

**RECORD OF THE HABITATS REGULATIONS ASSESSMENT UNDERTAKEN  
UNDER REGULATION 61 OF THE CONSERVATION OF HABITATS AND  
SPECIES REGULATIONS 2010 AND REGULATION 25 OF THE OFFSHORE  
MARINE CONSERVATION (NATURAL HABITATS &c.) REGULATIONS 2007 FOR  
AN APPLICATION UNDER THE PLANNING ACT 2008**

***Project Title:* Triton Knoll Electrical System**

**Date: 2<sup>nd</sup> September 2016**

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# Introduction

## Background

- 1.0 This is a record of the Habitats Regulation Assessment (“HRA”) that the Secretary of State for Business, Energy and Industrial Strategy has undertaken under the Conservation of Habitats and Species Regulations 2010 (“the Habitats Regulations”) and the Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (“the Offshore Habitats Regulations”) in respect of the Development Consent Order (“DCO”) and Deemed Marine Licence (“dML”) for the Triton Knoll Electrical System and its associated infrastructure (the “Project”). For the purposes of these Regulations the Secretary of State is the competent authority.
- 1.1 Development Consent was granted for the Triton Knoll Offshore Wind Farm (TKOWF) on 11 July 2013 by the Triton Knoll Offshore Wind Farm Order 2013 (SI 2013 No. 1734). This is an offshore array of up to 288 turbines with a maximum generating capacity of up to 1200MW together with associated inter-array cabling and up to four offshore substation platforms. The TKOWF DCO application did not include associated electrical infrastructure such as offshore export cables, onshore cables and associated substations necessary to transport power onshore for connection to the national grid. The Project would provide this infrastructure to connect the consented TKOWF to the national grid. The Project application is described in more detail in Section 2.
- 1.2 The Project does not fall within the definition of a NSIP as set out in Part 3 of the Planning Act 2008 (as amended). However, following submission of a qualifying request from the Applicant, on 14 November 2013, the Secretary of State made a Direction under s35(1) of PA2008, directing that the Project is nationally significant [OD-001].
- 1.3 The Project was accepted by the Planning Inspectorate (“PINS”) on 21 May 2015 and a three-member Panel of Inspectors (“the Panel”) was appointed as the Examining Authority for the application. The examination of the Project application began on 03 September 2015 and completed on 03 March 2016. The Panel submitted its report of the examination, including its recommendation (“the Panel’s Report”), to the Secretary of State on 03 June 2016.
- 1.4 The Secretary of State’s conclusions on habitats and wild birds issues contained in this HRA report have been informed by the Panel’s Report, and further information and analysis, including the Report on the Implications for European Sites (“RIES”) and written responses to it.

## Habitats Regulations Assessment (HRA)

- 1.5 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.

- 1.6 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.
- 1.7 A Site of Community Importance (“SCI”) is a site in the process of receiving approval; it has received approval by the European Commission (“EC”) and will be a SCI until the site has been formally designated as a SAC by UK Government. It is domestic policy to treat SCIs as if they are designated SACs.
- 1.8 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.
- 1.9 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 serve the same function for the UK’s offshore marine area. Both Regulations apply in this case because the Project infrastructure spans onshore areas and marine areas within and outside the 12 nm limit.
- 1.10 Regulation 61 of the Habitats Regulations provides that:
- ....before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site,[ the competent authority] must make an appropriate assessment of the implications for that site in view of that site’s conservation objectives.*

- 1.11 Regulation 25 of the Offshore Habitats Regulations contains similar provisions:
- .....Before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) 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 (b) likely to have a significant effect on a European marine site (either alone or in combination with other plans or projects) and (c) is not directly connected with or necessary to the management of that site, a competent authority must make an appropriate assessment of the implications for that site in view of that site’s conservation objectives.*

- 1.12 This Project is not directly connected with, or necessary to, the management of a European site or a European marine site. The Habitats Regulations and the Offshore Habitats Regulations require that, where the project is likely to have a significant effect (“LSE”) on any such site, where not connected with, or necessary to, the management of that European site, an appropriate assessment (“AA”) is carried out to determine whether or not the project will have an adverse effect on the integrity of the site in view of that site’s Conservation Objectives. In this document, the assessments as to whether there are LSEs, and, where required, the AAs, are collectively referred to as the Habitats Regulations Assessment (“HRA”).
- 1.13 The UK Government is currently considering the designation of a number of new European sites. As a matter of government policy, an HRA will be required only for those sites that are in or have undergone a public consultation.
- 1.14 This report should be read in conjunction with the following documents that provide extensive background information (a fuller list of documents is provided in the References section of this report):
- The Panel’s Report
  - The Panel’s Report on the Implications for European Sites (RIES)
  - The Applicant’s Environmental Statement
  - The Report to Inform Appropriate Assessment (RIAA) and associated documents
  - The Applicant’s Environmental Impact Assessment Evidence Plan
  - Plus other documents submitted during the Examination, available at <https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/triton-knoll-electrical-system/>
- 1.15 The key information in these documents and written representations is summarised and referenced in this report.

## **The RIES and Statutory Consultation**

- 1.16 Under the Habitats Regulations and the Offshore 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 specifies.
- 1.17 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 the SNCB beyond 12 nm, but this duty has been discharged to NE following the 2013 Triennial Review of both organisations (Defra, 2013). However, JNCC retains responsibility as the statutory advisor for European sites that are located outside the territorial sea and UK internal waters (i.e. more than 12 nautical miles offshore) and as such continues to provide advice to NE on the significance of any potential impacts on interest features of such sites.

