of the EIA Report and made comments regarding the resolution of the documents. HES were, however, able to refer to visualisations for previous iterations of the scheme for context and stated that it was content that adequate information had been provided.

4.9.4 HES welcomed the commitment to produce a Written Scheme of Investigation (“WSI”) and a Protocol for Archaeological Discoveries (“PAD”).

4.10 Maritime & Coastguard Agency (“MCA”)

4.10.1 MCA advised that detailed discussion had taken place with the Company regarding traffic surveys. MCA advised that it accepted that the original Navigational Risk Assessment (“NRA”), the updated EIA Report, the traffic validation study and the Marine Guidance Note (“MGN”) 543 checklist, as an equivalent to a new NRA. MCA advised that there are a number of issues which would require further consideration, should any consent be granted.

4.10.2 MCA stated that it had considered the initial layout design presented in figure 15.1 (Chapter 15, page 13) of the EIA Report and that the turbine layout design will require MCA approval prior to construction, to minimise the risks to surface vessels (including rescue boats) and Search and Rescue (“SAR”) aircraft operating within the Development boundary.

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- 4.10.3 MCA stated it was concerned with the scale of the Development, in-combination with the Neart na Gaoithe, Seagreen Alpha and Seagreen Bravo offshore wind farms and that the turbine layout and orientation would need to be discussed and agreed with MCA, should any new consent be granted, to mitigate these concerns. MCA advised that a SAR checklist will be required to be agreed prior to the commencement of any construction activities. MCA advised that a condition requiring the preparation and approval of an Emergency Response Co-Operation Plan (“ERCoP”) would be required.
- 4.10.4 MCA advised that lighting and marking requirements would require further discussion with key stakeholders and provided further detail on the lighting and marking requirements for the Development.
- 4.10.5 MCA supported the use of safety zones throughout the lifespan of the Development, but stated that further detailed justification would be required for a 50m operational safety zone, based on significant evidence from the construction phases and the baseline NRA.
- 4.10.6 MCA stated that further work needs to be undertaken to define cable burial and protection methods, particularly close to shore, where impacts on navigable depth may become significant. MCA stated that any consented cable protected works must ensure existing and future safe navigation is not comprised. MCA stated it would accept a maximum of five % reduction in surround depth referenced to Chart Datum. MCA stated that existing charted anchorage areas should be avoided.
- 4.10.7 MCA further advised that its preference would be to see linear progression of the construction programme, to avoid disparate construction sites across the Development boundary. The progression of the construction programme will be subject to agreement through the Construction Programme (“CoP”) and CMS.
- 4.10.8 Conditions have been placed upon the s.36 consent to mitigation the impacts highlighted by MCA, including the requirement to prepare, consult on and adhere to the ERCoP, Cable Plan (“CaP”), CoP, CMS, DSLP, Navigational Safety Plan (“NSP”) and LMP.
- 4.11 Northern Lighthouse Board (“NLB”)
- 4.11.1 NLB stated that it requires the Company to establish a NSP and LMP, detailing the proposed lighting and marking for all phases of the Development. NLB further advised that it wishes to be consulted on the lighting and marking requirements during the decommissioning phase of the Development. NLB further advised that the lighting and marking may need to be altered or amended to reflect the neighbouring Neart na Gaoithe,

Seagreen Alpha and Seagreen Bravo offshore wind farms, in order to form a cohesive and effective marking plan for the area.

- 4.11.2 NLB provided further details regarding the marking requirements during the construction phase. NLB also provided details regarding the marking and lighting requirements during the operational phase of the Development, including the requirement to adhere to the International Association of Marine Aids to Navigation and Lighthouse Authorities (“IALA”) Recommendation O-139.
- 4.11.3 NLB provided further comments on the requirement to obtain a Statutory Sanction prior to the deployment of any navigational marking and lighting equipment, promulgation of information regarding the nature and timescales of the Development and the requirement to inform the United Kingdom Hydrographic Office (“UKHO”) of the locations of the installed WTGs, cable routes and cable landing points.
- 4.11.4 NLB noted that a comprehensive contingency plan will be required, detailing the emergency response to all possible catastrophic failure and collision scenarios.
- 4.11.5 Conditions have been placed on the s.36 consent to mitigate the impacts highlighted by the NLB, including the requirement to prepare, consult on and adhere to the ERCOP, NSP and LMP. Conditions will also be attached to any marine licence(s) granted regarding notification requirements.
- 4.12 Scottish Environment Protection Agency (“SEPA”)
 - 4.12.1 SEPA had no comments to make on the offshore elements of this Development and referred to their standing advice on marine consultations ([LUPS-GU13](#) Marine Scotland consultations: SEPA standing advice for Marine Scotland on marine licence consultations).
- 4.13 Scottish Natural Heritage (“SNH”)
 - 4.13.1 SNH submitted an objection to the Development based on the grounds that it predicted adverse effects on the site integrity of the Forth Islands SPA (with respect to the kittiwake, gannet and razorbill qualifying interests) and Fowlsheugh SPA (kittiwake and razorbill qualifying interests) as a result of the Development in-combination with the existing consents for the other Forth and Tay Developments. SNH advised that there would be no adverse effect on the site integrity of any SPA as a result of the Development in isolation.
 - 4.13.2 SNH further advised that an adverse impact on the site integrity of the St Abb’s Head to Fast Castle SPA, in respect of kittiwake as a qualifying

interest, as a result of the Development in-combination with the existing consents for the Forth and Tay Developments could not be ruled out.

- 4.13.3 SNH advised that it agreed with the methodology and assessment presented in the EIA Report and the case presented by the Company regarding the use of site specific flight height information (option 1) in the collision risk modelling (“CRM”). SNH welcomed the inclusion of additional work exploring alternative methods of displacement and barrier impacts, which assisted in the formation of its advice. SNH provided detailed comments on the collision risk and displacement modelling and Population Viability Analysis (“PVA”) methods presented in the EIA Report.
- 4.13.4 SNH provided comments on the marine mammal assessment presented in the EIA Report. SNH advised that there would be no significant adverse effect on any SACs as a result of the Development in isolation or in-combination with any other plans or projects, subject to the appliance of conditions to any consent granted to mitigate concerns regarding the impacts of construction and piling activities on marine mammals.
- 4.13.5 SNH stated that a PS should be developed to mitigate the residual risk of PTS, as the predicted PTS effect zones are large. SNH advised, however, that it agreed with the conclusion within the EIA Report regarding the magnitude of impacts (low) and the significance of effect from PTS as minor for all species and scenarios presented. SNH stated that it accepted that there is no requirement to re-run the interim Population Consequences of Disturbance (“iPCoD”) modelling for bottlenose dolphin with the 1% conversion factor. SNH advised that this approach would not change the outcome of the modelling presented using the 0.5% conversion factor.
- 4.13.6 SNH provided further advice regarding the requirement for European Protected Species (“EPS”) licences during construction works.
- 4.13.7 SNH provided advice on the seascape, landscape and visual impacts of the Development. SNH advised that the in-combination effects of the Development and the other Forth and Tay Developments will contribute to widespread levels of significant adverse effects on sensitive landscape, seascape and visual receptors. SNH stated that the large height and extent of the Development will introduce significant adverse effects on receptors along a substantial proportion of the coastline in South Aberdeenshire, Angus and Fife (including both daytime and night-time impacts) and would raise issues of national interest for SNH.
- 4.13.8 SNH stated that the cumulative impacts of the Development, the other Forth and Tay Developments and the operational European Offshore Wind Deployment Centre (“EOWDC”) will introduce significant effects in the regional context, further constraining the onshore capacity for wind energy which is already limited.

- 4.13.9 SNH advised that it broadly agreed with the assessment presented in the EIA Report. SNH stated that it considered the magnitude of cumulative visual change has been underestimated within the EIA Report, whilst this does not change the overall assessment of significance of effect for the most part, SNH advised that the severity of the impact of the increased WTG height of the Development should be recognised. SNH stated that it disagreed with the conclusions within the EIA Report regarding the significance of adverse visual impacts for six of the 26 viewpoints presented – SNH stated that these should be classed as ‘major significant’ and not ‘moderate/major’ (as a result of the greater magnitude of cumulative change resulting from the addition of larger WTGs for the Development and the clearly visible lighting and rotation of the blades).
- 4.13.10 SNH advised significant adverse effects arising along the National Cycle Network Route 1 from South Aberdeenshire to Angus, along the East Coast main rail route between Montrose and Carnoustie, along the A92 (Coastal Tourist Route) and along the Fife Coastal Path (particularly between Anstruther East, Fife Ness and St Andrews and across the Firth of Tay).
- 4.13.11 SNH advised that physical/coastal processes (notably potential erosion on the vicinity of cable landfall referred to in the recent Dynamic Coast project (published 2017)) should be given consideration. SNH noted that physical processes had been scoped out in 2017. SNH advised that the Company should be required to prepare a Cable Laying Strategy (now known as a “CaP”) to address the risks of the trenched cable becoming re-exposed.
- 4.13.12 SNH advised that it welcomed and supported the proposed mitigation included in the EIA Report (including the submission of a PS, CoP and PEMP) to mitigate potential impacts on fish (including diadromous fish) and shellfish.
- 4.13.13 SNH advised that a number of conditions relating to the pre-construction, construction, operational and decommissioning phases of the Development should be attached to any consent granted, in order to mitigate the impacts detailed above.
- 4.13.14 The Company provided a response to SNH’s comments on 6 December 2018. The Company welcomed the response provided by SNH but stated that it disagreed with SNH’s conclusion that the Development in-combination with the other Forth and Tay Developments would result in an adverse effect on the site integrity of the Forth Islands SPA, Fowlsheugh SPA and St Abb’s Head to Fast Castle SPA. The Company advised that it considers that the assessment presented is precautionary and that added precaution at multiple levels (or within multiple parameters) of the assessment has resulted in an over-estimation of impacts. The Company provided detailed commentary of the precaution included in various parts of the ornithology assessment and stated that it maintains that there is no adverse effect on

the site integrity of any SPA as a result of the Development in-combination with other plans and projects.

- 4.13.15 The Company acknowledged SNH's advice regarding seascape, landscape and visual impact assessment but stated that it considers the conclusions of the EIA Report to be valid. The Company considers that SNH's identification of additional viewpoints would not materially change the conclusion of the assessment. The Company further stated that stakeholders had agreed that EOWDC was outside the study area for the assessment.
- 4.13.16 The Company stated that it agreed with the conditions suggested by SNH for all receptors and that it would work with stakeholders to prepare and implement these plans. No subsequent response was received from SNH.
- 4.13.17 Conditions have been attached to the s.36 consent requiring the Company to prepare, consult on and adhere to an EMP, CoP, PS, LMP, DSLP, DS, CaP, PEMP, Vessel Management Plan ("VMP"), DP and participate in the Forth and Tay Regional Advisory Group ("FTRAG") and the Scottish Marine Energy Research ("ScotMER") programme to address the concerns outlined above.

5 Summary of non-statutory consultee consultation

- 5.1 A number of other bodies were consulted on the Application and EIA Report and provided responses.
- 5.2 Aberdeen International Airport ("AIA") raised no objections and advised that the Development does not conflict with the aerodrome safeguarding criteria.
- 5.3 BT Radio Network Protection ("BT") advised that the Development should not cause interference to BT's current and presently planned radio network.
- 5.4 Dunbar Fishermen's Association ("DFA") advised that the preparation and placement of cables would cause disruption to fishing grounds and that, this disruption would result in loss of income for fishermen. DFA stated that compensation would be necessary and that this would need to be discussed further.
 - 5.4.1 A response from the Company was forwarded to DFA. No subsequent response was received from DFA.
 - 5.4.2 Conditions requiring the Company to prepare, consult on and adhere to a CaP and Fisheries Management and Mitigation Strategy ("FMMS") have been attached to the s.36 consent to mitigate these concerns.

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- 5.5 Firth of Forth Lobster Hatchery advised that the Development would impact lobster populations and the fishing community along the East Lothian coastline, with attendant impacts on local heritage.
- 5.5.1 A response from the Company was forwarded to Firth of Forth Lobster Hatchery. No subsequent response was received.
- 5.5.2 Conditions requiring the Company to prepare, consult on and adhere to a CaP and FMMS have been attached to the s.36 consent to mitigate these concerns. The requirement to monitor impacts of the Development on commercial fisheries species has been included within the PEMP.
- 5.6 The Ministry of Defence (“MOD”) objected to the Development on safeguarding grounds, citing unacceptable interference to RRH at Buchan and Brizlee Wood, due to the detectability of WTGs. MOD advised that the Development could have detrimental effects on the operation of ADR, due to the desensitisation of radar in the vicinity of WTGs and the creation of ‘false’ aircraft returns. MOD advised that the Development could reduce the Royal Air Force’s (“RAF”) ability to detect and manage aircraft in the United Kingdom’s sovereign airspace.
- 5.6.1 MOD further objected on the grounds of unacceptable interference from the Development to the primary surveillance Air Traffic Control (“ATC”) radar at Leuchars Station (formerly RAF Leuchars). MOD advised that the Development will be detectable from Leuchars Station and could desensitise the ATC radar, thus resulting in aircraft not being detected or creating ‘unwanted’ returns. MOD advised that this could hinder the ability to maintain situational awareness of all aircraft movements.
- 5.6.2 MOD advised that the Development will not adversely affect MOD offshore danger and exercise areas or defence maritime interests. The MOD advised, however, that the WTGs and offshore platforms should be fitted with appropriate aviation warning lighting to maintain the safety of military aviation.
- 5.6.3 MOD subsequently responded on 5 March 2019 to MS-LOT regarding suspensive conditions. MOD stated that both RRH Brizlee Wood and RRH Buchan are equipped with TPS 77 (or equivalent) type ADR. In 2018 MOD issued a public statement identifying that the established process by which wind farm developers have been able to submit proposals to determine whether the inbuilt capabilities of the TPS 77 type ADR, intended to address wind farm interference, could be employed to provide a technical mitigation has been suspended until further notice pending a review of this capability. Therefore the MOD is not in a position to provide confirmation on suspensive conditions at this time. The MOD recognised the importance of the Inch Cape wind farm proposal, and they have been considering the issue of offshore wind farms and the impacts on air defence, however, it is a complex situation

that causes fundamental concerns for defence and therefore needs to be fully considered.

