



Department
of Energy &
Climate Change

ENVIRONMENTAL ASSESSMENT REPORT COMPRISING:

- **HABITATS REGULATIONS ASSESSMENT**
- **TRANSBOUNDARY CONSIDERATIONS**
- **CONSIDERATION OF GREATER BACK-BLACKED GULLS**

***Project Title:* RAMPION OFFSHORE WIND FARM**

Date: 09 June 2014

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1. Habitats Regulation Assessment

Introduction

- 1.1 This is a record of the Habitats Regulation Assessment (HRA) that the Secretary of State (SoS) for Energy and Climate Change has undertaken under the Conservation of Habitats and Species Regulations 2010 (as amended) (the Habitats Regulations) and the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 (as amended) (the Offshore Habitats Regulations) in respect of the Development Consent Order (DCO) and Deemed Marine Licence (DML) for the proposed Rampion Offshore Wind Farm and its associated infrastructure (the Development). For the purposes of these Regulations the SoS is the competent authority. This HRA also considers possible effects on transboundary sites.
- 1.2 On 01 March 2013, E.ON Climate and Renewables UK Rampion Offshore Wind Limited (hereafter the Applicant) submitted an application to the Planning Inspectorate (PINS), for consent under Section 37 of the Planning Act 2008 (as amended) for the construction and operation of a 700 MW offshore wind farm, and its associated offshore and onshore infrastructure. The 139 km² offshore array is predominantly inside the 12 nautical mile (nm) limit of territorial waters and the whole project is within the UK renewable energy zone. The Development's application is described in more detail in Section 2.
- 1.3 In England and Wales, offshore energy generating stations greater than 100 MW constitute nationally significant infrastructure projects (NSIPs) and applications for consent are subject to the requirements of the Planning Act 2008 (as amended). This Development constitutes an NSIP as it has a generation capacity of 700 MW.
- 1.4 The Development was accepted by on 25 March 2013 and a three-member Panel of Inspectors (the Panel) was appointed as the Examining Authority (ExA) for the application. The examination of the Development application began on 18 July 2013 and was completed on 18 January 2014. The ExA submitted its report of the examination, including its recommendation (the ExA's Report), to the SoS on 17 April 2014.
- 1.5 The SoS conclusions on habitats and wild birds issues contained in this HRA report have been informed by the ExA's Report, and further information and analysis, including a Report on the Implications for European Sites (RIES) and written responses to it.
- 1.6 Natural England (NE) is the Statutory Nature Conservation Body (SNCB) for England and for English waters within the 12 nm limit. The Joint Nature Conservation Committee (JNCC) is a UK-wide SNCB, responsible for, amongst other matters, UK waters beyond the 12nm limit. NE led on providing advice for both the offshore and onshore aspects of the Development given that the majority of the project lies within territorial waters, JNCC provided advice to NE on offshore aspects of the development where required, although they did not participate in the examination (JNCC written representation, submitted for 15 August 2013 deadline).

Legislation

- 1.7 Council Directive 92/43/EC 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) aim to ensure the long-term survival of certain species and habitats by protecting them from adverse effects of plans and projects.
- 1.8 The Habitats Directive provides for the designation of sites for the protection of habitats and species of European importance. These sites are called Special Areas of Conservation (SACs). The Birds Directive provides for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species. These sites are called Special Protection Areas (SPAs). SACs and SPAs are collectively termed European sites and form part of a network of protected sites across Europe. This network is called Natura 2000.
- 1.9 In the UK, the Habitats Regulations transpose the Habitats and Birds Directives into national law as far as the 12 nm limit of territorial waters. Beyond territorial waters, the Offshore Habitats Regulations serves the same function for the UK's offshore marine area. The Convention on Wetlands of International Importance 1972 (the Ramsar Convention) provides for the listing of wetlands of international importance. These sites are called Ramsar sites. UK Government policy is to afford Ramsar sites in the United Kingdom the same protection as European sites.
- 1.10 Regulation 25 of the Offshore Habitats Regulations provides that:
".....before deciding to give consent, permission or other authorisation for, a plan or project which is to be carried out on any part of the waters or on or in any part of the seabed or subsoil comprising an offshore marine area or on or in relation to an offshore marine installation and which is likely to have a significant effect on a European marine site (either alone or in combination) and which is not directly connected with or necessary to the management of the site, the competent authority must make an appropriate assessment of the implications for the site in view of the site's conservation objectives."
- 1.11 Regulation 61 of the Habitats Regulations provides that:
".....before deciding to give consent, permission or other authorisation for, a plan or project which is likely to have a significant effect on a European site (either alone or in combination) and which is not directly connected with or necessary to the management of the site, the competent authority must make an appropriate assessment of the implications for the site in view of the site's conservation objectives."
- 1.12 This Development is not directly connected with, or necessary to, the management of a European site or a European marine site. The Habitats and Offshore Habitats Regulations require that, where the project is likely to have a significant effect (LSE) on any such site, an appropriate assessment (AA) is carried out to determine whether or not the project will adversely affect the integrity of the site in view of its Conservation Objectives. In this document, the assessments as to whether there are LSEs, and, where required, the AAs, are collectively referred to as the HRA.

- 1.13 The HRA takes account of mitigation measures being secured, by requirements and conditions, within the DCO and DML.

The RIES and Statutory Consultation

- 1.14 Under the Habitats Regulations the competent authority must, for the purposes of an AA, consult the appropriate nature conservation body and have regard to any representation made by that body within such reasonable time as the authority specify.
- 1.15 The ExA, with support from PINS, prepared a RIES, based on working matrices prepared by the Applicant. The RIES documented the information received during the examination and presented the ExA's understanding of the main facts regarding the HRA to be carried out by the SoS.
- 1.16 The RIES was published on PINS planning portal website and circulated to interested parties on 13 December 2013 for a period of 21 days for the purposes of statutory consultation. The RIES, and the written responses to it, have been taken into account in this assessment. Formal responses raising specific issues on the RIES were received from the Applicant and NE. There was disagreement between the parties on a number of topics within the RIES and as such the ExA issued a Rule 17 request for further information. The responses to this request were incorporated into the ExA's recommendation report. The SoS is content to accept the ExA's recommendation that the RIES and written responses to it, can be relied upon as robust source of information on the impact of the Development on European sites and species.

Information Sources

- 1.17 This HRA report should be read in conjunction with the following documents that provide extensive background information:
- Planning Act 2008. Rampion Offshore Wind Farm. ExA's Report to the Secretary of State, 17 April 2014 (the ExA's Report);
 - Report on the Implications for European Sites (RIES). Rampion Offshore Wind Farm. An Examining Authority report prepared with the support of the Environmental Services Team. 13 December 2013 (the RIES);
 - Environmental Statement (the ES);
 - REP 297: Natural England written representations;
 - REP 575: E-On – Appendix 15 – Additional clarification on ornithology in relation to the Rampion Project;
 - REP 582: Natural England - Annex 1 – In combination assessment tables;
 - REP 594: Natural England – Comments on marine ornithology and RIES reports/matrices;
 - The Planning Act 2008 East Anglia One Wind Farm – Examining Authority's report of findings and conclusions and recommendation to the SoS, 18 April 2014.

1.18 The key information in these documents and written representations is summarised and referenced in this report.

2. Development description

Development Components

2.1 The offshore array is proposed to be approximately 139 km², with a maximum installed capacity of 700 MW and comprising up to 175 three-bladed, horizontal axis wind turbines. The offshore components of the Development include:

- Up to 175 three-bladed, horizontal axis wind turbines
- Up to two offshore substations
- Inter-array cables between the turbines and the substations
- Export cables linking the substations to the shore

2.2 The onshore cable route is approximately 26.4 km long and the Applicant proposes that the cables will be installed underground for the entire route. The onshore components of the Development include:

- Onshore cables
- Onshore substation

2.3 Full details of the infrastructure to be used in the Development are detailed in the DCO.

Rochdale Envelope

2.4 The Rochdale Envelope is a term used in planning to reflect that often a developer will not know the all of the details associated with the proposal at the time of application. The Rochdale Envelope allows a developer to set out the broad range of options under consideration and then carry out an EIA on the worst case scenario for each of those options.

2.5 In this case, the precise siting of turbines within the application boundary as well as the foundation type, turbine model and certain elements of the export cable route will be determined post-consent, once detailed geotechnical seabed investigations, foundation and engineering design, economic assessments and the selection and appointment of equipment and contractors have taken place (ES, 6.1.2a: Para 2a.2.7-8). The Applicant therefore seeks to retain flexibility in the final project design and the DCO has been framed to allow for multiple design options in accordance with the Rochdale Envelope concept. The ES sets out these multiple options for a number of project components including indicative turbine layout (ES, 6.1.2a: Table 2a.3), turbine specification (ES, 6.1.2a: Table 2a.4), foundation types (ES, 6.1.2a: Para 2a.6.3), offshore substations (ES, 6.1.2a: Para 2a.7.1-3), and cable types, routes and installation methods (ES, 6.1.2a: Para 2a.8.1-40).

2.6 The ES is therefore based on the assessment of a maximum adverse scenario (the realistic worst case) in environmental terms (ES, 6.1.2a: Para 2a.2.11). The Development is however,

bound by the DCO application boundary, which sets out areas within which the infrastructure can be located, together with various technical restrictions.

Development stages

Construction

- 2.7 The Applicant states in the ES that the overall construction period for the Development from the commencement of onshore works to completion of commissioning of the wind farm will be approximately 4 years (ES, 6.1.2a: Para 2a.11.1). The Applicant estimates that the offshore components of the Development, are likely to be constructed over a 2.5 to 3 year period and that construction of the onshore components of the Development will take place over 2 years, followed by commissioning (ES, 6.1.2a: Para 2a.11.2 and ES, 6.1.2b: Para 2b.6.2). However, this is an indicative programme that could be affected by many factors such as weather windows, vessel availability, materials and equipment lead times and the choice of contractors (ES, 6.1.2a: Para 2a.11.4). The DCO contains a requirement for construction to commence within 5 years of issue.
- 2.8 The proposed onshore cabling methodology is outlined in the ES (ES, 6.1.2b: Para 2b.4) along with proposed installation approaches (ES, 6.1.2b: Para 2b.5) in particular for crossing sensitive locations such as chalk grassland. The proposed onshore substation construction methodology is outlined in the ES (ES, 6.1.2b: Para 2b.8).