- 1.18 The Panel prepared a Report on the Implications for European Sites (“RIES”), with support from the Planning Inspectorate Environmental Services Team. The RIES was based on the Applicant’s HRA report entitled ‘Report to Inform Appropriate Assessment’ [APP-017] together with the Applicant’s screening and integrity matrices for European sites. The RIES documented the information received during the examination and presented the Panel’s understanding of the main facts regarding the HRA to be carried out by the Secretary of State. The RIES was issued to ensure that Interested Parties, including the SNCB’s, were consulted formally on habitat regulation matters, as required under regulation 61(3) of the Habitats Regulations and regulation 25(3) of the Offshore Habitats Regulations.
- 1.19 The RIES was published on PINS planning portal website<sup>1</sup> and the Panel notified Interested Parties that it had been published; responses were required by 24 February 2016. Responses were received from Natural England [REP7-006] and the Applicant [[REP7-009].
- 1.20 The Secretary of State is content to accept the Panel’s recommendation that the RIES, and consultation on it, represents an appropriate body of information to enable the Secretary of State to fulfil his duties in respect of European sites. This HRA has been based on the RIES and responses to it.

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<sup>1</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020019/EN020019-000584-Report%20on%20the%20Implications%20for%20European%20Sites.pdf>

## Development Description

- 2.0 The Applicant is proposing to develop the Project in order to connect the TKOWF, for which consent was granted by the Secretary of State on 11 July 2013, to the existing National Grid substation at Bicker Fen, Boston. The Project has both onshore and offshore components.
- 2.1 The onshore components do not overlap with any European or Ramsar site; however the offshore cable route runs through the Inner Dowsing, Race Bank and North Ridge SCI.
- 2.2 No other part of the area within the Order limits would adjoin, or be within, any other European site. However, the proposal may have indirect effects on European sites some distance away from the area proposed for this project.

## Development Components

- 2.3 The Project comprises the following main components:
- Submarine cable route for exporting electricity generated by the offshore wind farm to the shore along a route of around 66 km;
  - A landfall site with associated jointing of offshore and onshore cables to the north of the village of Anderby Creek;
  - Onshore underground cable along a route of around 60 km;
  - An Intermediate Electrical Compound, east of the village of Orby;
  - A new onshore substation for TKOWF to the northwest of the village of Bicker; and
  - A connection to the existing National Grid substation at Bicker Fen.
- 2.4 Full details of the infrastructure to be used in the Development are detailed in Schedule 1, Part 1 of the DCO.

## Rochdale Envelope

- 2.5 The Applicant has adopted a 'Rochdale Envelope' approach within their ES. The Rochdale Envelope is a term used in planning to reflect that often a developer will not know all of the details associated with the proposal at the time of application. The Rochdale Envelope allows the Applicant to set out the broad range of options under consideration and then carry out an ES based on the realistic worst case scenario for each of those options. These options are used within the ES to assess the significance of the Project's environmental effects. This allows the Applicant to apply for a DCO that allows some flexibility in the final design of the Project whilst providing certainty that no greater environmental effects than those described in the ES can occur, providing the final project design lies within the options assessed.
- 2.6 The assessment within the ES considers all relevant activities and works associated with the construction, operation and maintenance and decommissioning of the Project.
- 2.7 The ES is therefore based on the assessment of the realistic worst case scenario in environmental terms. The Project 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

- 2.8 An indicative start-date for the construction of onshore infrastructure is 2017. The Applicant's onshore project description [APP-042] describes the onshore Project components with their construction periods, the sum of which equals 293 months. However, the total construction period may be shorter than this as many of the work activities could be overlapped.
- 2.9 Construction of the offshore electrical system infrastructure is expected to commence in 2018. The installation of the offshore infrastructure, excluding surveys and site preparation, is anticipated to take approximately 12 months and this activity may be spread across a two-year period [APP-028].
- 2.10 The final offshore construction programme will be submitted to the Marine Management Organisation ("MMO") under the requirements of the dML (Condition 7). The Code of Construction Practice, which will detail the onshore programme of construction, will be required under the DCO to be submitted to the relevant district planning authority for their approval (Requirement 14 of Part 3 of Schedule 1 to the DCO).

### Operation and Maintenance

- 2.11 Operation and maintenance activities will occur over the lifetime of the project. The Applicant's onshore and offshore project descriptions give details of the types of operation and maintenance activities associated with the development [APP-028, APP-042]

### Decommissioning

- 2.12 Decommissioning for the offshore elements of the project is regulated under the Energy Act 2004. Broadly speaking, under that Act, the Secretary of State has powers to require a person who is responsible for an offshore renewable energy installation to prepare a costed decommissioning programme setting out how the project will be removed and ensure that the programme is carried out. The Secretary of State can approve, modify or reject a decommissioning programme at any point. It is not possible at this stage to predict with any certainty what the European and Ramsar site context of the Project will be in the future as sites may increase or decrease in importance in relation to the context of the Project over that time. Decommissioning activities will need to comply with all relevant UK legislation at the time. Separate authorisations will also be required as part of decommissioning, after the preparation of an ES and HRA by the authorising body (including appropriate consultation with the relevant statutory nature conservation bodies). The decommissioning programme is included as Requirement 4 within the DCO for the Project.
- 2.13 Similarly, for the onshore works, an onshore decommissioning plan must be submitted to the relevant planning authority for approval. This must be submitted within six months of the cessation of commercial operation of the onshore works, and after consultation with landowners



in relation to their landholding. The decommissioning plan is included as Requirement 22 within the DCO for the Project.