- 5.6.4 Conditions requiring the Company to prepare, consult and adhere to an Air Traffic Control Radar Mitigation Scheme (“ATC Scheme”) and an Air Defence Radar Mitigation Scheme (“ADR Scheme”), and a LMP have been attached to the s.36 consent to address MOD concerns. The MOD is not in a position to confirm suspensive conditions at this time. However, MS-LOT consider that the conditions attached to the s.36 consent mitigate the impacts on ATC Radar and ADR provide sufficient assurance that the MOD concerns will be dealt with prior to the Commencement of the Development.
- 5.7 National Air Traffic Services Safeguarding (“NATS”) advised that the Development does not conflict with its safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company (“NERL”) had no safeguarding objection to the Development.
- 5.8 Port Seton Fishermen (“PSF”) objected to the Development due to concerns regarding the offshore export cable route and potential disruption arising from loss of access to fishing grounds.
- 5.8.1 A response from the Company was forwarded to PSF, confirming that further discussions with the fishing industry will take place and the mitigation measures which will be adopted by the Company. The Company confirmed that it will support training for local fishermen to become Offshore Fisheries Liaison Officers (“OFLO”) and Fishing Industry Representatives (“FIR”). The Company further outlined that a Cable Burial Plan will be produced and regular monitoring of the cable route will be undertaken. The Company further commit to an over-trawl-ability assessment to provide assurance to the scallop fleet. The Company encouraged PSF to raise any concerns through the Commercial Fisheries Working Group (“CFWG”). No subsequent response was received from PSF.
- 5.8.2 Conditions requiring the Company to prepare, consult on and adhere to a CaP and FMMS have been attached to the s.36 consent to mitigate these concerns. The requirement to monitor impacts of the Development on commercial fisheries species has been included within the PEMP. Conditions have also been attached requiring the Company to participate in the Forth and Tay Commercial Fisheries Working Group (“FTCFWG”).
- 5.9 River Tweed Commission (“RTC”) advised that the EIA Report has not taken into account the large number of east coast salmon which travel across the North Sea in line with south Northumberland, and then travel northwards up the east coast to reach their Scottish natal rivers.
- 5.9.1 RTC advised that salmon passing through the Development area are vulnerable to seal predation and new information has shown that the bases

- of WTGs can act as artificial reefs, attracting and thus altering the foraging patterns of seals. RTC consider that the influence of underwater structures on predation of salmon migration has not been fully considered in the EIA Report.
- 5.9.2 RTC considered that some compensatory support should be given to those rivers which will suffer as a consequence of greater predation on returning stocks, should further data support that this is the case.
- 5.9.3 A response from the Company addressing RTC's concerns was shared with RTC. The Company acknowledged RTC's objections and highlighted that a report on 'Salmon Migration Behaviour'¹ had been prepared to provide justification as to why impacts on diadromous fish could be scoped out of the EIA Report. The conclusions of this report had been agreed with Scottish Ministers in November 2017. The Company provided RTC with a map detailing the recaptures of Tweed fish at sea. The Company acknowledged that WTGs are known to alter the foraging pattern of seals, the Company advised that compensatory support for rivers suffering as a consequence would be considered, should further data support this. The Company acknowledged that uncertainties regarding salmon migration would need to be discussed further and consideration given to appropriate post-consent monitoring and mitigation. No subsequent response was received from RTC.
- 5.9.4 Conditions have been attached to the s.36 consent which will implement the commitments outlined in the EIA Report, including the requirement for the PEMP, EMP, PS and to participate in the FTRAG and ScotMER programme.
- 5.10 Royal Society for Protection of Birds (Scotland) ("RSPB Scotland") submitted an objection to the Development due to potential impacts on internationally important seabird populations. RSPB Scotland did acknowledge that the impacts of the Development were predicted to be less than those from the Original Consent. RSPB Scotland advised that the impacts of the Development in-combination with the other Forth and Tay Developments would result in population scale effects, which are significant in EIA terms and would constitute an adverse effect on the site integrity of SPAs.
- 5.10.1 RSPB Scotland provided detailed comments regarding impacts on kittiwake, gannet, guillemot, razorbill and puffin. RSPB Scotland advised that the predicted impacts on the kittiwake qualifying interest of the Forth Islands SPA, Fowlsheugh SPA and St Abb's Head to Fast Castle SPA would result in an adverse effect on the site integrity, due to the scale of predicted impacts on the population. RSPB Scotland reached this conclusion in light of the declining kittiwake population at all three SPAs. RSPB Scotland stated that the total predicted collision impacts for gannet, in-combination with the other

¹ Salmon Migration Behaviour Report, October 2017. Available here:
<http://marine.gov.scot/sites/default/files/00528343.pdf> (Last accessed 19/12/2018)

Forth and Tay Developments and UK North Sea wind farms, amount to significant impacts and that any conclusion regarding effects on the site integrity should be considered in light of the knowledge that 20% fewer gannets will occur, regardless of population increase or decrease over the 50 year timeframe. RSPB Scotland advised that there is a lack of empirical data to inform the displacement effects on auks (puffin, razorbill and guillemot) and that the estimated effects presented should be treated with caution. RSPB Scotland advised that the auk populations are experiencing relatively stable or increasing trends, however, in its opinion the scale of impacts predicted, particularly for razorbill, are concerning.

- 5.10.2 RSPB Scotland provided detailed comments on the methodologies used in the EIA Report and advised that the EIA Report omits a full assessment on the non-SPA bird colonies which show connectivity with the Forth and Tay Developments as an assessment of the impacts to seabirds during the non-breeding season has not been included. RSPB Scotland advised that the risks are posed to individuals from these colonies throughout the year. RSPB Scotland further disagreed with the Company's conclusion that there will be no adverse effect on site integrity for the Forth Islands SPA with respect to kittiwake.
- 5.10.3 RSPB Scotland stated that the site-specific flight altitudes recorded for kittiwake and gannet are lower than those reported in the literature and that sufficient explanation regarding these differences has not been provided in the EIA Report. RSPB Scotland stated that it did not agree with the conclusions of the EIA Report regarding the discrepancies in these figures and that a biologically meaningful argument should be presented if the outputs of CRM using option 1 are to be utilised.
- 5.10.4 A response from the Company was forwarded to RSPB Scotland on 6 December 2018, confirming that the Company's position remained unchanged. No subsequent response was received from RSPB Scotland.
- 5.10.5 Conditions have been attached to the s.36 consent requiring the Company to prepare, consult on and adhere to the PEMP, EMP and CMS to address these concerns. The Company is also required to participate in the FTRAG and ScotMER programme, to contribute to improved understanding of the impacts of the Development, both in isolation and in-combination, on seabird populations.
- 5.11 Seagreen Wind Energy Limited ("Seagreen") highlighted that the design envelopes for the Seagreen Alpha and Seagreen Bravo offshore wind farms utilised in the cumulative impact assessments within the EIA Report had been refined and updated since the information was shared with the Company. Seagreen highlighted that this may have implications for the representation of the impacts of the revised Seagreen Alpha and Seagreen Bravo offshore wind farms ("the Optimised Seagreen Project") in-

combination with the Development. Seagreen advised that the outputs of the collision risk modelling for the revised Seagreen designs represent a reduced number of collisions when compared to the EIA Report. Seagreen further highlighted that the cumulative assessments completed by the Company for fish and marine mammals rely on the Seagreen Phase 1 consented design envelopes and therefore do not consider the use of monopiles as a foundation option, which would represent the worst case scenario for these receptors. Seagreen consider that the marine mammal modelling assessment outcomes for the Development will be inconsistent with Seagreen's assessment for the Optimised Seagreen Project and may underestimate the impacts of underwater noise (particularly on bottlenose dolphin), due to the exclusion of the Optimised Seagreen Project from the quantitative assessment of disturbance impacts.

- 5.12 Scottish Fishermen's Federation ("SFF") submitted an objection to the Development due to concerns regarding potential impacts on commercial fishing interests. SFF advised that the Development represented a conflict with several policies contained within the Scottish National Marine Plan ("NMP") including Chapter 4, General Policies 4, 13, 17, 18 and 19 and Chapter 6, Sea Fisheries Policies 1, 2 and 3.
- 5.12.1 SFF advised that conditions should be attached to any consent granted, to mitigate the impacts of the Development on the fishing industry. SFF advised that it wishes to be consulted on various post-consent plans (including the Commercial Fisheries Management Plan – now known as the Fisheries Management and Mitigation Strategy ("FMMS")) to ensure its concerns are addressed. SFF also advised that monitoring of the main fisheries activities in the area (scallops, squid, nephrops, lobster, cod, herring, sprat and shad) would be required. SFF did recognise that the impacts of the Development may represent an improvement when compared to the predicted impacts of the Original Consent.
- 5.12.2 SFF advised that it did not agree with the conclusions of chapter 7.9 of the EIA Report, which concluded that potential conflicts with commercial fisheries interests had been adequately considered and addressed. SFF contended that sufficient action has not been taken to address concerns regarding the offshore export cable route and impacts on nephrop grounds. SFF advised that scour protection for inter array cables should be restricted to within the 50m safety zone and that the Branch laying option for inter array cabling should be the preferred option. SFF advised that cable protection using rock or mattresses is not suitable for scallop fishing and, therefore, burial should be the preferred option. SFF advised that further restrictions on fishing activities beyond the construction impacts, caused by unburied cable, rock or mattress dumping, should be avoided.

- 5.12.3 SFF highlighted that whilst the Development will contribute to energy security, consideration should also be given to food security. SFF advised that it considers that the socio-economics assessment presented in the EIA Report (chapter 16) does not properly address the worst case displacement scenarios. SFF stated that £10.3 million first sale value of fish could be lost, impacted potentially 218 vessels and 335 jobs could be impacted, with attendant impacts on the onshore supply chain. SFF recognised the importance of early engagement on the content of any DP for the Development.
- 5.12.4 A response from the Company was forwarded to SFF on 29 November 2018 addressing the comments raised by SFF. The Company reaffirmed its commitment to the consent conditions outlined in the EIA Report (including the FMMS and Fisheries Liaison Officer (“FLO”)) and confirmed that its position remains unchanged.
- 5.12.5 SFF subsequently responded on 17 December 2018, reiterating the importance the role of the FLO and the Commercial Fisheries Mitigation Strategy (now known as the FMMS) and its concerns regarding the impacts of the Development on commercial fisheries interests. SFF reiterated the requirement for compensation for affected parties and that it expects an agreement to put in place regarding a protocol to protect any static gear from damage prior to the commencement of construction and that this should be reflected in the FMMS. SFF confirmed that the commitment to a consent condition requiring a DP would satisfy its concerns regarding the decommissioning phase of the Development.
- 5.12.6 Conditions have been attached to the s.36 consent and Offshore Transmission Infrastructure (“OfTI”) marine licence requiring the Company to prepare, consult on and adhere to a VMP, DP and FMMS to address these concerns. The SFF will be consulted on all relevant post-consent plans. The Company will be required to prepare and deliver a PEMP to monitor the impacts of the Development on a range of receptors, including commercial fisheries. A condition requiring a FLO has been attached to the s.36 consent and OfTI marine licence to establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development. Further, the Company is also required to participate in the FTCFWG and ScotMER programme, to contribute to an improved understanding of the impacts of the Development on commercial fisheries.
- 5.13 Tay District Salmon Fishery Board (“Tay DSFB”) submitted an objection to the Development and advised that its objection would be maintained until an agreed and accepted monitoring and mitigation strategy is produced by the Company.