Operation and Maintenance

- 2.9 The Applicant states in its ES that a key principle is that the Development will be designed to operate under minimum supervisory input. The chosen offshore operation and maintenance options will depend upon a number of factors including health, safety, security and environmental legislation and best practice, and although scheduled maintenance will generally take place April – September, year round access will be required (ES 6.1.2a: Para 2a.12.2-6).
- 2.10 Onshore cabling will predominantly be maintenance free and the substation will be designed to be unmanned during normal operation, with occasional staff access required for landscaping (ES 6.1.2b: Para 2b.10.1-7).

Decommissioning and Repowering

- 2.11 At the end the Development's design life, a decision will be made to either refurbish the Development by allowing it to extend its life by repowering it with the latest turbine technology, or to decommission it. The decision on repowering would be taken on commercial grounds, based on the performance of the wind farm and would be subject to a future consents application and a fresh assessment under the Habitats Regulations by the relevant authorities at that time. Decommissioning will take place at the end of the Development lifetime and will involve the removal of all accessible offshore installed components. It is however anticipated that the onshore cables will be left buried *in situ*, unless lifted to be replaced by new cables to be run along the same route as part of future developments or wind farm repowering. The

onshore substation may continue to be used as a substation site after the Development has been decommissioned (ES 6.1.2b: Para 2b.10.4-8).

- 2.12 The Development falls within the scope of the Energy Act 2004 which includes decommissioning provisions. Broadly speaking, the SoS shall require a person who is responsible for an offshore renewable energy installation to prepare a costed decommissioning programme and ensure that it is carried out. The SoS can approve, modify or reject a decommissioning programme at any point.
- 2.13 Decommissioning activities will need to comply with all relevant UK legislation at the time. The person(s) responsible for the wind farm will produce and agree a decommissioning programme with the Department of Energy and Climate Change (DECC) and in consultation with the Marine Management Organisation (MMO), SNCBs or their respective successors.

3. Development location and designated sites

Location

- 3.1 The offshore elements of the Development are located in the English Channel, off the coast of Sussex and within Zone 6 of the Crown Estate's Round 3 offshore wind farm leasing areas. It is approximately 13 km from the English shoreline at its closest point and 24 km at its furthest point, and 13 km from the nearest coastal town (Brighton and Hove). The offshore development will comprise up to 175 three-blade, horizontal axis wind turbines within an irregular shaped site that is approximately 28 km from east to west. A map of the offshore infrastructure is given at Figure 1.
- 3.2 The proposed onshore cable route is approximately 26.4 km long and is located between East Worthing, where the offshore export cables would make landfall, and a new substation to be located close to the existing National Grid Bolney substation and covers an area of approximately 23.3 ha. A map of the onshore infrastructure is shown in Figure 1, and it is this route that has been assessed in the Applicant's ES.

European and International Sites

- 3.3 The following sites were included in the RIES LSE screening matrices. UK Government policy is to afford Ramsar sites the same protection as European sites. There is significant overlap between SPA and Ramsar designations so for the purposes of this assessment; consideration of the Ramsar designations has been undertaken in parallel with the SPA designation.
- Chichester and Langstone Harbours SPA and Ramsar site
 - Portsmouth Harbour SPA and Ramsar site
 - Solent and Southampton Water SPA and Ramsar site
 - Pagham Harbour SPA
 - Dungeness to Pett Levels SPA
 - Alderney West Coast and the Burhou Islands Ramsar site

- Forth Islands SPA
- Flamborough Head and Bempton Cliffs SPA
- Alde-Ore Estuary SPA and Ramsar site
- Solent Maritime SAC
- South-Wight Maritime SAC
- Solent and Isle Wight Lagoons SAC
- Bassurelle Sandbank SCI
- Wight-Barfleur Reef cSAC
- Dungeness SAC
- Hastings Cliff SAC
- Lyme Bay and Torbay SCI
- Margate and Long Sands SCI

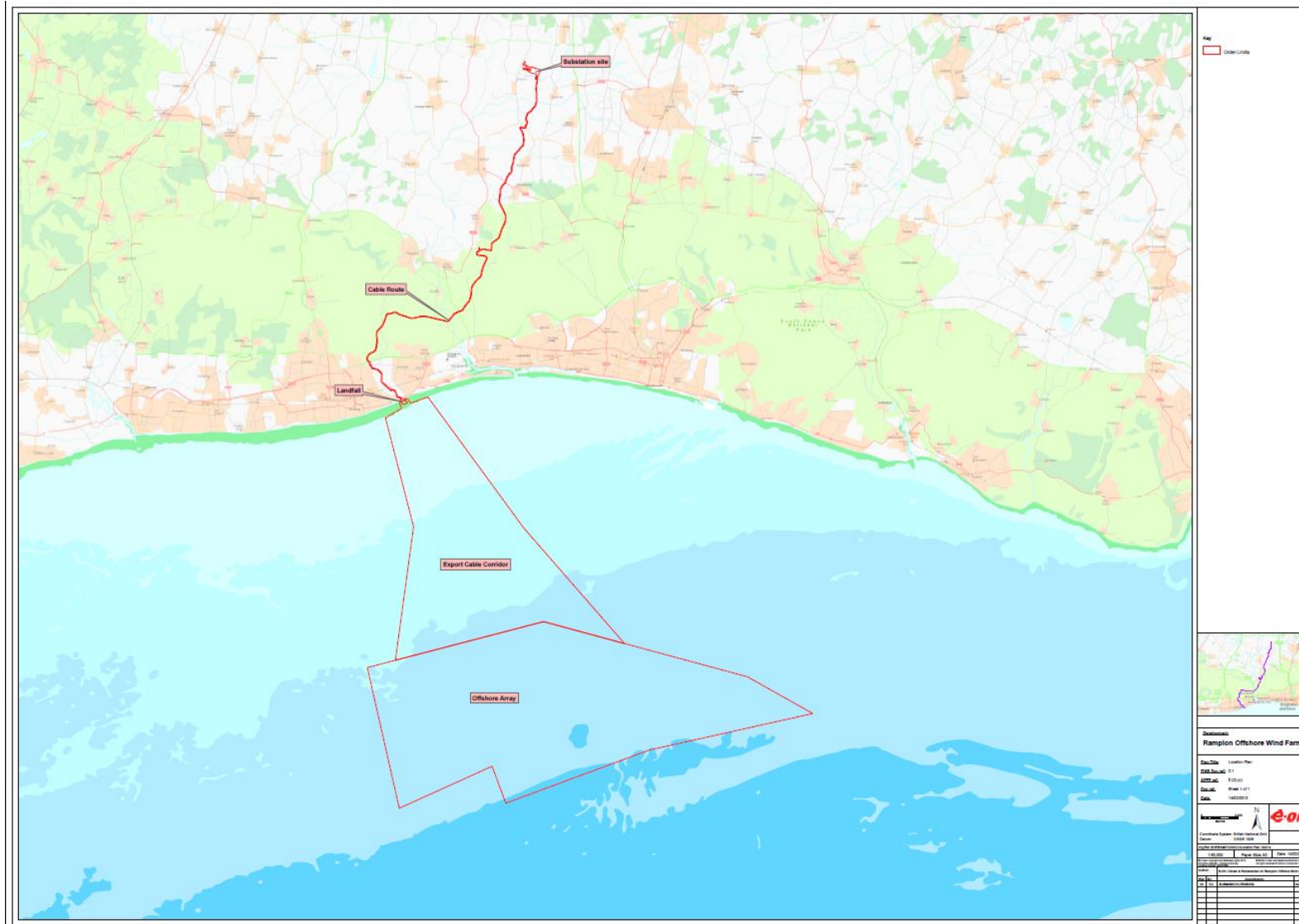
3.4 There was a further site which emerged for consideration after the examination closed but before the ExA report to the SoS was released. This site is also considered within this Habitats Regulations Assessment (section 7).

- Flamborough and Filey Coast potential SPA (pSPA)

3.5 In addition to the sites identified within the RIES, NE also identified potential impacts upon the following transboundary sites. Impacts upon these sites are considered within section 9.

- Baie de Seine Occidentale (Iles des Saint Marcouf) SPA
- Archipel des Sept Iles SPA

Figure 1: Map of Development location: offshore and onshore elements



4 Likely Significant Effects Test

- 4.1 Under Regulation 61 of the Habitats Regulations, the SoS must consider whether a Development is likely to have a significant effect (LSE) on a European site, either alone or in combination with other plans or projects. A LSE is, in this context, any effect that may be reasonably predicted as a consequence of a plan or project that may affect the conservation objectives of the features for which the site was designated, but excluding trivial or inconsequential effects. An AA is required if a plan or project is likely to have a significant effect on a European site, either alone or in combination with other plans or projects.
- 4.2 The purpose of this test is to identify LSEs on European sites that may result from the Development and to record the SoS's conclusions on the need for an AA and his reasons for screening activities, sites or plans and projects in for further consideration in the AA. For those features where an LSE is identified, these must be subject to an AA. This review of potential implications can be described as a 'two-tier process' with the LSE test as the first tier and the review of effects on integrity (AA) as the second tier.
- 4.3 This section addresses this first tier of the HRA, for which the SoS has considered the potential impacts of the Development both alone and in combination with other plans and projects on each of the interest features of the European sites identified in the RIES (and listed in paragraph 3.3) to determine whether or not there will be an LSE. Where there are predicted LSEs, these are described briefly in Table 2. Further detail is set out in the RIES Matrices.

Treatment of decommissioning impacts

- 4.4 At the end of the Development's lifetime, decommissioning must take place and at that point separate authorisation will be required, as a planning matter, after the preparation of an ES and HRA (including appropriate consultation with the relevant SNCBs). It is not possible at this stage to predict with any certainty what the European and Ramsar site context of the Development will be in the future: sites may increase or decrease in importance over that time.
- 4.5 However, if the environmental baseline were to be similar to the current situation, then the impacts of decommissioning of the Development could be expected to be similar to the anticipated impacts of construction, without the impacts of piling. There is no reason to suppose that the impacts of decommissioning would cause an adverse effect on site integrity and on this basis, the SoS considers that it is reasonable not to include a detailed discussion on decommissioning impacts in this report. He is satisfied that decommissioning effects will be addressed fully by the relevant authorities, prior to decommissioning and in light of more detailed information on decommissioning processes and environmental conditions at that time.