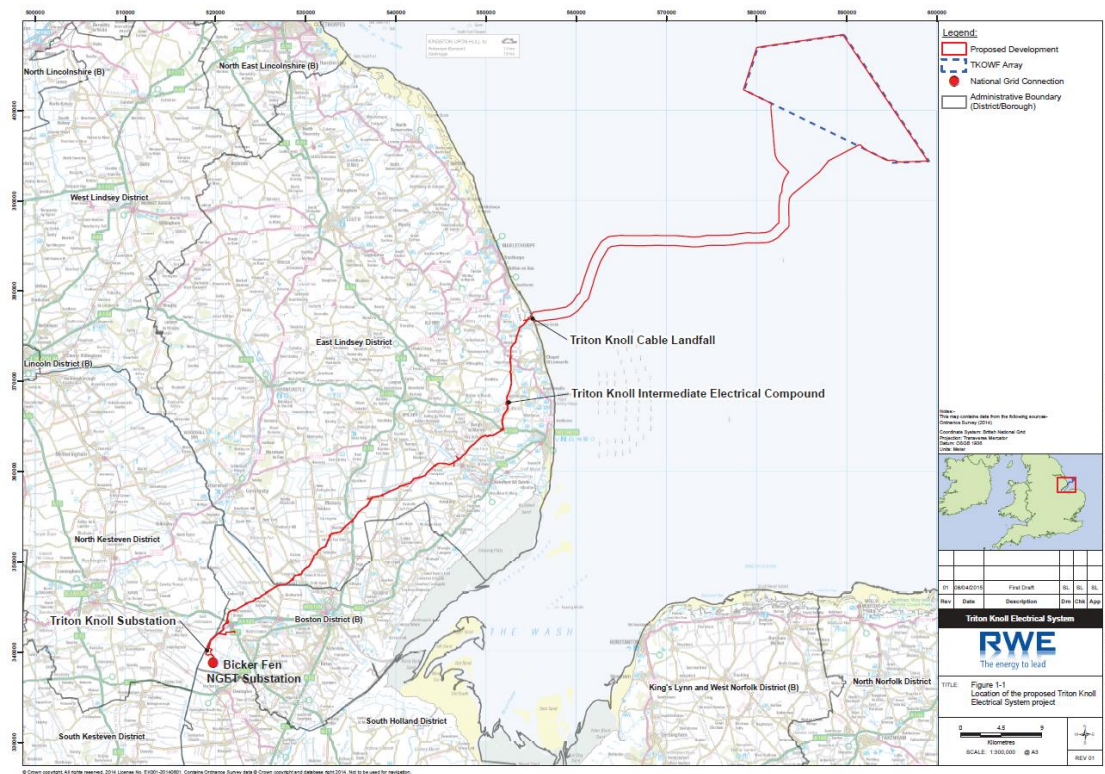
- 2.14 If the environmental baseline were to be similar to the current situation, then the impacts of decommissioning of the Project could be expected to be similar to the anticipated impacts of construction. There is no reason to suppose that the impacts of decommissioning will cause an adverse effect on site integrity and on this basis, the Secretary of State 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.

# Development location and designated sites

## Location

3.0 The consented TKOWF array is located approximately 33km east of the Lincolnshire coast and 48km north of the North Norfolk coast. The TKES Project area comprises the majority of the array area and an offshore cable corridor connecting the array to the proposed landfall infrastructure just north of Anderby Creek, Lincolnshire. On land, the application site comprises an onshore cable corridor through the local authority areas of East Lindsey District Council (ELDC) and Boston Borough Council (BBC) in Lincolnshire, terminating at the existing National Grid substation at Bicker Fen, Boston. The Intermediate Electrical Compound is to be located near to Orby Marsh and the new substation is proposed at Bicker Fen. The location of the project is shown at Figure 1.

**Figure 1** Location of the Project in relation to the consented TKOWF [App-018]



## European and International Sites

- 3.1 The project is not connected with or necessary to the management for nature conservation of any European Site.
- 3.2 The list below provides a complete record of all of the European or Ramsar sites that have been referred to in the RIES, where there could be a potential for a LSE:
- Inner Dowsing, Race Bank and North Ridge SCI

- Greater Wash possible SPA
- Humber Estuary SAC
- Humber Estuary SPA
- Humber Estuary Ramsar Site
- The Wash and North Norfolk Coast SAC
- Saltfleetby to Theddlethorpe Dunes and Gibraltar Point SAC
- North Norfolk Coast SPA
- North Norfolk Coast Ramsar site
- The Wash SPA
- The Wash Ramsar site
- Gibraltar Point SPA
- Gibraltar Point Ramsar site
- Outer Thames Estuary SPA
- Flamborough Head and Bempton Cliffs SPA
- Flamborough and Filey Coast proposed SPA
- Hornsea Mere SPA
- Southern North Sea possible SAC

3.3 The Secretary of State is content that the Habitats Regulations or Offshore Habitats Regulations apply to all of the above sites, except for one. In relation to the Greater Wash possible SPA, the Secretary of State understands that this site has the potential to become a Special Protection Area. However, because the consultation documents for this site are not yet formally published, the final details of the site's features and conservation objectives are not yet available on which to make a complete HRA assessment. Despite this the Secretary of State has considered the representations provided by NE [REP7-006] and the Applicant [REP5-044] during the examination and documents provided by the Applicant in its application [APP-132, APP-057]. On review of the information currently available, the Secretary of State is content that the Project would not hinder the SPA from being designated in the future.