Annex C – Decision Notice and Conditions

- 5.13.1 Tay DSFB raised concerns regarding potential negative impacts on Atlantic salmon and sea trout arising from the Development. Tay DSFB requested that, should any consent be granted, conditions should be attached regarding monitoring and mitigation measures. Tay DSFB advised that, should monitoring work identify any negative impacts, then conditions should be attached to the consent requiring mitigation measures. Further, should these issues be unable to be resolved, the Tay DSFB advised that compensatory activities in the affected catchments should be considered.
- 5.13.2 Tay DSFB expressed its willingness to participate in the development of such measures. Tay DSFB provided details of potential monitoring work which could be undertaken (including monitoring the effects of piling noise on migrating salmon and sea trout, the impact of electromagnetic fields and the risk of increased predation from seals). Tay DSFB advised that it is keen to re-engage with the FTRAG.
- 5.13.3 A response from the Company was forwarded to Tay DSFB acknowledging its objection. The Company recognised that uncertainties regarding the impacts on diadromous fish migration need to be considered further and addressed via appropriate mitigation and monitoring measures, however the Company maintained that it is unlikely that the Development will result in significant impacts on diadromous fish populations. The Company proposed that conditions requiring the preparation and implementation of a PS, PEMP and CoP would ensure any impacts are minimised. No subsequent response was received from Tay DSFB.
- 5.13.4 Conditions have been attached to the s.36 consent which will implement the commitment to participate in the FTRAG and require the Company to prepare, consult on and implement a PEMP, to include monitoring of impacts on diadromous fish.
- 5.14 Transport Scotland (“TS”) did not have any objections to the Development. TS noted that the EIA Report does not indicate how any of the turbine or foundation components or structures will be transported via road network to the port, prior to loading onto delivery vessel. TS note the commitment included in the EIA Report to prepare a Traffic and Transport Plan (“TTP”) in the unlikely event that abnormal loads are required during the construction phase of the Development. TS advised that should abnormal load movements be required on the trunk road network, an assessment of the route to site will be required. TS advised that conditions should be attached to any consent granted, requiring the Company to prepare, consult on and adhere to the terms of a Construction Traffic Management Plan (“CTMP”), prior to the commencement of deliveries to site, in order to minimise interference and maintain the safety and free flow of traffic on the trunk roads.
- 5.15 A condition has been attached to the s.36 consent requiring the Company to prepare, consult on and adhere to a CTMP, should any major offshore

components require onshore abnormal load transport. TS will be consulted on any CTMP prepared.

6 Representations from other organisations and members of the public

6.1 No public representations were received during the consultation period

7 Advice from Third Parties

7.1 MS-LOT sought advice from MSS on the Application and consultation responses. MSS provided advice as follows and also provided expertise in completing the AA.

7.2 Marine Mammals

7.2.1 MSS provided detailed comments on the marine mammal assessment presented in the EIA Report. MSS maintain that the use of the 1% noise modelling conversion factor would be more precautionary, based on current best scientific evidence. MSS advised that the contour maps for low and high frequency cetaceans and seals indicated that the cumulative PTS zones are larger when the 1% conversion factor is used, as opposed to the 0.5% rate. MSS advised, however, that it agrees with the conclusions of the Company and SNH that the magnitude of impact is low and that the significance of effect from PTS is low for all species and scenarios. MSS advised that this conclusion was also valid for the disturbance assessment.

7.2.2 MSS acknowledged that the use of Acoustic Deterrent Devices (“ADDs”) has been incorporated into the noise modelling assessment. MSS further noted that the Company does not intend to use ADDs as a mitigation measure, following consideration of the outputs of further modelling undertaken. MSS noted that there are some inconsistencies in the EIA Report regarding the use of ADDs which should be checked.

7.2.3 MSS agreed with SNH that some scenarios presented do have large effect zones for cumulative PTS for minke whale, at distances which may make current mitigation practices ineffective. MSS note that an EPS licence for injury may be required, however, MSS stated that this is likely to be a precautionary measure.

7.2.4 MSS agreed with the mitigation measures outlined in the SNH response of 28 September 2018.

7.2.5 The Company provided a response to MSS’s comments, welcoming the comments received and noting the potential need for the inclusion of minke whale within an EPS licence application for injury. The Company noted MSS’s comments regarding the use of ADDs and noted that specific

mitigation requirements for piling will be agreed through the development of the PS.

7.3 Marine Fish Ecology

7.3.1 MSS advised that it is broadly in agreement with the conclusions presented in the EIA Report.

7.3.2 MSS welcomed the embedded mitigation included in the EIA Report and the commitment to the purpose of the relevant conditions attached to the Original Consent.

7.4 Diadromous Fish

7.4.1 MSS advised that it had previously reviewed the salmon behaviour migration report (Appendix 9C of the EIA report) and report on particle motion (Appendix 9D of the EIA report) prior to formal submission of the EIA Report. MSS did not have further comments to make on these papers. MSS noted that the Company had reviewed the existing HRA material and that this review may be helpful should further appraisal be required at a future date.

7.4.2 MSS noted that the EIA Report had concluded that returning adult salmon would migrate north, close to the coast, thus avoiding the construction work. MSS noted that prior to this migration, adults will have migrated south, probably further offshore, which could bring them into proximity of the construction work. MSS noted that substantial numbers of emigrating smolts and returning adults will migrate through the general area and that these are associated with some of Scotland's most important salmon rivers.

7.4.3 MSS advised that the Company should participate in the ScotMER programme. The Company provided a response to MSS, confirming that it will commit to further engagement with MSS regarding mitigation and monitoring measures.

7.5 Commercial Fisheries

7.5.1 MSS noted that it had previously provided comments on the EIA Report prior to submission and that further information had been provided in the final EIA Report, as regards the FTCFWG and dropped objects procedure. MSS noted that further information had not been provided in relation to bottom towed fishing gears, nor the FMMS, however, MSS noted that the Company had committed to both topics as part of consent conditions.

7.5.2 MSS had no additional comments to make on the baseline data used, the identified fisheries impacted and the significance levels of effects.

7.6 Ornithology

- 7.6.1 MSS provided detailed comments on the ornithology assessment presented in the EIA Report and HRA Report. MSS noted that the assessed impacts of the Development are less than those predicted for the Original Consent. MSS noted that objections to the Development had been submitted by SNH and RSPB Scotland.
- 7.6.2 MSS advised that the Company had followed the advice provided in the scoping opinion, and in subsequent clarifications, regarding CRM. MSS provided further advice regarding the use of site-specific flight height data (option 1) and recent research publications regarding its use, but noted that generic flight-height (option 2) data results will be utilised in the AA. MSS noted that SNH advised that the use of site specific flight height data would ‘have reduced the impacts significantly’ as regards the kittiwake qualifying interest of the St Abb’s Head to Fast Castle SPA.
- 7.6.3 MSS advised that the presentation of displacement effects using the new Seabird Offshore Renewable Development (“SeabORD”) tool provided useful additional context.² MSS noted RSPB Scotland’s comments regarding the lack of empirical data to support the displacement assessment.
- 7.6.4 MSS noted that SNH had advised that the collision risk modelling impacts used in the PVA (for the impacts following both displacement and collision) were from option 2 of the CRM, resulting in significantly greater assessed impacts for gannet and kittiwake when compared to outputs using option 1.
- 7.6.5 MSS further noted SNH’s objection to the Development in-combination with the other Forth and Tay Developments. MSS advised that the outputs from the assessment prepared for the Seagreen Alpha and Seagreen Bravo offshore wind farms should be considered, once available, to provide additional context.
- 7.6.6 The Company provided a response to MSS’s comments welcoming the comments received. The Company stated that it does not consider that SNH and RSPB Scotland have considered the level of precaution built into the assessment fully and that the conclusions of the EIA Report and HRA Report regarding impacts on site integrity remain valid. The Company provided a detailed overview of the precaution included within the assessment for further context.

² SeabORD: A tool to estimate the fate of birds displaced by offshore renewable energy developments. Available here: <https://www2.gov.scot/Topics/marine/marineenergy/mre/current/SeabORD> (Last accessed 18/12/2018).

7.7 Socio-Economics

- 7.7.1 The Marine Scotland Marine Analytical Unit (“MAU”) reviewed the Application and provided detailed comments on the socio-economics assessment included. MAU previously provided detailed comments on the draft EIA Report and reiterated that its previous advice remains valid. MAU stated that its concerns have not been adequately addressed.
- 7.7.2 MAU advised that the impacts of displacement in the energy supply chain have not been considered in the assessment and, therefore, this could overestimate the positive economic impacts of the Development.
- 7.7.3 MAU provided further comments regarding the economic multipliers used to determine direct and induced employment impacts which could result in an overestimation of the positive impacts of the Development (by overestimating the number of FTE jobs created within the Economic Study Area).
- 7.7.4 MAU advised that the socio-economic analysis included is exclusively focussed on economic outcomes and does not consider potential impacts on wider social indicators (such as poverty, demand for public services and impact on environmental health).
- 7.7.5 The Company provided a response to MAU’s comments outlined above, stating that it considers that the conclusions of the assessment remain valid. The Company stated that it considers project-specific displacement is highly unlikely in the circumstances and that displaced jobs are not directly comparable. The Company provided details of the multiplier values used and where these values were sourced from and advised that, as due to uncertainties regarding the location of the facilities to be utilised during the construction and operation phase of the Development, the Economic Study Area has been defined based on assumed labour market catchment areas.

7.8 Summary

- 7.8.1 Scottish Ministers have considered the advice provided by MSS in reaching their decision.

8 Public Local Inquiry (“PLI”)

- 8.1 Scottish Ministers did not require a PLI to be held.

9 The Scottish Ministers Considerations

9.1 Environmental Matters

- 9.1.1 Scottish Ministers are satisfied that an environmental impact assessment has been carried out. Environmental information including the EIA Report has been produced and the applicable procedures regarding publicity and

consultation laid down in regulations have been followed. The environmental impacts of the Development have been assessed and the Scottish Ministers have taken the environmental information into account when reaching their decision.

- 9.1.2 The Scottish Ministers are satisfied that the Company, when formulating its proposal to construct the generating station, had regard to the desirability of preserving natural beauty, of conserving flora, fauna, and geological and physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic, or archaeological interest.
- 9.1.3 The Scottish Ministers have had regard to the desirability of the matters mentioned in the previous paragraph and the extent to which the Company has done what it reasonably could to mitigate the effects of the Development on those features, and are satisfied that the Company has done what it reasonably could with regard to mitigation.
- 9.1.4 The Scottish Ministers have considered fully and carefully the Application, EIA Report, HRA Report, all relevant responses from consultees, MSS and third party representations received.

9.2 Main Determinative Issues

- 9.2.1 The Scottish Ministers, having taken account of all relevant information, consider that the main determining issues are:
- The extent to which the Development accords with and is supported by Scottish Government policy and the terms of the NMP and relevant local development plans;
 - Renewable energy generation and associated policy benefits;
 - Economic impacts; and
 - The significant effects of the Development on the environment, which are in summary:
 - Impacts on marine mammals and seabirds including impacts on European sites and European offshore marine sites;
 - Impacts on diadromous fish;
 - Impacts on commercial fisheries;
 - Impacts on cultural heritage;
 - Impacts on seascape, landscape and visual amenity; and
 - Impacts on aviation and defence.

9.3 Scottish Government Policy Context

- 9.3.1 The NMP, formally adopted in 2015, and recently reviewed in Spring 2018, provides a comprehensive statutory planning framework for all activities out to 200nm. Scottish Ministers must take authorisation and enforcement decisions, which affect the marine environment, in accordance with the NMP.

9.3.2 Of particular relevance to this proposal are:

- Chapter 4 policies 'GEN 1-21', which guide all development proposals;
- Chapter 6 Sea Fisheries, policies 'FISHERIES 1-3';
- Chapter 8 Wild Salmon and Diadromous Fish, policies 'WILD FISH 1 and 3';
- Chapter 11 Offshore Wind and Marine Renewable Energy, policies 'RENEWABLES 1, 3-10';
- Chapter 12 Recreation and Tourism, policies 'REC & TOURISM 2 and 6';
- Chapter 13 Shipping, Ports, Harbours and Ferries, policies 'TRANSPORT 1 and 6';
- Chapter 14 Submarine Cables, policies 'CABLES 1, 2 and 5'; and
- Chapter 15 Defence, policy 'DEFENCE 1'.

9.3.3 The Development will contribute to Scotland's renewable energy targets and will provide wider benefits to the offshore wind industry which are reflected within Scotland's Offshore Wind Route Map and the National Renewables Infrastructure Plan ("NRIP"). Offshore wind is seen as an integral element in Scotland's contribution towards action on climate change. The development of offshore wind also represents one of the biggest opportunities for sustainable economic growth in Scotland for a generation. Scotland's ports and harbours present viable locations to service the associated construction and maintenance activities for offshore renewable energy.

9.3.4 Scottish Planning Policy 2014 ("SPP") sets out the Scottish Government's planning policy on renewable energy development. Efficient supply of low carbon and low cost heat and generation of heat and electricity from renewable energy sources are vital to reducing greenhouse gas emissions and can create significant opportunities for communities. Renewable energy also presents a significant opportunity for associated development, investment and growth of the supply chain, particularly for ports and harbours identified in the NRIP. Communities can also gain new opportunities from increased local ownership and associated benefits.

9.3.5 Whilst the SPP makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, it states that these are likely to include: impacts on landscapes and the historic environment; ecology (including birds, mammals and fish); biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. It also makes clear that the scope for the development to

contribute to national or local economic development should be a material consideration when considering an application.

9.3.6 Scotland's National Planning Framework 3 ("NPF3") sets out the ambition for Scotland to move towards a low carbon country, placing emphasis on the development of onshore and offshore renewable energy. It recognises the significant wind resource available in Scotland, and reflects targets to meet at least 30% of overall energy demand from renewable sources by 2020 including generating the equivalent of at least 100% of gross electricity consumption from renewables with an interim target of 50% by 2015. It also identifies targets to source 11% of heat demand and 10% of transport fuels from renewable sources by 2020.

9.3.7 NPF3 aims for Scotland to be a world leader in offshore renewable energy and expects that, in time, the pace of onshore wind development will be overtaken by the development of marine energy including wind, wave and tidal power.