Likely Significant Effects: Development Alone

- 4.6 The information within the RIES (SPA and SAC Matrices A to I) present the potential interactions of each stage of the Development (construction, operation, decommissioning) with the qualifying features of those 20 sites listed in Annex A.

- 4.7 All parties were in agreement that LSE could be excluded for all features of all of the designated sites within UK territories. The SoS gives weight to the ExA's recommendation and advice of SNCBs and is in agreement that an appropriate assessment is not required to assess the impacts of the Development alone.

Likely Significant Effects: In Combination

Scope of in combination assessment

- 4.8 Under the Habitats Regulations, the SoS is obliged to consider whether other plans or projects might affect European sites. In this case there are a number of other plans and projects which could potentially affect some of the same European sites as the Development. These include a number of planned and existing offshore wind farms within the vicinity of the Development (see Table 1). The SoS will limit the scope of his in combination assessment solely to the projects identified within table 1.

Table 1: Status of projects with the potential for in combination impacts. (Source: adapted from Applicant's ornithological clarification, REP-576).

Project	Status	Tier
Scroby Sands	Operational	1
Kentish Flats	Operational	1
Lynn and Inner Dowsing	Operational	1
Gunfleet Sands 1 and 2	Operational	1
Beatrice Demonstration	Operational	1
Thanet	Operational	1
London Array	Operational	1
Greater Gabbard	Operational	1
Lincs	Operational	1
Teeside	Operational	1
Sheringham Shoal	Operational	1
Humber Gateway	Under construction	2
Westernmost Rough	Under construction	2
Dudgeon	Consented but not yet under construction	3
Race Bank	Consented but not yet under construction	3
Galloper	Consented but not yet under construction	3
Triton Knoll 1-3	Consented but not yet under construction	3
Blythe (NaREC) Demonstration	Consented but not yet under construction	3
East Anglia One	Application submitted, decision date set	4A
Rampion	Application submitted, decision date set	4A

- 4.9 The ExA's report states that there was disagreement between the parties on the scope of the in combination assessment and the method in which the assessment should be undertaken. This disagreement centres on how to take into account the potential impacts of different offshore

wind farm projects which are at varying stages in the planning system ranging from those which are operational, to those which are still pre-application. As different projects are at different stages, there are variable levels of information available on the predicted environmental impacts and the amount of certainty to base the assessment of this information on.

- 4.10 Both the Applicant and NE agreed it was necessary to characterise and group the different stages of wind farm development to enable the in combination assessment to be undertaken.
- 4.11 The Applicant proposed a 'building block' approach to the in combination assessment (REP-576). This assessment placed greater weight on those which were operational, under construction or consented (tiers 1 to 3) and less weight on projects in tiers 4a (projects in planning and with a date for a decision), 4b (projects in planning but without a date for a decision), 5 (any project within the PINS programme of NSIPs as a result of an Applicant serving notice under s48 of the Planning Act 2008), and tier 6 (any project without published information). The Applicant proposed to calculate the total environmental impacts of projects up to tier 3 before adding the impacts of each individual subsequent project into the cumulative total.
- 4.12 NE proposed an alternative approach known as the 'tiered approach' (REP-582). This was similar to the Applicant's for tiers 1-3 and 5 but only proposed a single form of tier 4 to cover all projects in planning. Unlike the Applicant, NE did not propose a 6th tier of project classification. Rather than considering each future project solely on an individual basis ('building block'), the 'tiered approach' considers the additional cumulative impacts of all of the proposals within that tier.
- 4.13 Both the Applicant and NE agreed that the EA One project should be considered within the fourth tier of projects. The ExA's view with respect to EA One is as follows: as EA One is currently with the SoS for decision¹, it is suitably precautionary to include the predicted mortality levels from EA One in this assessment however it should be assigned less certainty as projects in tiers 1-3 as the outcome of the SoS's decision and the timing of implementation are uncertain.
- 4.14 NE advised that the Scottish Offshore Wind Farms (OWFs) in the Moray Firth should also be considered by the ExA within the in combination assessment as they were consented in March 2013. The ExA approached Scottish Natural Heritage (SNH); however they did not wish to get involved with the Examination. Despite being granted permission, the ExA's view was that the OWFs in the Moray Firth could not be considered in the same context as EA One as there was insufficient information available to carry out an assessment.
- 4.15 The SoS agrees with the ExA's recommendation with respect to the amount of weighting that should be given to the consented OWFs in the Moray Firth and as such does believe it appropriate to consider these sites within the in combination assessment.

¹ Since the writing of this AA, the EA One project has now been consented by the SoS

- 4.16 The ExA considered that both the Applicant's and NE's approach had merit in that they seek to adopt a proportionate and graduated approach to the in combination assessment. The ExA believes that the timings and planning stages of other relevant plans/projects are relevant but so is the legal framework applicable to competent authorities when making their decisions.
- 4.17 The SoS considers that sufficient information has been presented on projects with the potential for in combination impacts for the purposes of assessing this application under the Habitats Regulations.
- 4.18 In accordance with the legal framework as outlined by the ExA in their report, the SoS considers it appropriate to only consider projects in tiers 1 to 3 and EA One when carrying out the in combination assessment. This is based on the following reasons:
- 4.18.1 There are significant levels of uncertainty associated with future projects and their potential impacts. The Rochdale envelopes for these projects (particularly those which are currently earlier in the development process) are very wide and as such to consider them fully, as currently proposed, may be unrealistic and overly precautionary. There is also a degree of uncertainty over the timings of these future projects, or indeed whether the projects will go ahead at all.
- 4.18.2 Also, any future project is likely to require a HRA, and that assessment would need to consider the impacts of that proposal in combination with other plans or projects. The SoS would not be able to lawfully consent that project should the in combination assessment not be able to rule out a conclusion of no adverse effect on the integrity of the site(s).
- 4.19 The SoS is therefore satisfied to limit the HRA in combination assessment to those plans and projects in tiers 1 to 3 and the EA One project.

Likely Significant Effect: In combination assessment

- 4.20 The matrices in the RIES (A to I) assess the potential interactions of the Development in combination with other plans and projects and considers whether there is a LSE on the qualifying features of the 20 sites listed in Annex A.
- 4.21 The potential for LSE was identified for two features at a single designated site; Flamborough Head and Bempton Cliffs SPA (see Table 2). LSEs on all other qualifying features at that site (listed in Annex A) were excluded with the agreement of all parties. There was also agreement that there was no LSE on any of the other designated sites within UK territories.
- 4.22 NE, in their response to the RIES (REP-594), stated that a LSE could not be excluded for the Flamborough Head and Bempton Cliffs SPA when considered in combination with other plans or projects. It should be noted that the Applicant disagreed with NE on this conclusion, but nonetheless carried out additional work as requested by NE. The ExA took the view that there was sufficient scientific uncertainty on these matters to not be able to exclude a LSE.

4.23 The SoS gives weight to the advice from NE and the ExA's recommendation and as such is unable to exclude a LSE on the sites in table 2 from the Development when it is considered in combination with other plans or projects.

Table 2: Qualifying features for which a likely significant effect cannot be excluded in combination with other plans or projects.

Site	Qualifying feature	Key reasons why potential for LSE cannot be excluded
Flamborough Head and Bempton Cliffs SPA	Gannet (<i>Morus bassanus</i>) ² (Breeding population)	Operational effects (collision risk)
	Kittiwake (<i>Rissa tridactyla</i>) (Breeding population)	Operational effects (collision risk)

Conclusions on Likely Significant Effects

4.24 The SoS considers that sufficient information has been provided to inform a robust assessment in line with his requirements under the Habitats Regulations.

4.25 On the basis of the information supplied by the RIES and the responses to that document, the ExA concludes that there is potential for a LSE, as a result of the Development in combination with other plans and projects, on the European sites and features listed below:

- Flamborough Head and Bempton Cliffs SPA, for the gannet and kittiwake interest features, as a result of increased collision mortality.

4.26 The SoS is content to rely on the recommendations of the ExA, the RIES, and written responses to it to inform his view. He considers that the evidence behind these judgements has been fully tested as part of the examination process. Having given due consideration to the information and analysis presented to him, the SoS is in agreement with the ExA and considers that it is these sites and features for which LSE could not be excluded that are relevant to his AA.

4.27 The SoS agrees with the ExA that there are no other LSEs on any of the other interest features of the 20 sites listed in Annex A as a result of the Development, either alone or in combination with other plans or projects. As a result, the SoS is content that these features need not be subject to any further assessment.

² As noted in Natural England's Written Representations, Gannet is not formally listed as qualifying feature in its own right on SPA citation but is currently present in sufficient numbers to be classed as such, so it has been treated as a full qualifying SPA species in this assessment. Gannets are listed as being part of the site's assemblage feature.

5 Appropriate assessment

Test for Adverse Effect on Site Integrity

- 5.1 The requirement to undertake an AA is triggered when a competent authority, in this case the SoS, determines that a plan or project is likely to have a significant effect on a European site either alone or in combination with other plans or projects. Guidance issued by the European Commission states that the purpose of an AA is to determine whether adverse effects on the integrity of the site can be ruled out as a result of the plan or project, either alone or in combination with other plans and projects, in view of the site's conservation objectives (European Commission, 2000).
- 5.2 The purpose of this AA is to determine whether or not adverse effects on the integrity of those sites and features during the LSE test can be ruled out as a result of the Development alone or in combination with other plans and projects in view of the site's conservation objectives and using the best scientific evidence available.
- 5.3 If the competent authority cannot ascertain the absence of an adverse effect on site integrity within reasonable scientific doubt, then under the Habitats Regulations, alternative solutions should be sought. In the absence of an acceptable alternative, the project can proceed only if there are imperative reasons of overriding public interest (IROPI) and suitable compensation measures identified. Considerations of IROPI and compensation are beyond the scope of this AA.