3.4 The RIES did not identify any potential impacts on European sites in other European Economic Area states. The Secretary of State agrees with this conclusion.

## Likely Significant Effects Test

- 4.0 Under regulation 61 of the Habitats Regulations or regulation 25 of the Offshore Habitats Regulations, the Secretary of State must consider whether a development will have a 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.
- 4.1 The purpose of this test is to identify LSEs on European sites that may result from the Project and to record the Secretary of State's conclusions on the need for an AA and his reasons for including activities, sites or plans and projects for further consideration in the AA. For those features where a 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.
- 4.2 This section addresses this first step of the HRA, for which the Secretary of State has considered the potential impacts of the Project both alone and in combination with other plans and projects on the European and Ramsar sites identified in the RIES (and listed in paragraph 3.2 above) to determine whether or not there will be a LSE.
- 4.3 As noted above and in the RIES, 18 European and Ramsar sites were identified within the assessment of LSE. Of these, the Panel, Natural England and the Applicant concluded that significant effects were only likely to occur to the Inner Dowsing, Race Bank and North Ridge (IDRBNR) SCI. For further information on the reasons why LSEs were excluded for the other European and Ramsar sites, the reader is invited to refer to the published RIES. The Secretary of State agrees with the Panel's conclusion to exclude a LSE from these sites and has adopted these conclusions for the purposes of the HRA.

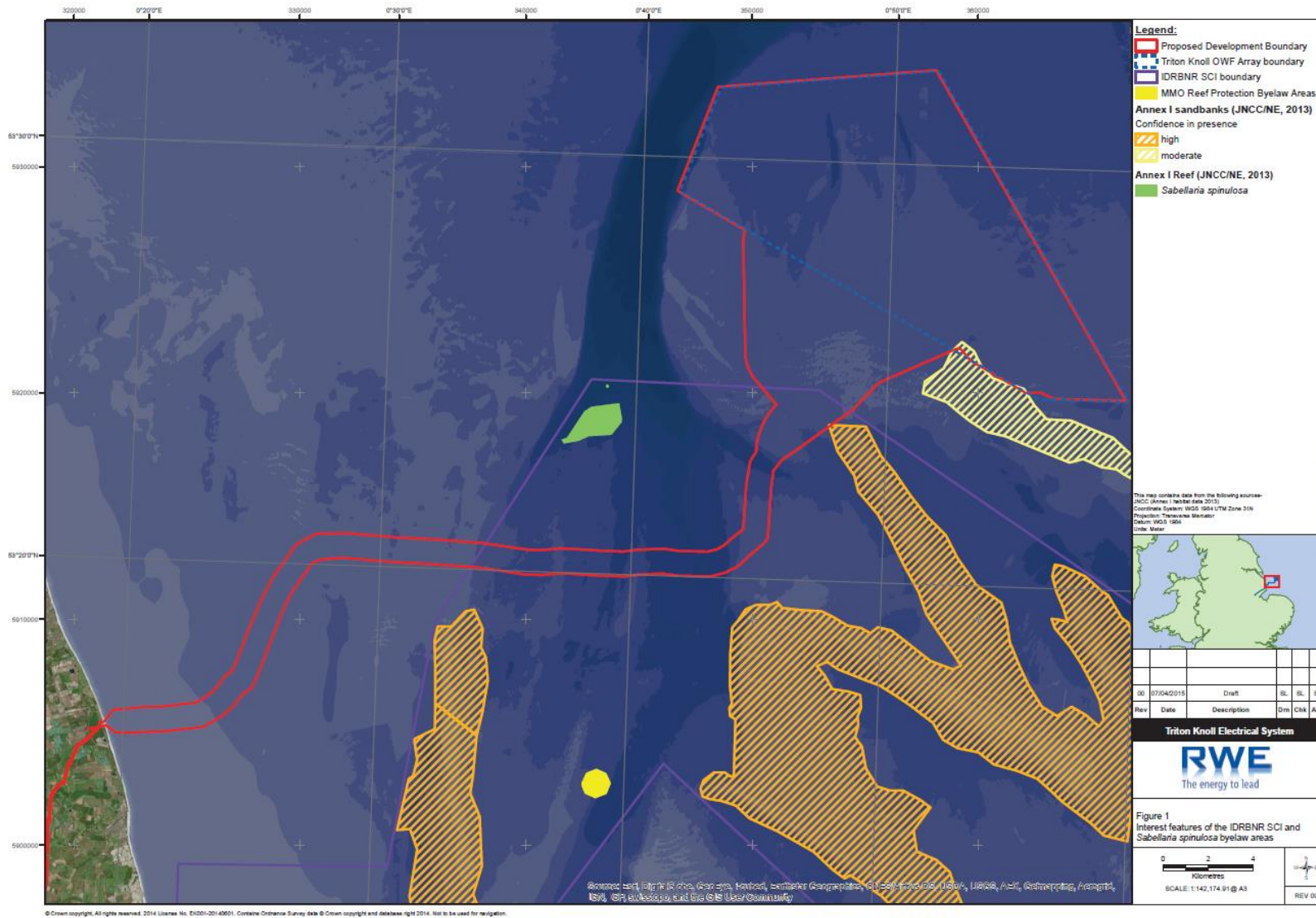
### **Inner Dowsing, Race Bank and North Ridge SCI**

- 4.4 The IDRBNR SCI is located off the south Lincolnshire coast, encompassing a wide range of sandbank types and biogenic reef.
- 4.5 This site is designated for two Annex I<sup>2</sup> features: Sandbanks which are slightly covered by seawater at all times and *Sabellaria spinulosa* biogenic reef.
- 4.6 Parts of the offshore section of the Project are located within the IDRBNR SCI. Figure 2 shows the location of the Project, the boundary of the SCI and the known locations of the Annex I interest features.