9.4 Impacts of the Development on the environment

9.4.1 *Impacts on marine mammals, seabirds, European sites and European offshore marine sites*

9.4.1.1 The Habitats Regulations require Scottish Ministers to consider whether the proposed development would be likely to have a significant effect on a European site or European offshore marine site (either alone or in combination with other plans or projects), as defined in the Habitats Regulations.

9.4.1.2 Owing to the view of SNH that the Development is likely to have a significant effect on the qualifying interests of Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA, Moray Firth SAC, Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC and Isle of May SAC and the Outer Firth of Forth and St Andrews Bay Complex proposed Special Protection Area ("pSPA"), MS-LOT, on behalf of the Scottish Ministers, as the "competent authority", was required to carry out an AA.

9.4.1.3 For marine mammal species, the main impact of the Development would be from noise during construction due to piling operations and, in particular, in-combination impacts with the other Forth and Tay Developments and wind farms in the Moray Firth.

9.4.1.4 For the SAC qualifying interests, namely bottlenose dolphin, grey seal and harbour seal, SNH advised that there would be no adverse effect on the integrity of the above SACs. The AA considered the conservation objectives, the populations at the sites, the predicted levels of effect and population

consequences, the fact that the effects are less than those associated with the Original Consent, the precaution in the assessment methods and the advice from SNH. Scottish Ministers concluded that the Development, subject to the application of conditions, would not adversely affect the site integrity of the Moray Firth SAC, Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC and Isle of May SAC, either alone or in-combination with other plans and projects. The AA provides detail on the noise propagation modelling and population modelling undertaken to inform the assessment.

- 9.4.1.5 In addition to the SAC qualifying interests above, other cetaceans (which are also European protected species) could be affected by the Development, in particular harbour porpoise and minke whale. These species were considered in the EIA Report. In its response of 28 September 2018, SNH advised that for both these species there would be no impact on favourable conservation status, subject to conditions being attached to the consent.
- 9.4.1.6 For bird species, the main impacts come from either collision and/or displacement and barrier effects. SNH considered that there would be a likely significant effect (“LSE”) as follows:
- Forth Islands SPA – gannet, kittiwake, herring gull, puffin, guillemot and razorbill;
 - Fowlsheugh SPA – kittiwake, herring gull, guillemot and razorbill;
 - St Abb’s Head to Fast Castle SPA – kittiwake, herring gull, guillemot and razorbill;
 - Buchan Ness to Collieston Coast SPA – kittiwake, herring gull, guillemot; and
 - Outer Firth of Forth and St Andrews Bay Complex pSPA - gannet, kittiwake, herring gull, puffin, guillemot and razorbill.
- 9.4.1.7 After receiving information provided by the Company, SNH submitted a formal objection to the Development on 28 September 2018. SNH’s objection was on the basis that the Development in-combination with Neart na Gaoithe, Seagreen Phase would lead to an adverse effect on the site integrity of the Forth Islands SPA, with respect to kittiwake, razorbill and gannet, and Fowlsheugh SPA, with respect to kittiwake and razorbill. SNH further advised that there could be an adverse effect on the site integrity of the St Abb’s Head to Fast Castle SPA with respect to kittiwake. On 24 January 2019, SNH advised that an adverse effect on the site integrity of the St Abb’s Head to Fast Castle SPA could not be ruled out in respect to kittiwake.
- 9.4.1.8 SNH did, however, advise that the impacts from the Development would be less than those associated with the Original Consent.

- 9.4.1.9 RSPB Scotland also objected to the Development both in isolation and in-combination with the other Forth and Tay Developments due to unacceptable impacts on the seabird qualifying interests of the above listed SPAs. However, RSPB Scotland did recognise that the Development represents a reduction in predicted impacts from the Original Consent on internationally important seabird populations.
- 9.4.1.10 The AA considered the conservation objectives, populations at the sites, the predicted levels of effect and population consequences, the fact that the effects are less than in those associated with the Original Consent, the precaution in the assessment methods and the advice from SNH. Scottish Ministers concluded that, subject to the application of conditions, the Development would not adversely affect the site integrity of the Forth Islands SPA, Fowlsheugh SPA or St Abb's Head to Fast Castle SPA either alone or in-combination with other projects. Full details of the assessment methodology is provided in the AA.
- 9.4.1.11 In reaching their conclusions in the AA, Scottish Ministers have given considerable weight to SNH's advice. The methods advised by SNH through scoping and subsequent clarifications have been incorporated into the assessment. As such, divergence from SNH advice is limited to differing conclusions in relation to site integrity of gannet at Forth Islands SPA, kittiwake at Forth Islands SPA, Fowlsheugh SPA and St Abb's Head to Fast Castle SPA and razorbill at Forth Islands SPA and Fowlsheugh SPA. In reaching a different conclusion from SNH, Scottish Ministers have taken account in the AA of the entire context of the assessment, in particular its highly precautionary assumptions, which make it very unlikely that the number of impacted individuals will be as large as the values presented in the AA. For these reasons, Scottish Ministers consider the levels of the assessed impact to be reasonable and are convinced that there will be no adverse effect on the site integrity of any of the SACs, SPAs or the pSPA considered in the AA.
- 9.4.1.12 Scottish Ministers are currently in the process of identifying a suite of new marine SPAs in Scottish waters. In 2014, advice was received from the Statutory Nature Conservation Bodies ("SNCBs") on the sites most suitable for designation and at this stage they became draft SPAs ("dSPAs"). Once Scottish Ministers have agreed the case for a dSPA to be the subject of a public consultation, the proposal is given the status of pSPA and receives policy protection, which effectively puts such sites in the same position as designated sites, from that point forward until a decision on classification of the site is made. This policy protection for pSPAs is provided by SPP (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the NMP for Scotland (paragraph 4.45). The Outer Firth of Forth and St. Andrew's Bay Complex pSPA is currently at consultation and, therefore, is included in the AA.

- 9.4.1.13 It is not a legal requirement under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna or flora (“the Habitats Directive”) or the Habitats Regulations for the AA to assess the implications of the Development on the pSPA. Nevertheless, the AA includes an assessment of implications upon this site in accordance with domestic policy. Scottish Ministers are required to consider article 4(4) of Council Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) in respect of the pSPA. The considerations under article 4(4) of the Birds Directive are separate and distinct to the considerations which must be assessed under this Habitats Directive assessment but they are, nevertheless, set out within the AA.
- 9.4.1.14 SNH advised that the Development in-combination with the other Forth and Tay Developments would not adversely affect the integrity of the Outer Firth of Forth and St Andrews Bay Complex pSPA. The completed AA came to the same conclusion.
- 9.4.1.15 Considering article 4(4) of the Birds Directive, Scottish Ministers concluded that the Development will not cause pollution or deterioration of habitats and any disturbance will be negligible.
- 9.4.1.16 In accordance with regulation 50 of the Conservation (Natural Habitats, &c.) Regulations 1994, and regulation 65 of the Conservation of Habitats and Species Regulations 2017, the Scottish Ministers will review their decision authorising the Development as soon as reasonably practicable following the formal designation of the pSPA. If required, this will include a supplementary AA being undertaken concerning the implications of the Development on the site as designated (as the site is currently a pSPA, the conservation objectives are currently in draft form; the conservation objectives will be finalised at the point at which the site is designated). If the conservation objectives, site boundary and qualifying features do not change when the site becomes designated, then a further AA may not be required as the effects of the Development have been fully considered in the current AA.
- 9.4.1.17 Conditions requiring the Company to prepare, consult on and adhere to a CMS, EMP, PS, VMP and PEMP, and to participate in the FTRAG and ScotMER Programme, have been attached to the s.36 consent to mitigate these concerns.
- 9.4.1.18 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies, and having regard to the conditions attached, there are no outstanding concerns in relation to the impact of the Development on marine mammals, seabirds, European sites or European offshore marine sites which would require consent to be withheld.

9.4.2 *Impacts on diadromous fish*

- 9.4.2.1 In its scoping advice, SNH advised that diadromous fish should be scoped out of both EIA and HRA. MSS further advised that, since the completion of the original assessment, further research had been undertaken and significant findings regarding the behaviour of diadromous fish had been published. The scoping opinion, therefore, advised that the Company should review these findings and consider whether the findings would impact the conclusions of the previous assessment. If the Company deemed that the new information did not impact the conclusions of the previous assessment, the scoping opinion advised that the Company would be required to justify this decision.
- 9.4.2.2 The Company submitted a report on salmon migration behaviour to MS-LOT in October 2017, setting out its review of the recent information in relation to salmon migration research and proposal not to include further assessment of diadromous fish within the EIA Report. MS-LOT subsequently confirmed that the Company had provided sufficient justification that the baseline information and conclusions of the previous assessment remained valid. MS-LOT therefore confirmed that no further assessment was required within the EIA Report. The salmon migration behaviour report was included as an appendix to the EIA Report for context (Appendix 9C). MSS advised that substantial numbers of salmon may be migrating through the general area. Within the EIA Report, the Company has committed to mitigation measures to reduce the potential noise impacts on fish species, through the incorporation of a soft-start procedure during piling operations.
- 9.4.2.3 Consultees raised concerns regarding the potential for increased predation by seals around installed WTGs. In its response to RTC, the Company advised that compensatory support for rivers suffering as a consequence of the effects of increased predation, would be considered, should evidence of the impacts be provided. The Company further acknowledged the uncertainties around salmon migration behaviour and committed to further discussion regarding potential monitoring and mitigation requirements.
- 9.4.2.4 A condition requiring the Company to prepare, consult on and adhere to a PEMP (to include monitoring of the impacts of diadromous fish) and a PS have been attached to the s.36 consent to mitigate concerns regarding this receptor. The Company is also required to participate in the ScotMER programme, which includes research and monitoring work relating to the impacts of offshore renewable energy developments on diadromous fish.
- 9.4.2.5 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies and having regard to the conditions attached to the s.36 consent, there are no outstanding concerns in relation to the impact of the Development on diadromous fish which would require consent to be withheld.

9.4.3 *Impacts on commercial fisheries*

- 9.4.3.1 Moderate significant effects were identified by the Company on several commercial fisheries throughout the lifespan of the Development, however, the Company concluded that the application of mitigation measures would reduce the significance of these effects to minor.
- 9.4.3.2 The SFF responded on behalf of its members, objecting to the Development. The SFF objected to aspects of the assessment presented in the EIA Report, particularly in relation to loss of access to fishing grounds during all phases of the works, the socio-economic assessment presented and the route of the offshore export cable, SFF raised concerns regarding resumption of fishing activities following conclusion of the construction phase of the Development and the options for burial of the offshore export and inter array cables. SFF further requested monitoring of the impacts of the Development on commercial fished stocks in the area, in particular squid fisheries and nephrops, should be required.
- 9.4.3.3 SFF confirmed that it was content that concerns regarding the decommissioning phase of the Development could be addressed via a consent condition requiring the preparation and approval of a DP. The SFF highlighted the importance of the role of the FLO and the preparation and implementation of a FMMS in addressing its concerns.
- 9.4.3.4 Scottish Ministers have taken account of the terms of the NMP in relation to SFF concerns and conditions requiring the Company to prepare, consult on and adhere to a FMMS, CaP, DP and PEMP (to include monitoring of commercial fisheries), a condition requiring a FLO to establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development, a condition which requires the Company to remain a member of the FTCFWG, to facilitate communication and development of relevant post consent plans, and a condition requiring the Company to participate in the ScotMER programme, to contribute to an improved understanding of the impacts of the Development on commercial fisheries have been attached to the s.36 consent and OfTI marine licence to mitigate concerns regarding commercial fisheries.
- 9.4.3.5 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies, the NMP and having regard to the conditions attached to the s.36 consent, there are no outstanding concerns in relation to the impact of the Development on commercial fisheries which would require consent to be withheld.

9.4.4 Impacts on seascape, landscape and visual amenity

- 9.4.4.1 SLVIA was undertaken for the Development in-combination with Neart na Gaoithe and Seagreen Phase 1 and the new proposals for the Forth and Tay Developments. Impacts on the coastal character of east Fife, north-east East Lothian and within 35km of the Development were assessed as being significant. Further, significant impacts resulting from aviation and navigation lighting on visual amenity within 30km of the Development and cumulative impacts on coastal character in east Fife and south-east Angus were identified in the SLVIA.
- 9.4.4.2 SNH advised that the cumulative impact of the Forth and Tay Developments would introduce significant effects in the regional context. SNH and East Lothian Council both disagreed with the level of significance assigned to viewpoints with the SLVIA presented, but did not object to the Development on these grounds.
- 9.4.4.3 Angus Council, East Lothian Council and SNH agreed that the Development would result in significant adverse effects due to the increased height of the WTGs, particularly when compared to the Original Consent. All recognised that these impacts may be offset slightly by the reduction in the number of WTGs to be installed compared to the Original Consent.
- 9.4.4.4 Angus Council advised that, whilst the Development would have significant impacts upon landscape and seascape character, these impacts were not considered to be unacceptable. Angus Council and East Lothian Council both advised that detailed consideration of aviation and navigation lighting requirements should be undertaken, to mitigate impacts on the night seascape. Further, Angus Council and East Lothian Council both advised that consideration of cumulative impacts should be undertaken when approving the final layouts of the Forth and Tay Developments with a view to mitigating potential impacts.
- 9.4.4.5 East Lothian Council requested that a condition be placed on any consent granted to monitor the impacts of aviation lighting and to address the impacts of aviation lighting, should such lighting be visible from East Lothian. East Lothian Council further suggested that maximum and minimum lighting requirements should be included within any consent condition and that the Company should be required to dim the lighting when visibility is greater than 5km. On 31 January 2019, MS-LOT subsequently advised East Lothian Council that the Company would not be required to monitor the impacts of aviation lighting, dim lighting or replace the lighting should new technologies become available. MS-LOT advised, however, that the Company will be required to adhere to the minimum requirements of the CAA, MOD, NLB and MCA in order to minimise the impacts on the residents of East Lothian, whilst ensuring navigational safety.