Conservation Objectives

- 5.4 European Commission guidance indicates that disturbance to a species or deterioration of a European site must be considered in relation to the integrity of that site and its conservation objectives (European Commission, 2000). Section 4.6.3 defines site integrity as:
- “...the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.”*
- 5.5 Conservation objectives outline the desired state for a European site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a 'favourable condition'. An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation (English Nature, 1997).
- 5.6 There are no set thresholds at which impacts on site integrity are considered to be adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale and significance of the impact. The conservation objectives for the 2 interest features for which LSE were identified are listed in table 3. These have been used by the SoS

to consider the potential for adverse impacts on integrity, as a result of the Development in combination with other plans or projects.

Approach taken for this Appropriate Assessment

- 5.7 The ExA's Report notes that disagreement remained between parties on whether adverse effect on integrity from the Development in combination could be excluded at Flamborough Head and Bempton Cliffs SPA for both the gannet and kittiwake features of the site. The RIES (which summarises this position) was subject to consultation and the responses from parties, most notably the SNCBs, demonstrated that this disagreement remains.
- 5.8 The SoS is of the opinion that in cases where interested parties identify that there may be an adverse effect, or where disagreement occurs, and this remains the case at the end of the examination, this merits particular consideration on his part. This is the case for Flamborough Head and Bempton Cliffs SPA and consequently an AA has been produced.

6 Flamborough Head and Bempton Cliffs SPA

- 6.1 Flamborough Head is located on the central Yorkshire coast of eastern England. The cliffs project into the North Sea, rising to 135 m at Bempton Cliffs, and exposing a wide section of chalk strata. The cliff-top vegetation comprises maritime grassland vegetation growing alongside species more typical of chalk grassland. The site supports large numbers of breeding seabirds including kittiwake, *Rissa tridactyla*, and auks, as well as the only mainland-breeding colony of gannet, *Morus bassanus*, in the UK. The seabirds feed and raft in the waters around the cliffs, outside the SPA, as well as feeding more widely in the North Sea. The intertidal chalk platforms are also used as roosting sites, particularly at low water and notably by juvenile kittiwakes.
- 6.2 The conservation objectives of the Flamborough Head and Bempton Cliffs SPA are set out in Table 3. The full list of qualifying features for this site is listed in Annex A.

Table 3: Conservation objectives for the Flamborough Head and Bempton Cliffs SPA.

Conservation Objectives	<p>Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> ➤ The extent and distribution of habitats of the qualifying features ➤ The structure and function of the habitats of the qualifying features ➤ The supporting processes on which the habitats of the qualifying features rely ➤ The distribution of the qualifying features within the site <p>The qualifying features to which the conservation objectives refer are:</p> <ul style="list-style-type: none"> ➤ Black-legged kittiwake (<i>Rissa tridactyla</i>) (breeding) ➤ Northern gannet (<i>Morus bassanus</i>) ➤ Seabird assemblage
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Source: Annex B of NE's written representation
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Gannet Ecology

Population Size and Distribution

- 6.3 Flamborough Head and Bempton Cliffs SPA support a breeding population of gannet as part of its seabird assemblage. The breeding population was cited as 2,501 pairs (JNCC, 2001) at the time of the SPA designation. However, the population has grown rapidly since the 1980's when only a few hundred breeding pairs were present; estimates of numbers in 2012 were 11,061 pairs or 22,122 breeding individuals (JNCC Seabird Colony Register Counts, accessed 06/05/2014)³.
- 6.4 Breeding Gannets, *Morus bassanus*, are not formally listed as qualifying feature in their own right on Flamborough Head and Bempton Cliffs SPA citation but are currently present in sufficient numbers to be classed as such, so it has been treated as a full qualifying SPA species in this assessment. The decision to do this was accepted by all parties, including the ExA, during the examination.
- 6.5 It is estimated that the UK population of gannets is 440,000 individuals (Baker *et al*, 2006), with a global population of 610,000 (Tucker *et al*, 2004). In the UK, the gannet population is concentrated in northern Scotland, and whilst they are widely distributed in English seas during winter, the only breeding colony in England is at Bempton Cliffs.

Diet

- 6.6 Gannet's diet is predominantly mid-sized fish and squid.

Foraging patterns

- 6.7 The foraging range of gannets will determine which OWF projects the population of the Flamborough Head and Bempton Cliffs SPA is likely to interact with. The distance of the Development from the SPA is 490 km. Thaxter *et al* (2012) published the maximum foraging range of gannets as 590 km, with a mean maximum range of 229 km. Whilst the distance between the SPA and the Development is greater than the average, it is within the maximum distance published within the scientific literature. There is therefore the potential for gannets from this SPA to forage within the Development site and within other OWFs, particularly those in the North Sea.

Migration patterns

- 6.8 RSPB tracking studies of post-breeding gannets from Flamborough Head and Bempton Cliffs SPA show activity in the southern and central North Sea soon after dispersal. Data indicate that Bempton gannets make their way south towards Africa, either via the English Channel or around the northern tip of the UK and down the west coast of Ireland (RSPB, 2012).

³ <http://jncc.defra.gov.uk/smp/searchCounts.aspx>

Evidence from Surveys

- 6.9 The Applicant carried out a number of surveys to estimate the number of gannets using the Development site and its surroundings. The mean density of gannets recorded within the site boundary was 0.687 birds per km². This results in a estimated peak population of gannets using the Development site as being 1,087 birds.

Birds flying at rotor height

- 6.10 The surveys undertaken for the EIA also recorded the flight heights for gannets within the site. These surveys recorded approximately 13% of birds flew at rotor height and as such were at risk from collision mortality. This is above the figure published by Cook *et al* (2012) which recorded 9% of gannets flying at rotor height. Whilst these figures are helpful, it should be noted that flight height may vary according to behaviour such as foraging activity, it also varies according to weather conditions particularly wind strength and direction (Perrow *et al.*, 2010).

Northern Gannet: Assessment of Impacts from the Development in combination

Operational Collision Risk

- 6.11 There are two parts to estimating collision mortality. The first is to understand the number of birds passing through the swept area of the turbines within the OWF. This is determined by calculating the number of birds which are likely to be passing through OWF and then factoring in the heights above sea level at which various species fly at to determine the numbers of birds at collision risk height. This calculation is done using a mathematical model, the Band model being the most commonly used. There are several different versions of the Band model which use bird flight height in different ways to produce different estimates of collision risk. Band models 1 and 2 (known as the basic Band model) assume that all individuals of a species of bird fly at the same height. For Band model 1, that height is determined by aerial or *in situ* boat surveys. For Band model 2, that height is based on published literature from Cook *et al* (2012). Band model 3 (known as the extended Band model) uses detailed flight height data (from Cook *et al*, 2012) to calculate the proportional risk to a bird according to its location within the swept rotor space. The rationale being that if a bird is closer to the nacelle then it is at greater risk of collision than if at the edge of the blade.
- 6.12 The second step to estimating collision mortality is to define the percentage of birds that are likely to make a behavioural response to the presence of a wind farm (or to an individual turbine) so as to avoid flying on a path that puts them at risk of collision with the rotating turbine blades. This is known as the avoidance rate (AR). The choice of AR has a significant influence on the number of predicted collisions. The overall AR will be the result of a combination of factors including macro-avoidance (of the whole wind farm, by diverting over or around it) and micro-avoidance (ability to avoid collision with a turbine blade once within a wind farm). In practice, the actual AR for any given location will also be affected by site-specific and temporal

variations, including the layout of turbines, weather and visibility, whether the birds are foraging or migrating and also whether they are part of a large flock.

- 6.13 Whilst collision AR can be generic, where essentially the same rate of turbine blade avoidance is assumed for a wide range of bird species, irrespective of any behavioural assumptions or empirical observations, it can also be tailored to a species or a group of species on the basis of qualitative assessments (taking known behaviours including manoeuvrability into account) and empirical data (such as surveys of actual bird behaviours for example blade avoidance, or mortality impacts evidenced by recovered dead bird counts). Species-specific AR have been developed by Scottish Natural Heritage to take into account factors such as the behaviour patterns, reactions, size and agility of different bird species (Scottish Natural Heritage, 2010).
- 6.14 In this case, the Applicant applied a site and species-specific flight height (13%) to the basic Band model (option 1) to determine the first part of estimating collision risk mortality. This approach was accepted by NE (NE responses to ExA questions, deadline 2). When it came to determining which AR to use, disagreement between the parties remained even after the conclusion of the examination.
- 6.15 In its response to the RIES, the Applicant wished to base the collision risk modelling on an AR of 99%. It justified this using evidence from a study at the Egmond An Zee OWF (Krijgsveld *et al* 2011) which recorded a gannet macro AR of 64% and a micro AR of 97.7%. This resulted in an overall combined AR of 99.136%.
- 6.16 Using collision risk modelling, the predicted annual gannet mortality from the Flamborough Head and Bempton Cliffs SPA as a result of the Development is 14 birds a year using a 98% AR and 7 birds a year at a 99% AR.
- 6.17 The ExA's recommendation was that whilst they acknowledge that an AR of 98% contained an element of precaution, insufficient evidence was presented to demonstrate that the use of this AR was so precautionary as to be unrealistic.
- 6.18 NE recommended the use of a 98% avoidance rate. They acknowledged that whilst using a 98% AR may be precautionary as there is evidence to show gannets avoid OWFs, but felt that the use of a 99% AR might not be sufficiently precautionary given the uncertainties around ARs.
- 6.19 The SoS has considered the representations made by both the Applicant and NE and the recommendation as made by the ExA. The SoS also recognises that a AR of 99% has been adopted for the gannet considerations for both Triton Knoll AA, and for the EA One AA. Given the available evidence (Krijgsveld *et al* 2011) which documents greater avoidance of OWFs by gannets than for many other species and estimates an overall avoidance rate of 99.1% for this species, the SoS is of the opinion that the use of an avoidance rate of 99% for gannets is suitable for this species.