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<sup>2</sup> SACs are designated for the habitats listed on Annex I of the Council Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora.

**Figure 2** Location of the Project in relation to the INRBNR SCI [App-017]



- 4.7 The main sandbank features of this site occur within the Wash Approaches, the Race Bank-North Ridge-Dudgeon Shoal system and at Inner Dowsing. The tops of the sandbanks are characterised by low diversity communities of polychaete worms and amphipod crustaceans. The trough areas between the sandbank features contain a diverse mosaic of biotopes on mixed and gravelly sands.
- 4.8 Biogenic reef created by the Ross worm *Sabellaria spinulosa* has consistently been recorded within the site. These reefs support a variety of bryozoans, hydroids, sponges and anemones as well as the common lobster *Homarus gammarus* and the commercially exploitable pink shrimp *Pandalus montagui*
- 4.9 The Applicant assessed both features for LSEs:  
Annex I Sandbanks which are slightly covered by seawater at all times
- 4.10 For the Sandbanks which are slightly covered by seawater at all times, a LSE was ruled out in the Applicant's Report to Inform Appropriate Assessment (RIAA) [App-017]. In the report the Applicant stated that: "*A LSE is defined, in this context, as any effect (either alone or in combination with other projects) that may be reasonably predicted as a consequence of a plan or project to affect the conservation objectives of the features for which the Site was designated, but excluding trivial or inconsequential effects. On this basis the focus of this report is on Sabellaria spinulosa reefs and not the sandbank features (Table 8). As shown on Figure 1 the designated sandbank features comprise 183km<sup>2</sup> of which some 0.02km<sup>2</sup> (0.01%) of the feature extends 180m into the cable corridor.*"
- 4.11 Despite the Applicant's conclusion of no LSE, during the Examination Natural England noted some discrepancies in the application documents in relation to sandwave preparation prior to cable installation. In response, the Applicant provided a clarification note [REP2-025] addressing the maximum adverse scenario used for the assessment within the ES and the RIAA. Upon receiving this note, Natural England subsequently confirmed [REP4-025] it was satisfied.
- 4.12 In response to the RIES consultation, Natural England [REP7-006] stated that it agreed with there being no LSE to the sandbank features. However, it wished to: "*highlight that although sand waves may only cover a small area, they form part of the Annex 1 sandbank sediment system within the IDRBNR SCI and it is important that the movement of sediment in and around them is not interrupted. Therefore, our preference would be that sand waves are levelled sufficiently to ensure cables can be adequately buried and cable protection is only placed where it is absolutely essential i.e. at cable crossings. Sand waves should be levelled by moving the sand to the side to allow it to stay within the site, as opposed to it being removed.*"
- 4.13 Natural England went on to acknowledge that commitments to the above were made by the Applicant in several examination documents. The Panel, also acknowledging these commitments, noted that they are secured through reporting mechanisms in the dML within Condition 7 (Pre-construction plans and documentation), specifically:
- Condition 7(a), a plan showing the length and arrangement of the offshore cables;

- Condition 7(c), a construction method statement;
- Condition 7(e) a cable protection plan; and
- Condition 7(f), a cable specification and installation plan.

#### Annex I *Sabellaria spinulosa* reef

4.14 For the Annex 1 *Sabellaria spinulosa* reef feature, the following potential impacts were considered in the Applicant's RIAA [APP-017]:

- physical/direct damage during construction, operation and decommissioning;
- increased suspended sediment/smothering during construction and decommissioning; and
- habitat loss during operation (resulting from the presence of artificial seabed infrastructure).

4.15 The Applicant's RIAA ruled out a LSE on *Sabellaria spinulosa* feature of the IDRBNR SCI from the project alone on the basis that the proposed development boundary avoids any known reef locations and that *Sabellaria spinulosa* recovers rapidly from short term or intermediate levels of disturbance [APP-017]. In the Applicant's view, impacts on unknown reef features from construction activities would be mitigated through the development of an Annex I Mitigation Plan that would be informed by a pre-construction Annex I habitat survey. This would facilitate micro-siting of the cable and associated secondary protection [APP-017]. The Applicant provided the above commitments in Conditions 7(h) and 12(4)(a), respectively, of the dML.

4.16 The Applicant did however conclude a LSE for potential in-combination operational phase impacts on the functional biological community of the *Sabellaria spinulosa* when considered in combination with other plans and projects (Table 2 of [APP-017]). This was because a LSE had previously been identified for other projects in isolation. The projects considered in combination were as follows:

- Race Bank offshore wind farm ("OWF")
- Lynn and Inner Dowsing ("LID") OWFs
- Lincs OWF
- Aggregate renewal areas 515 (formerly 440 with a now reduced footprint), 107 and 439;
- Aggregate areas 480 and 481/1 and 481/2

4.17 While Natural England agreed with the Applicant's in combination assessment, they disagreed with a number of matters relating to the Applicant's assessment of the Project alone.

4.18 In its Relevant Representation, Natural England [RR-175] raised concerns over the type of cable protection to be used, its removability at decommissioning and the quantity to be used (in order to establish a worst case scenario of the maximum footprint), particularly within the IDRBNR SCI. Natural England considered that cable protection should be used as a last resort and should be removed at decommissioning.