- 9.4.4.6 The exact lighting and marking requirements for the Development will be agreed by consultees within the LMP required by the s.36 consent. East Lothian Council will be consulted on the content of the LMP and will have the opportunity to comment on the lighting requirements at this stage.
- 9.4.4.7 The Company stated, in its response to Angus Council dated 18 January 2019, that the night time lighting assessment presented in the EIA Report was based on aviation lighting operating at maximum intensity. Night time lighting would only be operated at such intensity in periods of low visibility, such as fog, which was not accounted for within the assessment presented. The Company stated that the worst case cumulative and night time lighting scenarios presented in the EIA Report would, therefore, be unlikely to occur. The Company further stated that a co-ordinated approach to the final layouts of the Forth and Tay Developments would not be possible, due to technical and financial constraints.
- 9.4.4.8 Conditions requiring the Company to prepare, consult on and adhere to a LMP, DSLP and DS have been attached to the s.36 consent. The planning authorities and SNH will be consulted on the DSLP and DS. SNH and East Lothian Council will be consulted on the LMP.
- 9.4.4.9 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies and having regard to the conditions attached to the s.36 consent, there are no outstanding concerns in relation to the impact of the Development on seascape, landscape and visual amenity which would require consent to be withheld
- 9.4.5 *Impacts on cultural heritage*
- 9.4.5.1 Moderate significant effects were predicted as a result of the Development in-combination with the other Forth and Tay Developments on the Isle of May Priory. The priory is a scheduled monument and an uninterrupted view of the Development would be visible to visitors. These impacts were not discussed in the responses received.
- 9.4.5.2 HES did not object to the Development and stated that the Development did not raise historic environment issues of national significance.
- 9.4.5.3 Angus Council stated that it agreed with HES's assessment regarding the impacts of the Development on the setting of the Bell Rock Lighthouse, however, Angus Council advised that the EIA Report was limited in its assessment of the impacts of aviation and navigation lighting on the setting of this cultural heritage asset.

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- 9.4.5.4 Conditions requiring the Company to prepare, consult on and adhere to a DSLP, PAD and DS have been attached to the s.36 consent to mitigate these concerns.
- 9.4.5.5 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies and having regard to the conditions attached to the s.36 consent, there are no outstanding concerns in relation to the impact of the Development on cultural heritage which would require consent to be withheld.
- 9.4.6 *Impacts on aviation and defence*
- 9.4.6.1 MOD submitted an objection to the Development on safeguarding grounds, due to unacceptable interference to ATC radar at Leuchars Station, and ADR at RRH Buchan and RRH Brizlee Wood and attendant impacts on air safety. MOD requested that further engagement take place with the Company to identify a technical solution to mitigate impacts. The MOD is not in a position to confirm suspensive conditions at this time. However, MS-LOT consider that the conditions attached to the s.36 consent to mitigate the impacts on ATC Radar and ADR provide, sufficient assurance that the MOD concerns will be dealt with prior to the Commencement of the Development.
- 9.4.6.2 MOD further requested that the WTGs are fitted with appropriate aviation warning lighting. Further requirements regarding aviation lighting were recommended by NLB and MCA and the requirements for aviation and navigational lighting will be implemented through consent conditions.
- 9.4.6.3 NATS and AIA had no safeguarding objections to the Development.
- 9.4.6.4 East Lothian Council recommended that a condition should be attached to any consent granted, preventing the use of helicopters over the East Lothian Council area throughout the lifespan of the Development. As air transportation is a matter reserved to Westminster (under the Scotland Act 1998), the Scottish Ministers do not have devolved powers to intervene in these matters. If, however, helicopters are to be used during any phase of the Development, the Company is required to include further details regarding their usage within the Operation and Maintenance Programme (“OMP”) and East Lothian Council will be consulted on the terms of the OMP. The Company confirmed that it is, however, unlikely that helicopter operations will be required and that helicopter operations will not take place over the East Lothian area.
- 9.4.6.5 Conditions requiring the Company to prepare, consult on and adhere to an LMP, DSLP, OMP, EMP, DS, CMS, NSP, a technical mitigation proposal for ADR, and ATC Scheme, have been attached to the s.36 consent to address these concerns.

9.4.6.6 Scottish Ministers consider that, having taken into account the information provided by the Company, the responses of the consultative bodies, and having regard to the conditions attached to the s.36 consent including amendments made in relation to the ATC Scheme and the technical mitigation proposal for ADR, there are no outstanding concerns in relation to the impact of the Development on aviation and defence which would require consent to be withheld.

9.4.7 *Renewable energy generation and associated policy benefits*

9.4.7.1 The key environmental benefit of the Development is to offset greenhouse gas (“GHG”) emissions that might otherwise be produced by other means of electricity generation. Over the lifetime of the Development, carbon emissions from fabrication, construction, operation and decommissioning will be offset by the net reduction in emissions through the low carbon wind energy technology.

9.4.7.2 There are multiple benefits associated with the Development, including:

- The reduction in emissions of carbon dioxide, nitrogen oxides, and sulphur dioxide during the operational phase equivalent to the annual emissions of carbon dioxide, nitrogen oxides, and sulphur dioxide from traditional thermal generation sources;
- Improvements to the security of the UK’s domestic energy supply through increased energy generation;
- Reduction in the reliance on fossil fuels; and
- Providing a contribution towards the ambitious Scottish, UK and European Union (“EU”) renewable energy targets.

9.4.7.3 The proposed installed capacity of the Development will be around 700MW (however, the exact value is dependent on the nominal capacity and number of WTGs installed and cannot yet be confirmed). Based on the Scottish Government’s published Renewable Electricity Output Calculator,³ it is estimated that, depending on the fuel type displaced, 428,627 tonnes of carbon dioxide will be saved each year. In addition, it is estimated that the Development will generate enough electricity each year to meet the needs of the equivalent of 468,696 Scottish households per year.

9.4.8 *Economic benefits*

9.4.8.1 SPP advises that economic benefits are material issues which must be taken into account as part of the determination process. SPP also confirms the Scottish Ministers’ aim of achieving a thriving renewables industry in Scotland. Further, national policy and strategies, such as NPF3 and The Scottish Energy Strategy: The Future of Energy in Scotland (Scottish

³ <https://www.gov.scot/Topics/Statistics/Browse/Business/Energy/onlineTools/ElecCalc> (Last accessed: 23/01/2019).

Government, 2017), support the role of renewable energy development in achieving socio-economics benefits and supporting the growth of the low carbon economy. The EIA Report reported that the Development would support the development of the domestic renewable energy industry and offset GHG emissions.

- 9.4.8.2 Whilst impacts on tourism were scoped out of the EIA Report, the Company assessed socio-economic impacts related to the offshore elements of the Development on the Economic Study Area and across Scotland.
- 9.4.8.3 The Company has estimated that net additional employment from the Development is estimated to be between 321 FTE and 832 FTE direct, indirect and induced construction jobs at an Economic Study Area level, dependent on the impact scenario considered. For the rest of Scotland, net additional employment from the Development was estimated to be between 108 FTE and 216 FTE direct, indirect and induced construction jobs (and a total of between 858 and 1854 net additional construction jobs in the UK). This would represent between £41.8 million and £108.2 million GVA per annum at an Economic Study Area level and between £55.8 million and £136.2 million at a Scottish level.
- 9.4.8.4 During the operation and maintenance phase, the Company estimates that the net additional employment generated would represent a new GVA at an Economic Study Area of between £4.9 million to £10.7 million per annum and £18.6 million per annum for Scotland as a whole. The Company estimates that 202 FTE jobs will be created in total (with 38 within the Economic Study Area and 42 within the rest of Scotland).
- 9.4.8.5 The Company estimates that during the decommissioning phase the number of jobs is likely to be lower than those estimated for the construction phase. However, it is estimated that during the decommissioning phase approx. 110 FTE net additional jobs will be generated.
- 9.4.8.6 Angus Council stated that it considers that there is the potential for the negative socio economic impacts on commercial fisheries to be higher than predicted in the EIA Report. Angus Council, however, does not consider these impacts to be unacceptable, providing the mitigation measures set out in the EIA Report are applied.
- 9.4.8.7 In its consultation response, the SFF stated that the EIA Report did not include full consideration of the potential negative socio-economic impacts resulting from the impacts on commercial fisheries receptors. PSF and DFA raised further concerns regarding the economic consequences of disruption.
- 9.4.8.8 MAU advised that the socio economic assessment presented overestimates the impacts of the Development. On this basis, MAU highlighted issues with

the assessment regarding economic multipliers and the assessment of displacement effects.

- 9.4.8.9 The Scottish Ministers consider that there is sufficient information regarding the socio-economic impacts of the Development to inform their decision.

10 The Scottish Ministers' Determination

- 10.1 The Scottish Ministers are satisfied that an environmental impact assessment has been carried out, and that the applicable procedures regarding publicity and consultation in respect of the Application have been followed.
- 10.2 When formulating proposals for the construction of the proposed generating station the Company must comply with paragraph 3 of Schedule 9 to the Electricity Act 1989. Paragraph 3(1)(a) of Schedule 9 requires the Company in formulating such proposals to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Paragraph 3(1)(b) requires the Company to do what it reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects. Under paragraph 3(3) of that Schedule, the Company must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.
- 10.3 Under paragraph 3(2) of Schedule 9, the Scottish Ministers must have regard to the desirability of the matters mentioned in paragraph 3(1)(a) of that Schedule and the extent to which the Company has complied with its duty under paragraph 3(1)(b). Under paragraph 3(3) the Scottish Ministers must avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.
- 10.4 In considering the application, the Scottish Ministers have had regard to the desirability of the matters mentioned in paragraph 3(1)(a) of Schedule 9 and the extent to which the Company has complied with its duty under paragraph 3(1)(b). Ministers consider that the Company has done what it reasonably can to mitigate the effect of the proposed Development on the matters mentioned in paragraph 3(1)(a). The Scottish Ministers are content that the requirements of paragraph 3 of Schedule 9 are satisfied.
- 10.5 Scottish Ministers have weighed the impacts of the proposed Development, and the degree to which these can be mitigated, against the economic and renewable energy benefits which would be realised. Scottish Ministers have undertaken this exercise in the context of national and local policies.

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- 10.6 Scottish Ministers have considered the extent to which the Development accords with and is supported by Scottish Government policy, the terms of the SPP, the NMP, local development plans and the environmental impacts of the Development, in particular: impacts on seabirds and marine mammals (including impacts on European sites and European offshore marine sites), impacts on diadromous fish, impacts on seascape, landscape and visual amenity, impacts on commercial fisheries, impacts on cultural heritage and impacts on aviation and defence. Scottish Ministers have also considered the estimated contribution made by the Development to reducing carbon dioxide emissions and the socio-economic and the renewable energy benefits of the Development.
- 10.7 Scottish Ministers are satisfied that the environmental issues have been appropriately addressed by way of the design of the Development and through mitigation measures, and that the issues which remain are, on balance, outweighed by the benefits of the Development. In particular, Scottish Ministers are satisfied that the proposal will not adversely affect the integrity of the Forth Islands SPA, Fowlsheugh SPA, St Abb's Head to Fast Castle SPA, Buchan Ness to Collieston Coast SPA, Moray Firth SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland Coast SAC, Isle of May SAC or the Outer Firth of Forth and St Andrews Bay Complex pSPA.
- 10.8 Scottish Ministers have had regard to the requirements of Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds, and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
- 10.9 In their consideration of the environmental impacts of the Development, Scottish Ministers have identified conditions to be attached to the consent to reduce and monitor environmental impacts. These include requirements for pre-construction, construction and operational monitoring of birds, commercial fisheries, marine mammals and diadromous fish and the preparation, consultation, approval and implementation of a CMS, EMP, OMP and VMP.
- 10.10 A condition requiring the appointment of an Environmental Clerk of Works ("ECoW") and defining the terms of the ECoW's appointment has been attached to the consent. The ECoW will be required to monitor and report on compliance with all consent conditions, monitor that the Development is being constructed in accordance with plans and the terms of the Application, the s.36 consent and all relevant regulations and legislation. The ECoW will also be required to provide quality assurance on the final draft versions of any plans and programmes required under the consent.
- 10.11 Scottish Ministers have concluded that the Company has had regard to the potential interference of recognised sea lanes essential to international and

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- national navigation. Any obstruction or danger to navigation has been addressed through specific consent conditions attached to the s.36 consent.
- 10.12 Scottish Ministers are satisfied, having regard to current knowledge and methods of assessment, that this reasoned conclusion, as required under the 2017 EW Regulations, is still up to date.
- 10.13 Subject to the conditions set out in Annex 2, Scottish Ministers grant consent under s.36 of the Electricity Act 1989 for the construction and operation of the Inch Cape Offshore Wind Farm (as described in Annex 1). In addition, Scottish Ministers have also made a declaration under s.36A of the Electricity Act 1989.
- 10.14 The embedded mitigation and any additional mitigation identified in the EIA Report has been incorporated into the conditions of this s.36 consent and/or any marine licence(s) granted. The conditions also capture monitoring measures required under Regulation 22 of the 2017 EW Regulations.
- 10.15 In accordance with the 2017 EW Regulations, the Company must publicise notice of this determination and provide that a copy of this decision letter may be inspected on the application website, in the Edinburgh Gazette and a newspaper circulating in the locality to which the application relates is situated. The Company must provide copies of the public notices to the Scottish Ministers.
- 10.16 Copies of this letter have been sent to the public bodies consulted on the application, including the relevant planning authorities, SNH, SEPA and HES. This letter has also been published on the [Marine Scotland Information website](#).
- 10.17 The Scottish Ministers' decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Scottish Ministers exercise their statutory function to determine applications for consent. The rules relating to the judicial review process can be found on the [website of the Scottish Courts](#). Your local Citizens' Advice Bureau or your solicitor will be able to advise you about the applicable procedures.