Population level effects: Potential Biological Removal

- 6.20 To understand the significance of this additional mortality, the Applicant undertook Potential Biological Removal (PBR) analysis for gannets to determine the effects on the Flamborough Head to Bempton Cliffs SPA population. This work was done at the request of NE, who provided the methodology for which this work was to be done (Eon - Additional Clarification on Ornithology in Relation to the Rampion Project)
- 6.21 PBR analysis quantifies the potential level of additional mortality which could occur on an annual basis without resulting in a long term population decline. The analysis produces an upper and a lower estimate; the assumption is that should mortality levels fall within those thresholds, then the population should not decline as a result.
- 6.22 The PBR for gannets at the Flamborough Head and Bempton Cliffs SPA is estimated at being between 286 and 361 birds per year. Given the predicted mortality of 7 gannets (at a 99% AR), it is clear that in the context of the Development alone; the impacts from collision risk are in itself small. This was not disputed by any of the parties.

Table 4. Predicted cumulative gannet and kittiwake adult mortality at the Flamborough Head and Bempton Cliffs SPA.

	Gannet 98% AR	Gannet 99% AR	Kittiwake AR 98%
NE tiers 1-3 adult mortality	199	100	91
EA One additional adult mortality from FHBC	74	37	104
Rampion adult mortality	14	7	22
Total	287	144	217
Lower PBR threshold	286	286	250
Total adult mortality before Rampion OWF	273	137	195
Headroom before Rampion (lower PBR)	13	149	55
Headroom after Rampion (lower PBR)	-1	142	33
Upper PBR threshold	361	361	350
Total adult mortality before Rampion OWF	273	137	195
Headroom before Rampion (upper PBR)	88	224	155
Headroom after Rampion (upper PBR)	74	217	133

- 6.23 When considered in combination with other OWFs, the collision mortality risk from the Development is small relative to that for other projects. The contribution to gannet mortality from the various projects is shown in table 4. Using a 99% AR, projects in tiers 1-3 are estimated to increase gannet mortality by 100 birds a year. Including EA One in these calculations will increase gannet mortality to 137 birds. Including the effects of the Development will result in a total of 144 gannets per year. This is well below the PBR range of 286 and 361 birds per year and therefore leaves sufficient precautionary headroom to allow for the various assumptions which are required to reach these figures.

- 6.24 The SoS is of the view that the additional gannet mortality as a result of the Development, in combination with other plans or projects, would not prevent the site from achieving favourable conservation status in line with the site's published conservation objectives, assuming a 99% AR.
- 6.25 It is noted that the gannet mortality figure for the EA One project (37 birds) is different to that published within the EA One ExA report. The SoS recognises that the EA One project has undertaken a different methodology (Population Viability Analysis, PVA) with which to calculate an increase in mortality rates upon the population of the Flamborough Head and Bempton Cliffs SPA. The numbers produced by PVA and PBR analysis are not directly comparable as they consider different factors and variables. The SoS recognises that a different approach has been used for the EA One and considers that both models are fit for purpose. He is confident that he can rely on the PBR analysis for Rampion that was agreed by the Applicant and NE and supported by the ExA.
- 6.26 In accordance with the reasoning in section 4.18, the SoS considers it appropriate to only consider projects in tiers 1-3 and EA One when undertaking the in combination assessment.
- 6.27 The SoS is satisfied that his conclusions are based on sound evidence and the best data that is available to him at this time. He makes his assessment of this Development without prejudice to any decision on future applications. Should further research confirm that alternative models or assumptions are more appropriate in informing his decisions on future applications, then he will take account of the best available scientific evidence at that time.

Conclusion

- 6.28 **On the basis of the amount of headroom left in the PBR analysis when using a 99% AR and considering all projects in tiers 1, 2 and 3 and the EA One OWF, the SoS concludes that the Development, in combination with other plans and projects, will not have an adverse effect on the integrity of the gannet interest features of the Flamborough Head and Bempton Cliffs SPA.**

Kittiwake Ecology

Population Size and Distribution

- 6.29 Breeding Kittiwake, *Rissa tridactyla*, are a qualifying feature of the Flamborough Head and Bempton Cliffs SPA. At the time of citation, the site regularly supported 83,370 breeding pairs of kittiwake (2.6% of the breeding Eastern Atlantic population) (count as of 1987) and 305,784 individual seabirds. However, more recent estimates of kittiwake numbers (JNCC Seabird Colony Register Counts, accessed 06/05/2014)⁴ have shown a substantial decline to some 37,617 pairs or 75,234 breeding adults in 2008. Kittiwakes are part of the wider assemblage of seabird species for which that site has been classified.

⁴ <http://jncc.defra.gov.uk/smp/searchCounts.aspx>

6.30 It is estimated that the UK population of kittiwakes is 370,000 individuals (Baker *et al*, 2006), with a global population of >2,000,000 (Tucker *et al*, 2004). Flamborough Head is the largest kittiwake colony in the UK.

6.31 Kittiwakes usually return to their UK colonies from March, with most juveniles fledging from July. After the breeding season, kittiwakes are highly nomadic and often feed and roost several hundred kilometres from land.

Diet

6.32 Kittiwake's diet is predominantly fish, particularly shoals of sand eels but also herring and sprat.

Foraging patterns

6.33 The foraging range of kittiwakes will determine which OWF projects the population of the Flamborough Head and Bempton Cliffs SPA is likely to interact with. The distance of the Development from the SPA is 490 km. The published maximum foraging range of kittiwakes is 120 km, with a mean maximum range of 60 km (Thaxter *et al*, 2012). This means that it is unlikely that kittiwakes from this SPA are foraging within the Development area. The Rampion OWF, and other plans and projects, might give rise to mortality during the kittiwake's annual migration, where they depart for Atlantic waters.

Evidence from surveys

6.34 The mean density of kittiwake recorded in the surveys was 0.298 birds per km². This results in an estimated peak population of 173 kittiwakes within the Development.

Birds flying at rotor height

6.35 The surveys undertaken for the EIA also recorded the flight heights for kittiwakes within the site. These surveys recorded approximately 14% of birds flew at rotor height and as such were at risk from collision mortality. This is similar to the rate published by Cook *et al* (2012) which recorded 15.7% of kittiwake flew at rotor height. Whilst these figures are helpful, it should be noted that flight height may vary according to behaviour such as foraging activity, it also varies according to weather conditions particularly wind strength and direction (Perrow *et al*, 2010).

Kittiwake: Assessment of effects from the Development in combination

Operational collision risk

6.36 For a description about how collision risk is calculated, please see paragraphs 6.11 to 6.13.

6.37 In this case, the Applicant applied a site and species-specific flight height (14%) to the Basic Band model (option 1) to determine the first part of estimating collision risk mortality. This approach was accepted by NE (NE responses to ExA questions, deadline 2).

6.38 There was no disagreement between the parties on which AR to use. Both the Applicant and NE agreed that it was appropriate to use a 98% AR for kittiwake; the ExA accepted this on the basis that no other evidence was submitted to support the use of an alternative AR.

- 6.39 Given the representations made and the ExA's recommendation, the SoS is satisfied that the use of a 98% AR for kittiwakes is appropriate.
- 6.40 Based on the number of kittiwake flying at collision risk height and an AR of 98%, the predicted collision mortality rate for the Development is 22 birds per year from the Flamborough Head and Bempton Cliffs SPA.
- 6.41 As with the gannets, the Applicant undertook PBR (potential biological removal) analysis for kittiwake to understand the impacts this additional mortality might have on the Flamborough Head and Bempton Cliffs SPA population. The PBR analysis estimated the thresholds at which a level of mortality would not have a long term effect upon the population as being between 250 and 350 birds per year. In the context of the Development alone, it is clear that the impacts from collision risk are in itself small. This was not disputed by any of the parties.
- 6.42 When considered in combination with other projects, the effect of the Development is small relative to that of other OWFs. A table showing the contribution to kittiwake mortality from the various projects is shown in table 4. Using a 98% AR, projects in tiers 1-3 are estimated to result in a kittiwake mortality rate of 91 birds a year from the Flamborough Head and Bempton Cliffs SPA. The EA One project will increase mortality by an additional 104 birds per year. Once the impacts of the Development are included within the cumulative assessment the mortality rate is predicted to be 217 kittiwakes per year. This is well below the PBR thresholds of 250 and 350 birds per year and therefore leaves sufficient precautionary headroom to allow for the various assumptions which are required to reach these figures.
- 6.43 The SoS is of the view that the additional kittiwake mortality as a result of the Development, in combination with other plans or projects, would not prevent the site from contributing toward favourable conservation status in line with the site's published conservation objectives.
- 6.44 It should be noted that the kittiwake mortality figure for the EA One project (104 birds) is different to that published within the EA One ExA report. For the reasons outlined in paragraph 6.27, the SoS is confident in making his assessment using the figures within the Rampion ExA report.
- 6.45 In accordance with the explanation in section 4.18, the SoS considers it appropriate to only consider projects in tiers 1-3 and EA One when undertaking the in combination assessment.
- 6.46 The SoS is satisfied that his conclusions are based on sound evidence and the best data that is available to him at this time. He makes his assessment of this Development without prejudice to any decision on future applications. Should further research confirm that alternative models or assumptions are more appropriate in informing his decisions on future applications, then he will take account of the best available scientific evidence at that time.

Conclusion

- 6.47 **On the basis of the amount of headroom left in the PBR analysis when using a 98% AR and considering all projects in tiers 1, 2 and 3 and the EA One OWF, the SoS concludes**

that the Development, in combination with other plans and projects, will not have an adverse effect on the integrity upon the kittiwake interest features of the Flamborough Head and Bempton Cliffs SPA.

7 Consideration of the Flamborough and Filey Coast potential SPA (pSPA)

7.1 Between 20 January 2014 and 14 April 2014 (after the Examination had closed but before the release of the ExA's report), NE held a formal public consultation on the designation of the Flamborough and Filey Coast potential SPA. This pSPA, if confirmed by the Secretary of State for the Environment, Food and Rural Affairs, would represent a geographical extension to the existing Flamborough Head to Bempton Cliffs SPA and add several species to the formal citation.

7.2 It is Government policy to treat pSPAs as if they were a fully designated European site under the Habitats Regulations. As such, despite the lack of information submitted by the Applicant and other interested parties and the lack of consideration from the ExA, the SoS considers it important to consider the potential impacts of the Development, both alone and in combination with other plans or projects, upon this potential site.