- 4.19 This issue was resolved when, during Examination, Natural England agreed [REP1-032] that the construction method statement (“CMS”) and cable protection plan, as secured in the dML, Part 2, Condition 7(c) and 7(e), respectively, were sufficient to address their concerns. The construction method statement will include details of the cable installation, including cable landfall, cable protection and pipeline crossings; and the cable protection plan will provide details of the need, type, sources, quantity and installation methods for cable armouring and a statement of the total area and volume of cable armouring material to be installed, to be within the scope of the environmental impact assessment recorded in the environmental statement.
- 4.20 While agreement was reached on the matter of cable protection, one issue, relating to operation and maintenance activities, remained open until the close of Examination. Natural England was concerned about operation and maintenance activities potentially damaging any Annex I reef that may colonise the cables in the future. On this basis, and in disagreement with the Applicant, Natural England was unable to exclude a LSE from the Project alone [REP1-032, REP3-026 and REP4-025]. In the RIES, the Panel noted this disagreement, and after giving consideration to the precautionary principle<sup>3</sup>, the Panel agreed with Natural England that a LSE could not be excluded for the Project alone and in combination with other plans or projects.
- 4.21 In view of the discussions that occurred during the Examination, the Secretary of State agrees that, with the exception of operation and maintenance activities, all impact pathways assessed by the Applicant will not lead to a LSE on the two Annex I features of the IDRBNR SCI, alone or in combination with other plans or projects. His conclusion is based on the mitigation commitments provided for in Conditions 7 and 12 of the dML.
- 4.22 However, in order to arrive at this conclusion, the Secretary of State has concluded it necessary to make amendments to the dML. The Secretary of State notes that Natural England’s advice during the Examination was, in part, based on the commitment from the Applicant to produce pre-construction plans provided for in Condition 7. The Secretary of State, therefore, considers that this documentation should be produced in consultation with the appropriate SNCB but, in considering the Order recommended to him by the Panel, the Secretary of State notes that this has not been made clear. As such, he has amended Condition 7 to provide that before approving the various pre-construction plans under the dML, the MMO must consult the relevant SNCB.
- 4.23 **In relation to operation and maintenance impacts, the Secretary of State has taken the precautionary principle into account and he agrees with the advice from Natural England and the recommendation from the Panel that a LSE on the IDRBNR SCI cannot be excluded from the project alone. In reviewing the Applicant’s RIAA and in consideration of the advice from Natural England and the recommendation from the Panel, the Secretary of State also agrees that a LSE cannot be excluded for the Project in combination with other plans and projects. The Secretary of State has concluded that it is necessary to undertake an Appropriate Assessment to assess the potential impacts of operation and maintenance activities on the site’s Annex I *Sabellaria spinulosa* reef feature.**

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<sup>3</sup> All forms of environmental risk should be tested against the precautionary principle which means that where there are real risks to the site, lack of full scientific certainty should not be used as a reason for postponing measures that are likely to be cost effective in preventing such damage. (Department of the Environment, Transport and the Regions & the Welsh Office, 1998).



# Appropriate Assessment

## Test for Adverse Effect on Site Integrity

- 5.0 The requirement to undertake an AA is triggered when a competent authority, in this case the Secretary of State, 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).
- 5.1 The purpose of this AA is to determine whether or not adverse effect on integrity of those sites and features identified during the LSE test can be ruled out as a result of the Project alone or in combination with other plans and projects in view of the site's conservation objectives and using the best scientific evidence available.
- 5.2 If the competent authority cannot ascertain the absence of an adverse effect on 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 an AA.

## Conservation Objectives

- 5.3 Guidance from the European Commission 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 of that guidance 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.*

- 5.4 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).
- 5.5 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. Conservation objectives have been used by the Secretary of State to consider whether the Project has the potential for having an adverse effect on integrity, either alone or in combination.

## Inner Dowsing, Race Bank and North Ridge Site of Community Importance (SCI)

6.0 IDRBNR is an area of sea that was formally submitted by Government to the European Commission as a candidate Special Area of Conservation (cSAC) on 20 August 2010. In November 2011, the European Commission approved the site as part of the Natura 2000 network and it became a Site of Community Importance (SCI).

6.1 The IDRBNR SCI is located off the south Lincolnshire coast in the vicinity of Skegness, extending eastwards and north from Burnham Flats on the North Norfolk coast, occupying The Wash Approaches. Water depths are generally shallow and mostly less than 30m below chart datum (“BCD”). The area encompasses a wide range of sandbank types (banks bordering channels, linear relict banks, sinusoidal banks with distinctive ‘comb-like’ subsidiary banks) and biogenic reef of the worm *Sabellaria spinulosa*.

6.2 These features lay almost entirely on the glacial till of the Bolders Bank Formation which is responsible for much of the evident surface topography, especially glacial mounds, channels and hollows (Cooper et al, 2008). The group of banks within the Wash Approaches are generally between 15 to 20km long and 1.5 to 3km wide. They arise from the basal layers by 7 to 12m with crest heights generally less than 5m BCD. The sedimentary component of the banks is fine to medium sands, predominantly being derived from coastal erosional processes over the last 5,000 years following the last glacial retreat and marine inundation (Cooper et al, 2008).