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Yours sincerely,

[REDACTED]

[REDACTED]

Marine Scotland Licensing Operations Team

A member of the staff of the Scottish Ministers

17 June 2019

ANNEX 1 – DESCRIPTION OF THE DEVELOPMENT

An offshore energy generating station, located in the outer Firth of Forth, approximately 15-22km east of the Angus coastline, as shown in Figure 1 below, with a maximum generating capacity of around 700 megawatts (“MW”) comprising:

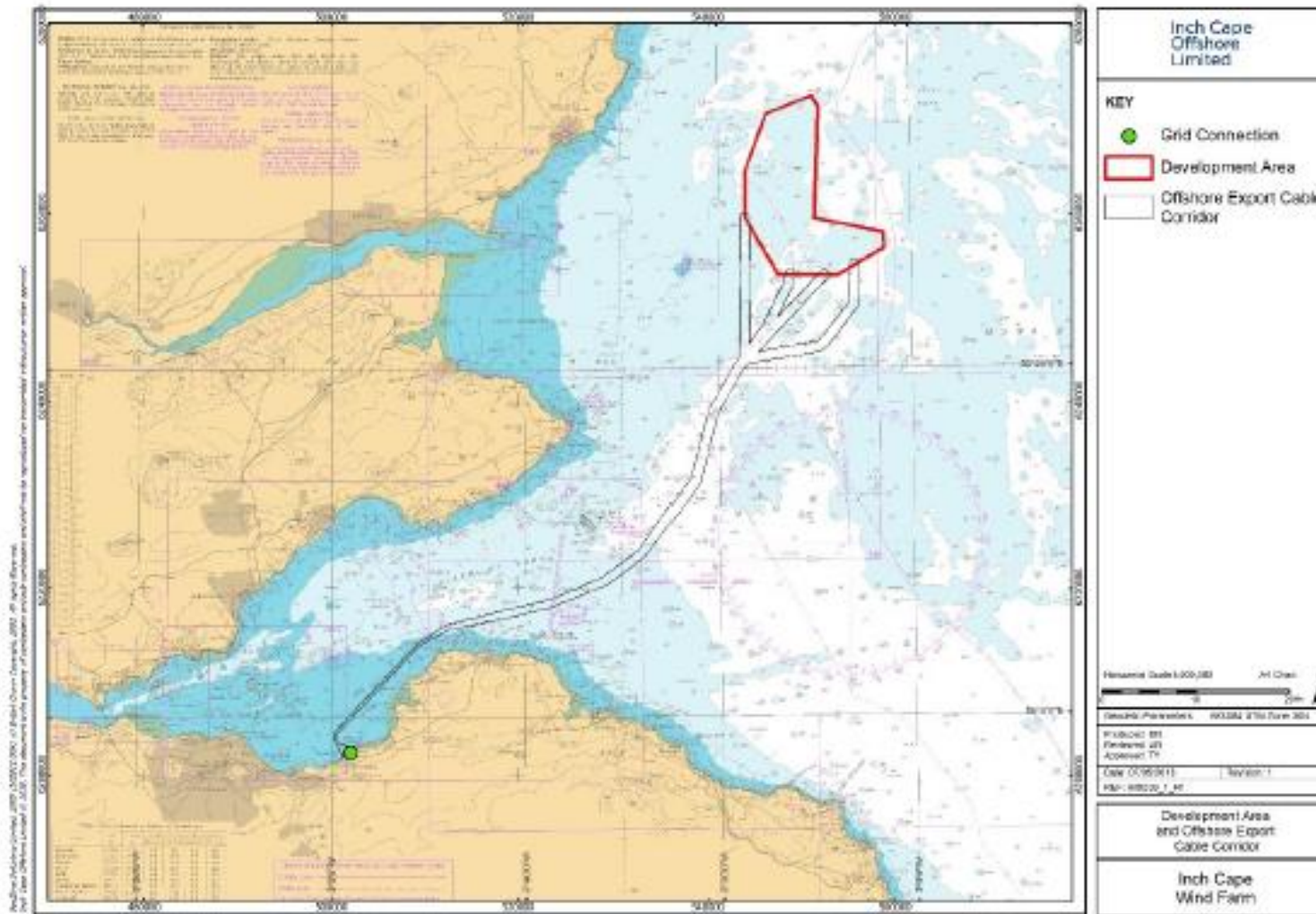
1. No more than 72 three-bladed horizontal axis Wind Turbine Generators (“WTGs”), each with:
 - a) A maximum height to blade tip of 291 metres (measured from Lowest Astronomical Tide (“LAT”));
 - b) A maximum rotor diameter of 250 metres;
 - c) A minimum blade tip clearance of 27.4 metres (measured from LAT);
 - d) A maximum blade width of 7.8 metres; and
 - e) A nominal turbine spacing of 1,278 metres.
2. No more than 72 substructures and foundations and ancillary equipment.
3. No more than 190km of inter-array cabling;

The total area within the Development site boundary is 150km².

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Annex 1 – Description of the Development

FIGURE 1 INCH CAPE OFFSHORE WIND FARM SITE AND EXPORT CABLE CORRIDOR TO SHORE AT COCKENZIE, EAST LoTHIAN



ANNEX 2 – SECTION 36 CONSENT CONDITIONS

The consent granted under Section 36 of the Electricity Act 1989 is subject to the following conditions:

The Company must submit the requested plans as detailed in the conditions prior to the Commencement of the Development, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with any such advisors or organisations as detailed in the conditions or as may be required at the discretion of the Scottish Ministers.

The Development must, at all times, be constructed in accordance with the approved plans as updated or amended.

Any updates or amendments made to the approved plans must be submitted, in writing, to the Scottish Ministers for their prior written approval.

The Company must satisfy itself that all contractors or sub-contractors are aware of the extent of the Development for which this consent has been granted, the activity which is consented and the terms of the conditions attached to this consent. All contractors and sub-contractors permitted to engage in the Development must abide by the conditions set out in this consent.

The Company must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code, where appropriate, during all installation, operation and maintenance activities.

Part 1 – Conditions Attached to Section 36 Consent

1. Duration of the Consent

The consent is for a period of 50 years from the date of Final Commissioning of the Development.

Written confirmation of the dates of First Commissioning of the Development and Final Commissioning of the Development must be provided by the Company to the Scottish Ministers and to Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council, Scottish Borders Council and Scottish Ministers no later than one calendar month after these respective dates.

Reason: To define the duration of the consent.

2. Commencement of Development

The Commencement of the Development must be no later than five years from the date of this consent, or in substitution such other later period as the Scottish Ministers may hereafter direct in writing. The Company must provide written confirmation of the intended date of Commencement of Development to the Scottish Ministers and to Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council and Scottish Borders Council no later than one calendar month before that date.

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

3. Decommissioning

There must be no Commencement of Development unless a Decommissioning Programme (“DP”) has been submitted to and approved in writing by the Scottish Ministers. The DP must outline measures for the decommissioning of the Development, restoration of the seabed and will include without limitation, proposals for the removal of the Development, the management and timing of the works and, environmental management provisions.

The Development must be decommissioned in accordance with the approved DP, unless otherwise agreed in writing in advance with the Scottish Ministers.

Reason: *To ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner, and in the interests of safety and environmental protection.*

4. Assignment

This consent must not be assigned without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may authorise the assignment of the consent (with or without conditions) or refuse assignment as they may see fit. The consent is not capable of being assigned, alienated or transferred otherwise than in accordance with the assignment procedure as directed by Scottish Ministers.

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

5. Redundant turbines

If one or more turbine fails to generate electricity for a continuous period of 12 months, then unless otherwise agreed in writing by the Scottish Ministers, the Company must: (i) by no later than the date of expiration of the 12 month period, submit a scheme to the Scottish Ministers setting out how the relevant turbine(s) and associated infrastructure will be removed from the site and the sea bed restored; and (ii) implement the approved scheme within six months of the date of its approval, or such other date as agreed in writing by the Scottish Ministers, all to the satisfaction of the Scottish Ministers.

Reason: *To ensure that any redundant wind turbine(s) is/are removed from the site, in the interests of safety, amenity and environmental protection.*

6. Incident Reporting

In the event of any breach of health and safety or environmental obligations relating to the Development during the period of this consent, the Company must provide written notification of the nature and timing of the incident to the Scottish Ministers within 24 hours of the incident occurring. Confirmation of remedial measures taken

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Annex 2 – Section 36 Consent Conditions

and/or to be taken to rectify the breach must be provided, in writing, to the Scottish Ministers within a period of time to be agreed by the Scottish Ministers.

Reason: *To keep the Scottish Ministers informed of any such incidents which may be in the public interest.*

7. Implementation in accordance with approved plans and requirements of this consent

Except as otherwise required by the terms of this consent, the Development must be constructed and operated in accordance with the Application and any other documentation lodged in support of the Application.

Reason: *To ensure that the Development is carried out in accordance with the approved details.*

8. Transportation for site inspections

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

Reason: *To ensure access to the site for the purpose of inspecting compliance with this consent.*

9. Construction Programme

The Company must, no later than six months prior to the Commencement of the Development, submit a Construction Programme (“CoP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with Scottish Natural Heritage (“SNH”), Maritime and Coastguard Agency (“MCA”) and Northern Lighthouse Board (“NLB”), and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The CoP must set out:

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

The final CoP must be sent to Aberdeenshire Council, Angus Council, East Lothian Council, Fife Council and Dundee City Council for information only.

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

10. Construction Method Statement

The Company must, no later than six months prior to the Commencement of the Development submit a Construction Method Statement (“CMS”), in writing, to the

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Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, MCA, NLB and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CMS must include, but not be limited to:

- a. Details of the commencement dates, duration and phasing for the key elements of construction, the working areas, the construction procedures and good working practices for installing the Development.
- b. 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 Development.
- c. Details of how the construction related mitigation steps proposed in the Application are to be delivered.

The CMS must adhere to the construction methods assessed in the Application. The CMS also must, so far as is reasonably practicable, be consistent with the Design Statement (“DS”), the Environmental Management Plan (“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”).

The final CMS must be sent to Aberdeenshire Council, Angus Council, East Lothian Council, Fife Council and Dundee City Council for information only.

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

11. Piling Strategy

The Company must, no later than six months prior to the Commencement of the Development, submit a Piling Strategy (“PS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, Fisheries Management Scotland (“FMS”), Whale and Dolphin Conservation (“WDC”) and any such other advisors as may be required at the discretion of the Scottish Ministers.

The PS must include, but not be limited to:

- a. Details of expected noise levels from pile-drilling/driving in order to inform point d below;
- b. Full details of the proposed method and anticipated duration of piling to be carried out at all locations;
- c. Details of soft-start piling procedures and anticipated maximum piling energy required at each pile location; and
- d. Details of any mitigation such as Passive Acoustic Monitoring (“PAM”), Marine Mammal Observers (“MMO”), use of Acoustic Deterrent Devices (“ADD”) and monitoring to be employed during pile-driving, as agreed by the Scottish Ministers.

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The PS must be in accordance with the Application and must also reflect any monitoring or data collection 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 to harbour porpoise, minke whale, bottlenose dolphin, harbour seal, grey seal and Atlantic salmon.

The PS must, so far as is reasonably practicable, be consistent with the EMP, the Project Environmental Monitoring Programme (“PEMP”) and the CMS.

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

12. Development Specification and Layout Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Development Specification and Layout Plan (“DSLPL”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the MCA, NLB, SNH, the Ministry of Defence (“MOD”), Civil Aviation Authority (“CAA”), Scottish Fishermen’s Federation (“SFF”), Aberdeenshire Council, Dundee City Council, East Lothian Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. A plan showing the location of each individual WTG (subject to any required micro-siting), including information on WTG spacing, WTG identification/numbering, seabed conditions, bathymetry, confirmed foundation type for each WTG and any key constraints recorded on the site;
- b. A list of latitude and longitude co-ordinates accurate to three decimal places of minutes of arc for each WTG. This should also be provided as a Geographic Information System (“GIS”) shape file using WGS84 format;
- c. A table or diagram of each WTG dimensions including - height to blade tip (measured above Lowest Astronomical Tide (“LAT”)) to the highest point, height to hub (measured above LAT to the centreline of the generator shaft), rotor diameter and maximum rotation speed;
- d. The generating output of each WTG used on the site (Figure 1) and a confirmed generating output for the site overall;
- e. The finishes for each WTG (see condition 20 on WTG lighting and marking); and
- f. The length and proposed arrangements on the seabed of all inter-array cables.