7.3 The pSPA consists of the following changes to the existing site:

- A landward extension to the north west of the existing site to incorporate important breeding colonies of seabirds.
- Marine extensions out to 2 km to protect the waters which are important to these species of breeding birds.
- Modification of the landward boundary such that the features of the pSPA are protected in the future
- Addition of the following migratory features to the pSPA citation; northern gannet (*Morus bassanus*), common guillemot (*Uria aalge*), razorbill (*Alca torda*) and incorporates an update to the published population figures for migratory black-legged kittiwakes (*Rissa tridactyla*).

7.4 It should be noted that there are currently no conservation objectives available for the Flamborough and Filey Coast pSPA. In order to undertake his assessment in line with the Habitats Regulations, the SoS has assumed that the new conservation objectives will be broadly similar to that at the current Flamborough Head to Bempton Cliffs SPA (as shown in table 3) but applicable to the additional species on the proposed citation.

7.5 The SoS is of the view that in order to properly consider the implications of the pSPA, particular emphasis should be placed on considering the additional interest features not already considered within this AA, i.e. common guillemots and razorbills. The SoS considers that the

boundary changes to the site (both terrestrial and marine) will not make a material change and as such are screened out of this HRA.

Impacts on the pSPA from the Development alone

- 7.6 The mean maximum foraging range of guillemot is 48.5 km and 84 km for razorbill (Thaxter *et al*, 2012). As the Development is located approximately 490 km from the boundary of the pSPA, it is very unlikely that these species are going to forage within the footprint of the project.
- 7.7 Furness *et al* (2012) reported that guillemots and razorbills are relatively prone to disturbance/displacement effects in comparison with other seabirds (listed 11 and 12, out of 38 species, respectively), however as the Development lies beyond their mean maximum foraging range, it is considered unlikely that birds from this pSPA will be displaced into less suitable foraging areas during the breeding season. Outside of the breeding season, when guillemots and razorbills are likely to forage more widely, it is unlikely that birds from the Flamborough and Filey Coast pSPA will suffer significant mortality levels from disturbance/displacement effects given the size of the Development site relative to the amount of available foraging habitat in the North Sea/English Channel. The Applicant estimates that guillemots and razorbills will lose <0.1% of the available foraging habitat as a result of the Development (ES, chapter 11).
- 7.8 Given the distance between the Development and the pSPA, guillemots and razorbills are more likely to interact instead with the OWF during their migration periods. The potential risk of collision should therefore be considered. Furness *et al* (2012) also looked at the susceptibility of a species to collision and concluded that razorbills and guillemots have a relatively low sensitivity in comparison with other seabirds (they were placed 20 and 22, out of 38, respectively (1 is the species considered to be most sensitive and 38 the least sensitive). This is because a relatively small percentage (<5%) of individuals fly at collision risk height and they are relatively agile in the air and are therefore more able to avoid structures.
- 7.9 Although the pSPA was not considered at the examination, the SoS notes that no representations were made by either NE or the RSPB with respect to concerns on the potential impacts on guillemot and razorbill in the wider environment from the Development.
- 7.10 Given the distance of the Development from the likely foraging grounds for guillemots and razorbills, and their relatively low sensitivity to collision risk, the SoS concludes that the Development alone is not likely to have a significant effect on the interest features of the Flamborough and Filey Coast pSPA.

Impacts on the pSPA from the Development in combination

- 7.11 For the reasons outlined above, the risk of a significant increase in the mortality rates of razorbills and guillemots as a result of collision with the Development and other plans or projects is considered to be unlikely.

- 7.12 Given the sensitivity of guillemots and razorbills to potential disturbance/displacement effects, further consideration is needed of the in combination impacts from the Development and other plans or projects.
- 7.13 The SoS noted that a detailed cumulative assessment of displacement effects was not undertaken by the Applicant, nor was it requested by NE or the RSPB. The Applicant was of the view that cumulative displacement impacts were not likely to affect guillemots and razorbills and as such the effects could be described as *de minimis*.
- 7.14 The SoS has used additional information from the EA One report to help strengthen his decision making on this matter. The EA One project investigated the cumulative impacts upon auks (guillemots and razorbills) and concluded that the displacement effects of auks in the North Sea are likely to be *de minimis* (EA One response to rule 17. Auks displacement technical note). The SoS is of the view that if the displacement impacts are considered to be *de minimis* at the EA One site, then as the Development is further from the pSPA the impacts are likely to be smaller.
- 7.15 The SoS recognises that detailed assessments of the in combination effects of guillemots and razorbills have not been carried out as the Applicant is of the view that the effects are *de minimis*. In the absence of any evidence, or advice to the contrary from SNCBs or any other interested parties, the SoS believes that the Development, in combination with other plans or projects, is not likely to have a significant effect upon the guillemot and razorbill features of the Flamborough and Filey Coast pSPA.

Conclusions

- 7.16 Based on the information outlined in this section, the SoS is satisfied that the Development, when considered alone and in combination with other plans or projects, is not likely to have a significant effect upon the interest features of the Flamborough and Filey Coast pSPA.

8 Habitats Regulations Assessment Conclusions

- 8.1 The SoS has considered the impacts of the Development, both alone and in combination with other plans and projects, on each of the interest features of the 20 European sites identified, to determine whether there will be an LSE and whether an AA is required.
- 8.2 He agrees with the ExA that a LSE can be screened out for all of UK territory sites when the Development is considered alone.
- 8.3 The SoS is also content to screen out a LSE on the Flamborough and Filey Coast pSPA from the Development, both alone and in combination.
- 8.4 He agrees with the ExA that there is a risk of LSE on two features at a single European site when the Development is considered in combination with other plans or projects. These are:
- Flamborough Head and Bempton Cliffs SPA
 - Gannet

- Kittiwake

- 8.5 The SoS agrees with the ExA's recommendation that an AA is required. He is satisfied that sufficient information is available to enable him to carry out an AA as required by Regulation 61 of the Habitats Regulations. This AA is based on environmental information provided to the ExA, the ExA's report, written representations from the SNCBs and published data and analysis from other sources.
- 8.6 For the reasons outlined within this report the SoS considers that the Development, when considered both alone and in combination with other plans or projects, will not have an adverse effect on the integrity of the Flamborough and Bempton Cliffs SPA.

9 Transboundary Considerations

- 9.1 Given the potential for this development to affect mobile features across a wide geographical area (as identified within the RIES, and the responses to that document); the SoS believes it important to consider the potential impacts European sites in other EU member states, known as transboundary sites, in further detail. The ExA also considered the implications for these sites, in the context of looking at the wider EIA considerations. The results of their considerations, and the SoS own views on this matter are presented below.
- 9.2 The application was screened by PINS for transboundary effects under Regulation 24 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 on 22 April 2013 and a screening matrix was published. This matrix concluded that the Development had the potential to affect the environment of another European Economic Area (EEA) state. This state was France, and the sites identified were the Baie de Seine Occidentale (Iles de Saint Marcouf) SPA, and the Archipel des Sept Iles SPA. A letter was sent by the ExA to France to invite them to take part in the examination, however no response was received.
- 9.3 Following the submission of further information by the Applicant, a re-screening exercise was undertaken. This concluded that the Development would not affect the environment of another EEA state. A letter was sent to France on 18 December 2013 informing the appropriate organisations of this outcome, no response was received.
- 9.4 The SNCB for the Development is NE, whose remit extends to 12 nm off the English coastline. In their written representations (REP-297), NE made it clear that they are unable to comment on sites in other EEA states as it was outside of their remit. NE did advise that there was the potential for the Development to affect gannets from a site in the Channel Islands, the Alderney West Coast and Burhou Islands Ramsar site. For the purposes of the report, the ExA considered the impacts upon this site within the transboundary section.
- 9.5 The ExA was informed by NE that the Channel Islands are a Crown Dependency and therefore are not covered by the UK's environmental legislation or European Directives as they are not part of the European Union. For sites within Great Britain and Northern Island, it is Government

policy to treat Ramsar sites as if they were European sites. This policy does not apply to the Alderney West Coast and Burhou Islands Ramsar site, but the SoS believes it important to consider the impacts upon the site in his decision making.

- 9.6 The ExA wrote to the Environment Department in Guernsey on 22 November 2013 identifying the Development as being of possible relevance to the States of Guernsey. A further letter was sent on 20 December 2013. On 23 December 2013, the ExA received a response stating that the States did not want to be involved in the Examination.
- 9.7 On the basis of the information supplied by the Applicant and the lack of response from the States of Guernsey, the ExA took the view that the Development is not likely to have significant effects upon the protected sites of Guernsey.

France: Baie de Seine Occidentale (Iles de Saint Marcouf) SPA

- 9.8 The re-screening exercise undertaken by the ExA considered the potential for Lesser Black Backed Gull (LBBG) from the Baie de Seine Occidentale SPA to be affected by the Development. LBBG have a mean maximum foraging range of 141 km (Thaxter *et al*, 2012). The Development is 130 km from the SPA so there is the potential for an increase in collision risk mortality as gulls from this site may forage within the Development. It is estimated that there are 300 breeding pairs of LBBG in this site (Birdlife International Important Birds Areas).
- 9.9 Following the original screening exercise, the Applicant carried out additional work (Applicant's response to NE's written reps). To predict mortality rates, the Applicant undertook collision risk modelling using the Basic Band model (option 1) and used 25% (site specific data) as the proportion of LBBGs flying at collision risk height, the Applicant provided collision numbers for a range of ARs (98%, 99% and 99.5%). As a result of this work, the Applicant calculated that the Development would result in the additional mortality of 31 LBBG birds per year (98% AR), with approximately 11 of those collisions occurring during the breeding season.
- 9.10 It is unlikely that all of these LBBGs will be from any single SPA, when apportioned to individual sites based on the colony size (rather than assuming that all of these birds are from this site), the mortality of LBBG from the Baie de Seine Occidentale SPA is estimated as being 0.1 birds per year. This would result in a 0.3% increase in adult LBBG mortality. The Applicant's view was that this represented a negligible increase in adult mortality and therefore this was sufficient grounds to screen it out of the HRA.
- 9.11 In their report, the ExA was satisfied that, based on the additional information supplied by the Applicant, the Development was not likely to affect the interest features of this site.
- 9.12 The SoS is of the view that it is unlikely that all of the predicted LBBG mortality at the Development will be from this SPA and it is overly precautionary to make such an assumption. The SoS also notes there is additional precaution built into the use of a 98% AR, with some of the published literature (eg Maclean *et al*, 2009) recommending using an AR for gulls of 99.5%.