6.3 Abundant *Sabellaria spinulosa* agglomerations have consistently been recorded within the boundary of the SCI (Foster-Smith & Hendrick, 2003). Survey data indicate that reef structures are concentrated in certain areas of the site, with a patchy distribution of crust-forming aggregations across the site. The main areas of *Sabellaria spinulosa* reef are found along the Lincolnshire coast south of Skegness at Lynn Knock and Skegness Middle Ground (south-east part of the site); just north of Docking Shoal bank; and associated with the southern edge of Silver Pit (in the northern area of the site) (Woo, 2008; Foster-Smith & Hendrick, 2003; Brutto, 2009; Limpenny et al, 2010).

6.4 The formal Conservation Objectives for the IDRBNR SCI interest features are provided below in Table 1. The Conservation Objectives, which have been taken from the Regulation 35 Conservation Advice Package (Natural England and JNCC, 2013), have been used to inform this Habitats Regulations Assessment.

**Table 1** Conservation Objectives for the INRBNR SCI (Natural England, 2013).

Conservation Objectives	<p><b>The formal conservation objectives for Annex 1 Sandbanks slightly covered by seawater all the time:</b></p> <p>Subject to natural change<sup>4</sup>, maintain<sup>5</sup> or restore<sup>6</sup> the sand banks in favourable condition<sup>7</sup>, in particular the sub-features:</p>
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<sup>4</sup> **Natural change** refers to changes in the habitat which are not a result of human influences. Human influence on the interest features is acceptable provided that it is proved to be/can be established to be compatible with the achievement of the conditions set out under the definition of favourable condition for each interest feature. A failure to meet these conditions, which is entirely a result of natural process will not constitute unfavourable condition, but may trigger a review of the definition of favourable condition. Features should not necessarily be considered in unfavourable condition when caused by the short term disappearance of a particular community due to natural processes.

for the INRBNR SCI	<ul style="list-style-type: none"> <li>➤ Gravelly muddy sand communities</li> <li>➤ Dynamic sand communities</li> </ul> <p><b>The formal conservation objectives for Annex 1 <i>Sabellaria spinulosa</i> reefs:</b></p> <p>Subject to natural change, maintain or restore the reefs in favourable condition</p>
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## Alone Assessment

6.5 As noted in section 4, a LSE on the IDRBNR SCI was identified due to operation and maintenance activities from the project alone potentially damaging Annex I *Sabellaria spinulosa* reef that may establish on cables over the lifetime of the Project. While the Secretary of State notes that, due to the embedded mitigation (as described in paragraph 4.16), operation and maintenance activities will not damage existing or known Annex I *Sabellaria spinulosa* reef, he considers that this Appropriate Assessment must be carried out in order for him to assess the achievement of the site's 'restore' Conservation Objective (i.e. to consider the potential impacts to reef structures that may establish in the future).

6.6 At Deadline 5 of the examination, the Applicant stated "*that it is not anticipated that significant maintenance work will be required for the operational phase*" [REP5-044]. The Secretary of State has reviewed the Applicants RIAA [App-017] and he notes that the Applicant has provided worst case figures for the assessment of cable remediation and repair. In the RIAA, the Applicant states that 6km (1.5%) of the total cable length may undergo replacement or remedial activities. This equates to a total maximum impact scenario seabed footprint of 0.004% of the entire SCI. In addition, in order to assess this impact on unknown reef locations (i.e. those locations where reef has the potential to form), the Applicant provided an estimate of *Sabellaria spinulosa* functional biological community (FBC)<sup>8</sup> area present in the SCI and went on to show that the total maximum impact scenario seabed footprint during cable repair or remediation work equates to 0.005% of this area.

6.7 In addition to the above assessment work, the Secretary of State also notes that the Applicant provided an outline offshore operations and maintenance (O&M) plan with the DCO application [APP-114] which requires the export cable to be periodically inspected during the operational phase to ensure cable burial and integrity. Condition 7(i) of the dML stipulates that works must not commence until an offshore operations and maintenance ("O&M") plan (drafted in accordance with the outline plan) is submitted to and approved in writing by the MMO. This should be submitted to

<sup>5</sup> **Maintain** implies that based on our existing understanding the feature is regarded as being in favourable condition and will, subject to natural change, remain at its condition at designation. Understanding the functioning of large, varied, dynamic marine sites, which experience a variety of pressures resulting from historic and current activities, is difficult and consequently it is hard to define favourable condition precisely in such sites. The Selection Assessment Document indicates that human activity within this site is likely to have had an effect on the physical structure of the sandbanks, and on the biological communities which they support. Our assessment of the condition of the sandbank feature in relation to other activities occurring at the site may also be revised in future.

<sup>6</sup> **Restore** implies that the feature is degraded to some degree and that activities will have to be managed to reduce or eliminate negative impact(s). Restoration in the marine environment generally refers to natural recovery through the removal of unsustainable physical, chemical and biological pressures, rather than intervention (as is possible with terrestrial features).

<sup>7</sup> **Favourable condition** relates to the maintenance of the structure, function, and typical species for that feature within the site.

<sup>8</sup> The Applicant considered **FBC** to represent an appropriate a priori source of distribution of reef potential in the absence of contemporary survey data.

the MMO at least four months prior to the commencement of operation and will be reviewed and resubmitted every three years during operation. The Statement of Common Ground between the Applicant and Natural England [REP5-044] agreed that “the outline O&M plan is appropriate and reasonable to inform the final O&M plan”.

6.8 The Applicant stated [REP1-044] that the cable surveys required under the O&M plan would identify repair areas that are coincidental with areas of core biogenic reef that have formed on the cable since installation and appropriate measures would be identified in consultation with the MMO and the appropriate statutory advisor.