The final DSLP must be sent to Angus Council and Fife Council information only.

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

13. Design Statement

The Company must, no later than six months prior to the Commencement of the Development, submit a Design Statement (“DS”), in writing, to the Scottish Ministers. The DS, which must be signed off by at least one qualified landscape architect, as

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instructed by the Company prior to submission to the Scottish Ministers, must include representative wind farm visualisations from key viewpoints as agreed with the Scottish Ministers, based upon the final DSLP as approved by the Scottish Ministers as updated or amended. The Company must provide the DS, for information only, to Aberdeenshire Council, Angus Council, Dundee City Council, East Lothian Council, Fife Council, SNH, MCA and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

Reason: *To ensure that the Development is carried out in accordance with the approved details, and to inform interested parties of the final wind farm scheme proposed to be built.*

14. **Environmental Management Plan**

The Company must, no later than six months prior to the Commencement of the Development, submit an Environmental Management Plan (“EMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, Royal Society for the Protection of Birds Scotland (“RSPB Scotland”), WDC, FMS and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. All construction as required to be undertaken before the Final Commissioning of the Development; and
- b. The operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation (environmental management during decommissioning is addressed by the Decommissioning Programme provided for by condition 3).

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

- a. Mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the Application and pre-consent and pre-construction monitoring or data collection, and include reference to relevant parts of the CMS (refer to condition 10);
- b. A pollution prevention and control method statement, including contingency plans;
- c. Management measures to prevent the introduction of invasive non-native marine species;
- d. A site waste management plan (dealing with all aspects of waste produced during the construction period), including details of contingency planning in the event of accidental release of materials which could cause harm to the

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environment. Wherever possible the waste hierarchy of reduce, reuse and recycle should be encouraged; and

- e. The reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed.

The EMP must be regularly reviewed by the Company and the Scottish Ministers or Forth and Tay Regional Advisory Group (“FTRAG”), at intervals agreed by the Scottish Ministers. Reviews must include, but not be limited to, the reviews of updated information on construction methods and operations of the Development and updated working practices.

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

Reason: *To ensure that all construction and operation activities are carried out in a manner that minimises their impact on the environment, and that mitigation measures contained in the Application, or as otherwise agreed are fully implemented.*

15. Vessel Management Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Vessel Management Plan (“VMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, WDC, FP, MCA, NLB, SFF and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. The number, types and specification of vessels required;
- b. How vessel management will be coordinated, particularly during construction but also during operation;
- c. Location of working port(s), the routes of passage, how often vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of the Development; and

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

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

Reason: *To mitigate the impact of vessels.*

16. Operation and Maintenance Programme

The Company must, no later than three months prior to the Commissioning of the first WTG, submit an Operation and Maintenance Programme (“OMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the SNH, MCA, NLB, SFF, WDC, East Lothian Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The OMP must set out the procedures and good working practices for operations and the maintenance of the WTG’s, substructures, and inter-array cable network of the Development. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

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.

The final OMP must be sent to Aberdeenshire Council, Angus Council, Dundee City Council and Fife Council for information only.

Reason: *To safeguard environmental interests during operation and maintenance of the Development.*

17. Navigational Safety Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Navigational Safety Plan (“NSP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers.

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

- a. Navigational safety measures;
- b. Construction exclusion zones;
- c. Notice(s) to mariners and radio navigation warnings;
- d. Anchoring areas;
- e. Temporary construction lighting and marking;
- f. Buoyage.

The Company must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note (“MGN”) 543, and its annexes that may be appropriate to the Development, or any other relevant document which may supersede this guidance prior to approval of the NSP.

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

18. **Emergency Response Co-operation Plan**

The Company must, no later than six months prior to the Commencement of the Development, submit an Emergency Response Co-operation Plan (“ERCoP”) for the construction, operation, maintenance and decommissioning phases of the Development, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the MCA and NLB and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers. The ERCoP should follow the MCA template and guidance. The ERCoP must be developed in discussion with the MCA and be in accordance with condition 3.2.2.9 of the marine licence.

Reason: *For emergency response planning relating to the Development and requirements for Search And Rescue (“SAR”) helicopter operations.*

19. **Cable Plan**

The Company must, no later than six months prior to the Commencement of the Development, submit a Cable Plan (“CaP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, MCA, SFF, East Lothian Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CaP must be in accordance with the Application.

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

- a. The vessel types, location, duration and cable laying techniques for the inter array cables;
- b. The results of monitoring or data collection work (including geophysical, geotechnical and benthic surveys) which will help inform cable routing;
- c. Technical specification of inter array cables, including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- d. A burial risk assessment to ascertain burial depths and where necessary alternative protection measures;
- e. Methodologies for surveys (e.g. over trawl) of the inter array cables through the operational life of the wind farm where mechanical protection of cables laid on the sea bed is deployed; and
- f. Methodologies for inter array cable inspection with measures to address and report to the Scottish Ministers any exposure of inter array cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Scottish Ministers will accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum. Any greater reduction in depth must be agreed in writing by the Scottish Ministers.

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

20. Lighting and Marking Plan

The Company must, no later than six months prior to the Commencement of the Development, submit a Lighting and Marking Plan (“LMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, MCA, NLB, CAA, MOD, East Lothian Council and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The LMP must provide that the Development be lit and marked in accordance with the current CAA and MOD aviation lighting policy and guidance that is in place as at the date of the Scottish Ministers approval of the LMP, or any such other documents that may supersede this guidance prior to the approval of the LMP. The LMP must also detail the navigational lighting requirements detailed in the International Association of Marine Aids to Navigation and Lighthouse Authorities (“IALA”) Recommendation O-139 or any other documents that may supersede this guidance prior to approval of the LMP.

The final LMP must be sent to Aberdeenshire Council, Angus Council, Dundee City Council and Fife Council for information only.

Reason: *To ensure navigational safety and the safe marking and lighting of the Development.*

21. Aviation Radar

The Company must, prior to the Commencement of the Development, submit an Air Traffic Control Radar Mitigation Scheme (“ATC Scheme”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation of the ATC Scheme with the MOD.

The ATC Scheme is a scheme designed to mitigate the impact of the Development upon the operation of the Primary Surveillance ATC Radar at Leuchars Station (“the Radar”) and the air traffic control operations of the MOD which is reliant upon the Radar.

The ATC Scheme must set out the appropriate measures to be implemented to mitigate the impact of the Development on the Radar and must be in place for the operational life of the Development provided the Radar remains in operation.

No WTGs forming part of the Development may become operational, unless and until all those measures required by the approved ATC Scheme to be implemented prior to the operation of the turbines, have been implemented, and the Scottish Ministers have confirmed this in writing. The Development must thereafter be operated fully in accordance with the approved ATC Scheme.

Reason: *To mitigate the adverse impacts of the Development on the Air Traffic Control Radar.*

22. Air Defence Radar

The Company must, prior to the Commencement of the Development, submit an Air Defence Radar Mitigation Scheme (“ADR Scheme”), in writing, to the Scottish

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Ministers for their written approval. Such approval may only be granted following consultation of the ADR Scheme with the MOD.

This proposal must address the impacts on the Air Defence Radar at Remote Radar Head (“RRH”) Buchan and RRH Brizlee Wood.

Reason: *To mitigate the adverse impacts of the Development on the Air Defence Radar.*

23. Charting requirements

The Company must, prior to the Commencement of the Development, and following confirmation of the approved DSLP by the Scottish Ministers (refer to condition 12), provide the positions and maximum heights of the WTGs and construction equipment to the United Kingdom Hydrographic Office (“UKHO”) for aviation and nautical charting purposes. The Company must, within one month of the Final Commissioning of the Development, provide the coordinates accurate to three decimal places of minutes of arc for each WTG and the position and maximum heights of the WTGs to the UKHO for aviation and nautical charting purposes.

Reason: *For aviation and navigational safety.*

24. Project Environmental Monitoring Programme

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

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

The Scottish Ministers must approve all initial methodologies for the above monitoring, in writing and, where appropriate, in consultation with the FTRAG referred to in condition 25 of this consent.

Monitoring must be done in such a way so as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Development. Monitoring may also serve the purpose of verifying key predictions in the Application. In the event that further potential adverse environmental effects are identified, for which no predictions were made in the Application, the Scottish Ministers may require the Company to undertake additional monitoring.

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

- a. Pre-construction, construction (if considered appropriate by the Scottish Ministers) and post-construction monitoring or data collection as relevant in terms of the Application, and any subsequent monitoring or data collection for:
 1. Birds;
 2. Marine Mammals;
 3. Commercial Fisheries;
 4. Marine fish;
 5. Diadromous fish;
 6. Benthic communities; and
 7. Seabed scour and local sediment deposition.
- b. The participation by the Company to contribute to data collection or monitoring of wider strategic relevance, identified and agreed by the Scottish Ministers.

Due consideration must be given to the Scottish Marine Energy Research (“ScotMER”) programme, or any successor programme formed to facilitate these research interests.

Any pre-consent monitoring or data collection carried out by the Company to address any of the above issues may be used in part to discharge this condition subject to the written approval of the Scottish Ministers.

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

The Company must submit written reports and associated raw and processed data of such monitoring or data collection to the Scottish Ministers at timescales to be determined by them. Consideration should be given to data storage, analysis and reporting and be to Marine Environmental Data and Information Network standards.

Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Scottish Ministers, or by such other party appointed at their discretion.

The Scottish Ministers may agree, in writing, that monitoring may be reduced or ceased before the end of the lifespan of the Development.

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

25. Regional Advisory Group

The Company must participate in the Forth and Tay Regional Advisory Group (“FTRAG”) or any successor group, established by the Scottish Ministers for the purpose of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, marine mammals, diadromous and commercial fish. The extent and nature of the Company’s participation in the Regional Advisory Group is to be agreed by the Scottish Ministers.

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

26. Fisheries Management and Mitigation Strategy

The Company must no later than six months prior to the Commencement of the Development, submit a Fisheries Management and Mitigation Strategy (“FMMS”), in writing, to the Scottish Ministers for their written approval in consultation with SFF and other fisheries representatives. Commencement of the Development cannot take place until such approval is granted. The FMMS must be defined and finalised in consultation with the Forth and Tay Commercial Fisheries Working Group (“FTCFWG”).

In order to inform the production of the FMMS, the Company must monitor or collect data as relevant and agreed with Scottish Ministers.

The FMMS must include a transit plan, which must lay out guidelines to address potential interactions with fishing activity, for vessels operating in and around the Development and transiting to the Development.

As part of any finalised FMMS, the Company must produce and implement a mitigation strategy for each commercial fishery that can prove to the Scottish Ministers that they would be adversely affected by the Development. The Company must implement all mitigation measures committed to be carried out by the Company within the FMMS. Any contractors, or sub-contractors working for the Company, must co-operate with the fishing industry to ensure the effective implementation of the FMMS. The Company must remain a member of the FTCFWG or any successor group formed to facilitate commercial fisheries dialogue.

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

27. Environmental Clerk of Works

Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with SNH, appoint an independent Environmental Clerk of Works (“ECoW”). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to Scottish Ministers, in sufficient time for any pre-construction monitoring requirements, and remain in post until agreed by the Scottish Ministers. The terms of appointment must also be approved by the Scottish Ministers in consultation with SNH.

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The terms of the appointment must include, but not be limited to:

- a. Quality assurance of final draft versions of all plans and programmes required under this consent;
- b. Responsible for the monitoring and reporting of compliance with the consent conditions and the environmental mitigation measures for all wind farm infrastructure;
- c. Provision of on-going advice and guidance to the Company in relation to achieving compliance with consent conditions, including but not limited to the conditions relating to and the implementation of the CMS, the EMP, the PEMP, the PS, the CaP and the VMP;
- d. Provision of reports on point b & c above to the Scottish Ministers at timescales to be determined by the Scottish Ministers;
- e. Induction and toolbox talks to onsite construction teams on environmental policy and procedures, including temporary stops and keeping a record of these;
- f. Monitoring that the Development is being constructed in accordance with the plans and this consent, the Application and in compliance with all relevant regulations and legislation;
- g. Reviewing and reporting incidents/near misses and reporting any changes in procedures as a result to the Scottish Ministers; and
- h. Agreement of a communication strategy with the Scottish Ministers.

Reason: *To ensure effective monitoring of and compliance with the environmental mitigation and management measures associated with the Development.*

28. Fisheries Liaison Officer

Prior to the Commencement of the Development, a Fisheries Liaison Officer (“FLO”), must be appointed by the Company and approved, in writing, by the Scottish Ministers following consultation with SFF and the FTCFWG. The FLO must be appointed by the Company for the period from Commencement of the Development until the Final Commissioning of the Development. The identity and credentials of the FLO must be included in the EMP (referred to in condition 14). The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development, and ensure compliance with best practice guidelines whilst doing so.