Because the increase in adult mortality is predicted to be small, the SoS is satisfied that the Development is not likely to have a significant effect, alone, upon the LBBG interest feature of the Baie de Seine Occidentale SPA.

- 9.13 To consider the in combination effects of the Development with other OWFs, the Applicant has estimated the total LBBG gull mortality as a result of an increase in collision risk as being 1968 birds per year (assuming a 98% AR, and including all tier 3 projects and EA One). As shown in table 5, this reduces to 984 birds using an AR of 99% and to 492 at an AR of 99.5%. Using a 98% AR, it is estimated the Development's contribution to the figure of 1968 is 31 birds. When considered in combination with other plans or projects, it is clear that the impacts of the Development relative to other OWFs are small. Nonetheless the SOS still considers it important to properly consider the in combination impacts on LBBG from this site. As such, he considers the total mortality (1968 birds) from other plans and projects to be high enough to believe that there is a likely significant effect, in combination, upon the Baie de Seine Occidentale SPA.

Table 5. The effect upon the cumulative population mortality estimates for LBBG by using different avoidance rates.

	98% AR	99% AR	99.5% AR
Cumulative LBBG mortality (birds per year)	1968	984	492
Proportional increase in mortality rate	17.5%	8.7%	4.4%
Total population mortality rate	3.77%	3.49%	3.35%

- 9.14 To quantify the scale of mortality relative to the population, it is necessary to define the population at which that effect will occur. This can be done by estimating the Biologically Defined Minimum Population (BDMP). The BDMP will vary between species and location.
- 9.15 The BDMP for LBBG in the North Sea is estimated as being 351,000 birds (or equivalent to 85,000 breeding pairs). This population will suffer an annual (baseline) mortality rate of 11,250 birds which is equivalent to approximately 3.2% of the total population. The Applicant estimates that the additional mortality (1968 birds at a 98% AR, 984 at 99% AR and 492 at 99.5%) as a result of the in combination effects of the various OWFs represents an increase upon the baseline mortality of 17.5%, 8.7% and 4.4%, depending on which AR is used. However, as shown in table 5, it will only result in a total mortality rate of 3.77%, 3.49% and 3.35% (depending on which AR is used), for that BDMP.
- 9.21 The SoS is of the view that as the Development's contribution to the total (in combination) predicted collision mortality is so low (31 of 1968, or 1.5%, using a 98% AR), it will make a negligible difference to the Baie de Seine Occidentale SPA. The SoS is mindful of the precaution inherent in the use of a 98% AR, and to a lesser extent the use of a Rochdale Envelope (worst case scenario) approach to assessing impacts.

- 9.24 In accordance with the explanation in section 4.18, the SoS considers it appropriate to only consider projects in tiers 1-3 and EA One when undertaking the in combination assessment.
- 9.25 For the reasons outlined above, the SoS is satisfied that the Development, either alone or in combination with other plans or projects, will not have an adverse effect on the integrity of the Baie de Seine Occidentale SPA.

France: Archipel des Sept Iles SPA

- 9.26 The potential impact of the Development upon gannets from the Archipel des Sept Iles SPA was considered within the original screening exercise. The SPA is over 300 km from the Development. Thaxter *et al* (2012) published the maximum foraging range of gannets as 590 km, with a mean maximum range of 229 km. There is therefore the potential for gannets from this SPA to forage within the Development site and within other OWFs, particularly those in the North Sea. The Applicant states that there are approximately 13,500 breeding pairs of gannets in this colony (ES – chapter 11).
- 9.27 As discussed in 9.4, a further re-screening exercise was undertaken by PINS. Unlike for the Baie de Seine Occidentale SPA site, no further consideration was given to gannets from this site within the re-screening report and no additional work was undertaken by the Applicant to demonstrate the magnitude of impact upon the site. However the re-screening report concludes that it is unlikely there will be an impact upon this site. There was no disagreement from NE on this matter.
- 9.28 The total number of gannets that are expected to collide with the Development is 185 (using an AR of 98% and a 13% flying at collision risk height, 92 for 99% and 46 for 99.5%, respectively). As per paragraph 6.21, the SoS considers it appropriate to use gannet AR of 99%. On that basis, of the 92 birds expected to collide with the turbines, it is expected that 28 collisions will occur during the breeding season, and 64 (*NB* numbers don't add up because of rounding) will occur outside of the breeding period. No site apportioning was carried out by the Applicant, so it is unknown how many of these gannets may be from the Archipel des Sept Iles SPA.
- 9.29 Assuming that all of the 28 gannets which are predicted to collide with the Development during breeding season are from the Archipel de Sept Iles SPA would result in the death of approximately 0.10% of the site's gannet population per year ($28 / (13,500 \times 2) \times 100$).
- 9.30 The SoS, recognising the low probability that all of the gannets killed during the breeding season are from the Archipel des Sept Iles SPA, considers this additional mortality rate to be negligible and therefore does not believe that there is the potential for the Development to have a likely significant on the Archipel des Sept Iles SPA when considered alone.
- 9.31 In the absence of any site apportionment of the predicted cumulative mortality of gannets, the SoS feels it is important to consider overall changes to gannet mortality rates. In their advice, Natural England requested that the Applicant assesses mortality against the BDMP (east coast, UK) as migration studies have shown it is these birds which are likely to pass through the Development site. The SoS does not have any information upon which context to treat the

gannets from the Archipel des Sept Iles SPA. In that absence, the SoS believes it appropriate to use this BDMP.

- 9.32 The estimated size of the BDMP is 68,090 breeding pairs (or approximately 265,000 individuals). The baseline level of mortality is 44,496 birds per year. The predicted gannet mortality from all the OWFs in tiers 1-3 and including EA One, using a 99% AR, is 2034 birds per year. This represents a 4.6% increase in mortality; however the Development's contribution to this is just 0.2%.
- 9.34 The SoS considers that because the Development's contribution to the total (in combination) predicted collision mortality is so low, it will make a negligible difference to the Archipel des Sept Iles SPA. The SoS is mindful that the actual population is likely to be significantly greater than the East Coast BDMP as used in the cumulative assessment, and as such the overall mortality percentage will be even smaller.
- 9.35 In accordance with the explanation in section 4.18, the SoS considers it appropriate to only consider projects in tiers 1-3 and EA One when carrying out the in combination assessment. The SoS is satisfied that the Development, either alone or in combination with other plans or projects, will not have an adverse effect on the integrity of the Archipel des Sept Iles SPA.

France: Bassurelle Sandbank SCI,

- 9.36 A SCI (Site of Community Importance) is the European equivalent of a SAC in the UK. It protects sub tidal sandbank habitats.
- 9.37 Although some of this site lies within UK waters, a large part of it lies across the French border, as such it is considered within this section of the HRA.
- 9.38 On the basis of no impact pathway between the site and the Development, the Applicant, NE and the ExA were content to conclude that there would not be a LSE on this site either alone or in combination with other plans or projects. The SoS agrees with this conclusion.

Channel Islands: Alderney West Coast and the Burhou Islands Ramsar site

- 9.39 The Alderney West Coast and Burhou Island Ramsar site lies approximately 180 km from the Development and protects nesting populations of Atlantic puffin, European storm-petrel, great black-backed gull, and lesser black-backed gull, and nesting and breeding populations of gannets. The population of gannets present at the site is 5,950 breeding pairs (ES, chapter 11).
- 9.40 The RIES identified a LSE on the gannets of the Ramsar site as the Development is within the mean maximum foraging range (229 km), however given the small contribution to mortality levels from the Development alone; the RIES determined that the LSE would come from other plans/projects in combination with the Development.
- 9.41 The total number of gannets that are expected to collide with the Development is 92 (using an AR of 99% and 13% flying at collision risk height). Of the 92 birds expected to collide with the turbines, it is expected that 28 collisions will occur during the breeding season, and 64 (*NB* numbers don't add up because of rounding) will occur outside of the breeding period. No site

apportioning was carried out by the Applicant, so it is unknown how many of these gannets may be from the Alderney West Coast and the Burhou Islands Ramsar site.

- 9.42 Assuming that all of the 28 gannets which are predicted to collide with the Development during breeding season are from the Alderney Ramsar site would result in the death of approximately 0.24% of the site's gannet population per year ($28 / (5,950 \times 2) \times 100$).
- 9.43 The SoS, recognising the unlikelihood that all of the gannets killed during the breeding season are from the Alderney Ramsar site, considers this additional mortality rate to be negligible and therefore does not believe that there is the potential for the Development to have a likely significant on the Alderney West Coast and the Burhou Islands Ramsar site when considered alone.
- 9.44 In the absence of any site apportionment of the predicted cumulative mortality of gannets, the SoS feels it is important to consider overall changes to gannet mortality rates. In their advice, NE requested that the Applicant assesses mortality against the BDMP (east coast, UK) as migration studies have shown it is these birds which are likely to pass through the Development. The SoS does not have site specific information upon which to treat the gannets from the but this BDMP provides an appropriate basis for the assessment.
- 9.45 The estimated size of the BDMP is 68,090 breeding pairs (or approximately 265,000 individuals). The baseline level of mortality is 44,496 birds per year. The predicted gannet mortality from all the OWFs in tiers 1-3 and including EA One, using a 99% AR, is 2034 birds per year. This represents a 4.6% increase in mortality; however the Development's contribution to this is just 0.2%.
- 9.46 The SoS considers that because the Development's contribution to the total (in combination) predicted collision mortality is so low, it will make a negligible difference to the Alderney West Coast and Burhou Islands Ramsar site. The SoS is mindful that the actual population is likely to be significantly greater than the East Coast BDMP, as used in the cumulative assessment, and as such the overall proportion killed will be even smaller.
- 9.47 In accordance with the explanation in section 4.18, the SoS considers it appropriate to only consider projects in tiers 1-3 and EA One when undertaking the in combination assessment. The SoS is satisfied that the Development, either alone or in combination with other plans or projects, will not have an adverse effect on the integrity of the Alderney West Coast and Burhou Islands Ramsar site.