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

- a. Establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall Development and any amendments to the CMS and site environmental procedures;
- b. The provision of information relating to the safe operation of fishing activity on the site of the Development; and

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

Reason: *To facilitate engagement with the commercial fishing industry.*

29. Protocol for Archaeological Discoveries

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

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

30. Construction Traffic Management Plan

In the event that major offshore components require onshore abnormal load transport, the Company must, no later than six months prior to the Commencement of the Development, submit a Construction Traffic Management Plan (“CTMP”) in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with Transport Scotland and any such other advisors as may be required at the discretion of the Scottish Ministers.

The CTMP must include but not be limited to:

- a. A mitigation strategy for the abnormal loads on the trunk road network including any accommodation measures required, incorporating the removal of street furniture, junction widening, or traffic management of road based traffic and transportation associated with the construction of the Development. All construction traffic associated with the Development must conform to the approved CTMP; and
- b. Any additional signing or temporary traffic control measures deemed necessary due to the size or length of loads being delivered as a result of the Development.

Reason: *To maintain the free flow and safety of the trunk road network.*

DEFINITIONS AND GLOSSARY OF TERMS

- “2014 Application” means the Application letter and Environmental statement and marine licence applications submitted to the Scottish Ministers by Inch Cape Offshore Limited on 1 July 2013
- “AA” means the Appropriate Assessment;
- “ADD” means Acoustic Deterrent Devices;
- “ADR” means Air Defence Radar;
- “AGLV” means Areas of Great Landscape Value;
- “Application” means the EIA Report, HRA Report and supporting documents submitted by the Company on 15 August 2018 to construct and operate an offshore generating station and transmission works;
- “ATC” means Air Traffic Control;
- “Commencement of the Development” means the date on which the first construction activity occurs in accordance with the EIA Report submitted by the Company on 15 August 2018;
- “the Company” means Inch Cape Offshore Limited (SC373173, 5th Floor, 40 Princes Street, Edinburgh EH2 2BY)
- “CRM” means collision risk modelling;
- “dSPA” means draft Special Protection Area;
- “Development” means the Inch Cape Offshore Wind Farm, approximately 15-22km east of the Angus coastline, at Arbroath;
- “ECoW” means Environmental Clerk of Works;
- “EIA” means Environmental Impact Assessment;
- “EIA Report” means Environmental Impact Assessment Report;
- “EOWDC” means European Offshore Wind Deployment Centre;
- “EPS” means European Protected Species;
- “Final Commissioning of the Development” means the date on which the last wind turbine generator constructed forming the Development has supplied electricity on a commercial basis to the National Grid, or such earlier date as the Scottish Ministers deem the Development to be complete;
- “FIR” means Fishing Industry Representatives;
- “First Commissioning of the Development” means the date on which the first wind turbine generator constructed forming the Development has supplied electricity on a commercial basis to the National Grid;
- “FLO” means Fisheries Liaison Officer;
- “Forth and Tay Developments” means combinations of the previous and existing consents for Neart na Gaoithe Offshore Wind Farm (granted October 2014 and December 2018), the existing consent for Inch Cape offshore wind farm (granted October 2014) and the application for new consent (submitted August 2018), the existing consents for the Seagreen Alpha and Seagreen Bravo offshore wind farms (granted October 2014) and the applications for new consents (submitted September 2018);
- “FTE” means full-time equivalent;
- “GHG” means greenhouse gas;
- “GIS” means Geographic Information System;
- “GVA” means Gross Value Added;
- “HDD” means Horizontal Direct Drilling;

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- “HRA Report” means Habitat Regulations Appraisal;
- “IALA” means International Association of Marine Aids to Navigation and Lighthouse Authorities;
- “iPCoD” means interim Population Consequences of Disturbance;
- “LAT” means Lowest Astronomical Tide;
- “LSE” means Likely Significant Effect;
- “MMO” means marine mammal observer;
- “MW” means megawatt;
- “OEC” means Offshore Export Cable;
- “OFLO” means Offshore Fisheries Liaison Officers;
- “OfTI” means Offshore Transmission Infrastructure;
- “PAM” means passive acoustic monitoring;
- “PAR” means Precision Approach Radar;
- “PEXA” means military Practice and Exercise Areas;
- “PLI” means Public Local Inquiry;
- “PAR” means Precision Approach Radar;
- “pSPA” means Proposed Special Protection Areas;
- “PSR” means Primary Surveillance Radar;
- “PTS” means Permanent Threshold Shift;
- “PVA” means population viability analysis;
- “the Radar” means the Primary Surveillance Radar at Leuchars Airfield;
- “RRH” means Remote Radar Head;
- “SAC” means Special Area of Conservation;
- “SAR” means Search and Rescue;
- “ScotMER” means Scottish Marine Energy Research Programme;
- “SeabORD” means Seabird Offshore Renewable Development tool;
- “SLVIA” means Seascape, Landscape and Visual Impact Assessment;
- “SLA” means Special Landscape Area;
- “SNCBs” means statutory nature conservation bodies;
- “SPA” means Special Protection Area;
- “s.36” means section 36 of the Electricity Act 1989 (as amended);
- “s.36A” means section 36A of the Electricity Act 1989 (as amended);
- “the Original Consent” means the s.36 consent and marine licences (which the Scottish Ministers granted in October 2014) for an offshore wind farm development within the same boundary as the current Application that the Company currently holds.
- “TMZ” means Transponder Mandatory Zone;
- “the 2013 ES” means [Environmental Statement](#) submitted by the Company on 1 July 2013 for the application made for the Original Consent;
- “the 2014 Application” means the application submitted by the Company on 1 July 2013;
- “WTG” means wind turbine generators; and
- “ZTV” means Zone of Theoretical Visibility.

Organisations and Companies

- “AIA” means Aberdeen International Airport;

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- “BT” means BT Radio Network Protection;
- “CAA” means the Civil Aviation Authority
- “CFWG” means Commercial Fisheries Working Group;
- “DFA” means Dunbar Fishermen’s Association;
- “EU” means European Union;
- “FMS” means Fisheries Management Scotland;
- “FTCFWG” means the Forth and Tay Commercial Fisheries Working Group;
- “FTRAG” means Forth and Tay Regional Advisory Group;
- “HES” means Historic Environment Scotland;
- “ICOL” means Inch Cape Offshore Limited;
- “MAU” means Marine Scotland Marine Analytical Unit;
- “MS-LOT” means Marine Scotland Licensing Operations Team;
- “MSS” means Marine Scotland Science;
- “MCA” means the Maritime and Coastguard Agency;
- “MOD” means the Ministry of Defence;
- “NATS” means National Air Traffic Service Safeguarding;
- “NERL” means NATS (En Route) Public Limited Company;
- “NLB” means the Northern Lighthouse Board;
- “PSF” means Port Seton Fishermen;
- “RAF” means the Royal Air Force;
- “RAG” means Regional Advisory Group;
- “RTC” means River Tweed Commission;
- “RSPB Scotland” means The Royal Society for the Protection of Birds Scotland;
- “SEPA” means The Scottish Environment Protection Agency;
- “Seagreen” means Seagreen Wind Energy Limited;
- “SFF” means The Scottish Fishermen’s Federation;
- “SNH” means Scottish Natural Heritage;
- “Tay DSFB” means Tay District Salmon Fishery Board;
- “TS” means Transport Scotland;
- “UKHO” means United Kingdom Hydrographic Office; and
- “WDC” means Whale and Dolphin Conservation.

Plans and Programmes

- “the 2017 Aberdeenshire LDP” means the Aberdeenshire Local Development Plan 2017
- “ATC Scheme” means Air Traffic Control Radar Mitigation Scheme;
- “CaP” means Cable Plan;
- “CMS” means Construction Method Statement;
- “CoP” means Construction Programme;
- “CTMP” means Construction Traffic Management Plan;
- “DP” means Decommissioning Programme;
- “DS” means the Design Statement;

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- “DSLP” means Development Specification and Layout Plan;
- “ELLDP” means East Lothian Local Development Plan;
- “EMP” means Environmental Management Plan;
- “ERCoP” means Emergency Response Co-operation Plan;
- “FMMS” means Fisheries Management and Mitigation Strategy;
- “LMP” means Lighting and Marking Plan;
- “MGN” means Marine Guidance Note;
- “NMP” means the National Marine Plan;
- “NPF3” means Scotland’s National Planning Framework 3;
- “NRA” means Navigation Risk Assessment;
- “NRIP” means National Renewables Infrastructure Plan
- “NSP” means Navigational Safety Plan;
- “OMP” means Operation and Maintenance Programme;
- “PAD” means Protocol for Archaeological Discoveries;
- “PEMP” means Project Environmental Monitoring Programme;
- “Policy E1” means Aberdeenshire Policy E1 Natural Heritage
- “PS” means Piling Strategy;
- “SPP” means Scottish Planning Policy 2014;
- “Transit Plan” means a plan which sets out measures to be taken to avoid or reduce the impact of vessel movement on the local fishing industry and to promote a sustainable coexistence. It will include indicative transit routes for vessels operating in and around the development and transiting to the site from relevant ports;
- “VMP” means Vessel Management Plan; and
- “WSI” means Written Scheme of Investigation.

Legislation

- “the Birds Directive” means Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, as amended and as codified by Directive 2009/147/EC of the European Parliament and of the Council of 30th November 2009;
- “the Electricity Act” means the Electricity Act 1989 (as amended);
- “the Habitats Regulations” means the Conservation of Habitats and Species Regulations 2017 and the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- “the Habitats Directive” means Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora (as amended);
- “the 1994 Habitats Regulations” means the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended);
- “the 2017 EW Regulations” means The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended); and
- “the 2010 Act” means the Marine (Scotland) Act 2010.

ANNEX D - DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 (AS AMENDED)

DECLARATION UNDER SECTION 36A OF THE ELECTRICITY ACT 1989 RELATING TO PUBLIC RIGHTS OF NAVIGATION SO FAR AS THEY PASS THROUGH THE LOCATIONS IN THE SEA WHERE THOSE STRUCTURES FORMING PART OF THE INCH CAPE OFFSHORE WIND FARM GENERATING STATION ARE TO BE PLACED

The Scottish Ministers, in exercise of the powers conferred on them by section 36A of the Electricity Act 1989 (as amended) (“the Electricity Act 1989”) and all other powers enabling them to do so, make the following declaration.

In accordance with section 36A(1) and 36A(2) of the Electricity Act 1989, the application for this declaration was made to the Scottish Ministers at the same time as an application was made to them by Inch Cape Offshore Limited (“the Company”) under section 36 of the Electricity Act 1989 for the construction and operation of the Inch Cape Offshore Wind Farm generating station (“the Development”), which is to comprise renewable energy installations. This declaration is made at the same time as consent is granted under section 36 of the Electricity Act 1989 for the construction and operation of the Development.

In this declaration the “plan folio” means the plan folio number 1, entitled “ICOL Site Coordinates”, and signed with reference to this declaration and attached hereto. The Development is to be constructed within the area delineated on the plan folio by a solid red line, as more specifically described by a line joining the co-ordinates listed at lines A – J in the table attached to this declaration (the “Area”).

Consent under section 36 of the Electricity Act 1989 is granted by the Scottish Ministers for the construction and operation of the Development in the Area, subject to the following parameters:

- a) The total number of turbines shall be up to 72; and
- b) A nominal turbine spacing of 1,278 metres.

The wind turbines to be constructed in accordance with the consent are identified, for the purposes of section 36A(5)(a) of the Electricity Act 1989, as the proposed renewable energy installations by reference to which this declaration is made (the “Renewable Energy Installations”).

The Scottish Ministers declare that, in accordance with section 36A(3) of the Electricity Act 1989, the public rights of navigation in the Area in so far as they pass through the locations where the Renewable Energy Installations are to be situated, are extinguished.

It is a requirement of the consent (conditions 9 and 12) that the Company must submit to the Scottish Ministers, for their approval, a Construction Programme (“CoP”) which must set out, amongst other matters, the proposed date for the commencement of the construction of the Development and a Development Specification and Layout Plan (“DSLPP”) for the Renewable Energy Installations.

Annex D – Section 36A Declaration

The CoP and DSLP must be submitted to the Scottish Ministers no later than six months prior to the commencement of the construction of the Development.

In accordance with section 36A(5)(b) of the Electricity Act 1989 this declaration shall come into force on a date to be publicised by the Company, the publication of which must be as soon as reasonably practicable following the approval by the Scottish Ministers of the CoP and the DSLP.

Subscribed by

NAME

being an officer of the Scottish Ministers at Aberdeen on the **XX day of XXXX 2019**

before this witness

NAME in Aberdeen

TABLE: COORDINATES OF THE AREA OF THE INCH CAPE OFFSHORE WIND FARM GENERATING STATION

Coordinates supplied in World Geodetic System 1984, latest revision.

Point	WGS84		WGS84	
	Long	Lat	Long	Lat
A	-2.168960	56.594632	02° 10.138' W	56° 35.678' N
B	-2.158372	56.583977	02° 09.502' W	56° 35.039' N
C	-2.166704	56.477201	02° 10.002' W	56° 28.632' N
D	-2.047320	56.463267	02° 02.839' W	56° 27.796' N
E	-2.046898	56.448196	02° 02.814' W	56° 26.892' N
F	-2.125965	56.422319	02° 07.558' W	56° 25.339' N
G	-2.230138	56.423009	02° 13.808' W	56° 25.381' N
H	-2.287140	56.478254	02° 17.228' W	56° 28.695' N
I	-2.286299	56.523044	02° 17.178' W	56° 31.383' N
J	-2.248812	56.577667	02° 14.929' W	56° 34.660' N