10 Consideration of Greater Back-Blacked Gulls

- 10.1 The Applicant assessed the cumulative collision risk to Greater black-backed gulls (GBBG) from the Project and other OWFs in the North Sea. The magnitude of this impact depends upon which projects are included within the cumulative assessment; this was a matter of disagreement between the Applicant and Natural England.

- 10.2 The predicted mortality from the Rampion project alone is 104 GBBG per year. The cumulative mortality rate of GBBG for all OWF projects, up to and including Rampion is 1873 birds per year.
- 10.3 The predicted GBBG mortality rates are based on a 98% AR. There is some evidence (Maclean *et al*, 2009) to suggest that this might be overly precautionary and that a higher AR of 99.5% might be more appropriate.
- 10.4 The applicant undertook further PBR analysis to determine the effect of this GBBG mortality at a population level. This analysis estimated that between 832 and 2495 GBBG could be killed a year without affecting the population in the long term. The predicted OWF cumulative mortality of 1873 birds lies within this estimate.
- 10.5 It is the SoS's view that the Rampion project's contribution to the total OWF mortality is small and does not make a significant contribution to the overall OWF mortality rate. The SoS, noting the precaution associated with the use of an avoidance rate of 98% and the headroom left from the PBR analysis, believes the cumulative OWF mortality rate will not affect the population of GBBG in the long term.

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ANNEX A: European Sites identified for the purposes of the HRA and their qualifying features (Source: RIES Matrices A to I)

Designated site	Site qualifying features	Distance to Rampion
Chichester and Langstone Harbours SPA/Ramsar	Bar-tailed godwit (<i>Limosa lapponica</i>) (SPA only over-winter) Black-tailed godwit (<i>Limosa limosa islandica</i>) (SPA only over-winter, Ramsar spring and autumn) Common redshank (<i>Tringa tetanus</i>) (SPA only over-winter, Ramsar spring and autumn) Common shelduck (<i>Tadorna tadorna</i>) (SPA and Ramsar over-winter) Common tern (<i>Sterna hirundo</i>) (breeding) Dark-bellied brent goose (<i>Branta bernicla bernicla</i>) (SPA and Ramsar over-winter) Dunlin (<i>Calidris alpina alpina</i>) (SPA and Ramsar over-winter) Eurasian curlew (<i>Numenius arquata</i>) (SPA only over-winter) Eurasian teal (<i>Anas crecca</i>) (SPA only over-winter) Eurasian wigeon (<i>Anas penelope</i>) (SPA only over-winter) Grey plover (<i>Pluvialis squatarola</i>) (SPA and Ramsar over-winter) Little egret (<i>egretta garzetta</i>) (SPA only over-winter and on passage) Little tern (<i>Sterna albifrons</i>) (SPA and Ramsar breeding) Northern pintail (<i>Anas acuta</i>) (SPA only over-winter) Northern shoveler (<i>Anas clypeata</i>) (SPA only over-winter) Red-breasted merganser (<i>Mergus serrator</i>) (SPA only over-winter) Ringed plover (<i>Charadrius hiaticula</i>) (SPA only over-winter and on passage, Ramsar spring and autumn) Ruddy turnstone (<i>Arenaria interpres</i>) (SPA only over-winter) Sanderling (<i>Calidris alba</i>) (SPA only over-winter) Sandwich tern (<i>Sterna sandvicensis</i>) (breeding) Wintering waterfowl assemblage (SPA)	35 km
Portsmouth Harbour SPA and Ramsar	Black-tailed godwit (<i>Limosa limosa islandica</i>) (SPA only over-winter) Dark-bellied brent goose (<i>Branta bernicla bernicla</i>) (SPA & Ramsar = over-winter) Dunlin (<i>Calidris alpina alpina</i>) (SPA only over-winter) Red-breasted merganser (<i>Mergus serrator</i>) (SPA only over-winter)	53 km
Solent and Southampton Water SPA and Ramsar	Black-tailed godwit (<i>Limosa limosa islandica</i>) (SPA and Ramsar over-winter) Common tern (<i>Sterna hirundo</i>) (SPA only breeding) Dark-bellied brent goose (<i>Branta bernicla bernicla</i>) (SPA and Ramsar over-winter) Eurasian teal (<i>Anas crecca</i>) (SPA and Ramsar over-winter) Little tern (<i>Sterna albifrons</i>) (SPA only breeding) Mediterranean gull (<i>Larus melanocephalus</i>) (SPA only breeding) Ringed plover (<i>Charadrius hiaticula</i>) (SPA over-winter and Ramsar spring/autumn)	49 km

Designated site	Site qualifying features	Distance to Rampion
	Roseate tern (<i>Sterna dougallii</i>) (SPA only breeding) Sandwich tern (<i>Sterna sandvicensis</i>) (SPA only breeding) Wintering waterfowl assemblage (SPA and Ramsar)	
Pagham Harbour SPA	Common tern (<i>Sterna hirundo</i>) Dark-bellied brent goose (<i>Branta bernicla bernicla</i>) (over-winter) Little tern (<i>Sterna albifrons</i>) (breeding) Northern pintail (<i>Anas acut</i>) (over-winter) Ruff (<i>Philomachus pugnax</i>) (over-winter)	28 km
Dungeness to Pett Levels SPA	Aquatic warbler (<i>Acrocephalus paludicola</i>) (on passage) Bewick's swan (<i>Cygnus columbianus bewickii</i>) (over-winter) Common tern (<i>Sterna hirundo</i>) (breeding) Little tern (<i>Sterna albifrons</i>) (breeding) Mediterranean gull (<i>Larus melanocephalus</i>) (breeding) Northern shoveler (<i>Anas clypeata</i>) (over-winter)	57 km
Alderney West Coast and the Burhou Islands Ramsar	Atlantic puffin (<i>Fratercula arctica</i>) (nesting) European storm-petrel (<i>Hydrobates pelagicus</i>) (nesting) Great black-backed gull (<i>Larus marinus</i>) (nesting) Lesser black-backed gull (<i>Larus fuscus</i>) (nesting) Northern gannet (<i>Morus bassanus</i>) (nesting and breeding)	180 km
Forth Islands SPA	Atlantic puffin (<i>Fratercula arctica</i>) (breeding) Arctic tern (<i>Sterna paradisaea</i>) (breeding) Common tern (<i>Sterna hirundo</i>) (breeding) Lesser black-backed gull (<i>Larus fuscus</i>) (breeding) Northern gannet (<i>Morus bassanus</i>) (breeding) Roseate tern (<i>Sterna dougallii</i>) (breeding) Sandwich tern (<i>Sterna sandvicensis</i>) (breeding) Shag (<i>Phalacrocorax aristotelis</i>) (breeding) Seabird breeding assemblage including breeding kittiwake	609 km
Flamborough Head and Bempton Cliffs SPA	Gannet, <i>Morus bassanus</i> (breeding) Kittiwake, <i>Rissa tridactyla</i> (breeding) Razorbill, <i>Alca torda</i> (assemblage species) Guillemot, <i>Uria aalge</i> (assemblage species) Puffin, <i>Fratercula arctica</i> (assemblage species) Herring gull, <i>Larus argentatus</i> (assemblage species)	490 km
Alde-Ore Estuary SPA and Ramsar	Common redshank (<i>Tringa totanus</i>) (SPA and Ramsar over-winter) Eurasian marsh harrier (<i>Circus aeruginosus</i>) (SPA only breeding) Lesser black-backed gull (<i>Larus fuscus</i>) (SPA and Ramsar breeding)	184 km

Designated site	Site qualifying features	Distance to Rampion
	<p>Little tern (<i>Sterna albifrons</i>) (SPA only breeding) Pied avocet (<i>Recurvirostra avosetta</i>) (SPA only breeding and SPA and Ramsar over-winter) Ruff (<i>Philomachus pugnax</i>) (SPA only over-winter) Sandwich tern (<i>Sterna sandvicensis</i>) (SPA only breeding) Breeding seabird assemblage (SPA) Wintering waterbird assemblage (SPA)</p>	
Solent Maritime SAC	<p>Atlantic salt meadows (<i>Glauco-puccinellietalia maritima</i>) (P) Estuaries (P) Spartina swards (<i>Spartinion maritima</i>) (P) Annual vegetation of drift lines (Q) Coastal lagoons (Q) Mudflats and sandflats not covered by seawater at low tide (Q) Perennial vegetation of stony banks (Q) Salicornia and other annuals colonising mud and sand (Q) Sandbanks which are slightly covered by sea water all the time (Q) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes') (Q) Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>) (Q)</p>	38 km
South Wight Maritime SAC	<p>Reefs (P) Submerged or partially submerged sea caves (P) Vegetated sea cliffs of the Atlantic and Baltic coasts (P)</p>	42 km
Solent and Isle of Wight Lagoons SAC	Coastal Lagoons (P)	40 km
Bassurelle Sandbank SCI	Sandbanks which are slightly covered by sea water all the time (P)	60 km
Wight Barfleur cSAC	Reefs (P)	56 km
Dungeness SAC	<p>Annual vegetation of drift lines (P) Perennial vegetation of stony banks (P) Great Crested Newt (<i>Triturus cristatus</i>) (Q)</p>	57 km
Hastings Cliff SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts (P)	46 km
Lyme Bay and Torbay SCI	<p>Reefs (P) Submerged or partially submerged sea caves (P)</p>	162 km direct, 168 km around the coast
Margate and Long Sands SCI	Sandbanks which are slightly covered by sea water all the time (P)	115 km direct, 148 km around the coast

Designated site	Site qualifying features	Distance to Rampion
Baie de Seine Occidentale SPA (Iles de Saint Marcouf)	Lesser Black-backed Gull	130 km
Archipel des Sept-Iles SPA	Gannet European Storm-petrel Shag Lesser Black-backed Gull	300 km
Flamborough and Filey Coast pSPA	Gannet, <i>Morus bassanus</i> (breeding and migratory) Kittiwake, <i>Rissa tridactyla</i> (breeding) Razorbill, <i>Alca torda</i> (migratory and assemblage species) Guillemot, <i>Uria aalge</i> (migratory assemblage species) Puffin, <i>Fratercula arctica</i> (assemblage species) Herring gull, <i>Larus argentatus</i> (assemblage species)	490 km