6.9 The Statement of Common Ground between the Applicant and Natural England noted that: “*whilst it is not possible to avoid disturbance of any such reef that has developed over a cable that requires lifting, the survey will provide information on the development of reef on the seabed post construction (cable installation) disturbance or on cable protection material, both of which would provide confidence that the re-establishment of reef over the infrastructure is likely to occur after the maintenance activities have been completed*”.

6.10 The Statement of Common Ground subsequently agreed that: “*appropriate surveys will be undertaken prior to maintenance activities to confirm if any Sabellaria spinulosa reef has formed post-installation and will be used to inform recovery of Annex I reef from ongoing activities over the lifetime of the project*”.

6.11 Natural England confirmed during the examination that all required surveys, including reef surveys prior to maintenance works, will be adequately covered in the O&M Plan (secured by Condition 7 of the dML) and do not need to be secured separately elsewhere [REP6-011]. The Secretary of State notes this agreement but in line with paragraph 4.22 above, he has amended Condition 7 to provide that before approving the various pre-construction plans under the dML, the MMO must consult the relevant SNCB.

6.12 The Secretary of State notes that by the close of Examination, Natural England, the Applicant and the Panel all advised that an adverse effect on the IDRBNR SCI could be excluded for the Project alone.

**6.13 The Secretary of State notes the advice of Natural England and, in view of the Applicant’s assessments and the Panel’s recommendation, he considers that there will not be an adverse effect on integrity on the IDRBNR SCI and its Annex I Sabellaria spinulosa reef feature, from the Project alone.**

### **In-Combination Assessment**

6.14 As noted in section 4, a LSE on the IDRBNR SCI’s Annex I Sabellaria spinulosa reef feature could not be excluded for the Project in combination with other plans and projects. This was because a LSE had previously been identified for the operation and maintenance phases of other projects in isolation. Projects considered were: Race Bank OWF; LID OWFs; Lincs OWF; Aggregate renewal areas 515 (formerly 440 with a now reduced footprint), 107 and 439; and Aggregate areas 480 and 481/1 and 481/2

- 6.15 In assessing in combination effects in the RIAA, the Applicant stated that “*due to the low sensitivity of S. spinulosa to increases in suspended sediment [...] the focus of this in-combination impact section is on direct impacts arising from loss of habitat or disturbance to habitat*”.
- 6.16 To assess physical disturbance, the Applicant provided worst case figures for the Project in combination with other plans of projects [APP-017]. The Applicant predicted that physical disturbance could affect a maximum of 1.905% of the available FBC. However, the Applicant noted that 1.51% of this is from the aggregate operations and that there is a general condition within Aggregate Marine Licences to conduct pre-dredge Annex I surveys and place buffers around areas of reef. The Applicant suggested that, as such, this area of temporary effect is highly precautionary.
- 6.17 For physical loss (for the life time of the projects) the Applicant’s assessment resulted in a worst case in-combination figure of 0.061% of the available FBC.
- 6.18 Overall, for the operation and maintenance phase, the Applicant concluded that there will not be an adverse effect on the IDRBNR SCI features arising from the Project either alone or in combination with other plans or projects. The Applicant considered that this could be concluded “*due to highly localised nature of the secondary protection to be employed within the proposed Triton Knoll Electrical System development in addition to the IDRBNR SCI*” in addition to the relevant findings from other AAs for projects included in its in combination assessment.
- 6.19 The Applicant’s in-combination assessment was not disputed by any interested party in examination and Natural England advised the Panel that that an adverse effect of the IDRBNR SCI could be excluded for the project in combination with other plans and projects [REP5-044]. The Panel agreed and stated that an adverse effect on the IDRBNR SCI can be excluded from the project in combination with other plans or projects, when considering the qualifying features in view of the site’s conservation objectives and having regard to the mitigation and monitoring measures secured in the DCO.
- 6.20 **The Secretary of State notes the advice of Natural England and, in view of the Applicant’s assessments and the Panel’s recommendation, he considers that there will not be an adverse effect on integrity on the IDRBNR SCI and its Annex I *Sabellaria spinulosa* reef feature, from the Project in combination with other plans or projects.**

## Habitats Regulations Assessment Conclusions

- 7.1 The Secretary of State has carefully considered all of the information presented before and during the Examination, including the RIES, the ES, representations made by Interested Parties, and the Panel’s report itself. He considers that the Project has the potential to have an LSE on *Sabellaria spinulosa* reef feature of the IDRBNR SCI when considered alone and in combination with other plans and projects.
- 7.2 The Secretary of State has undertaken an AA in respect of the IDRBNR SCI’s Conservation Objectives to determine whether the project, either alone or in combination with other plans and projects, will result in an adverse effect on integrity on the *Sabellaria spinulosa* reef feature.

7.3 The Secretary of State considers that, with the mitigation and monitoring measures provided for in the dML Conditions and the MMO's functions under the Marine Licences and Part 4 of the Marine and Coastal Access Act 2009, there will be no adverse effect on integrity of the IDRBNR SCI.

7.4 Mitigation for the Project will be secured and delivered through the dML within:

- Condition 7 – Pre-construction Plans and Documentation
- Condition 12 – Pre-construction Monitoring and Surveys

**7.5 The Secretary of State has determined that the Project, with mitigation in place, will not have an adverse effect on site integrity on any European site either alone or in combination with other plans or projects. He has undertaken a robust assessment using all of the information available to him, not least the advice from Natural England, the recommendation of the Panel and the views of the Applicant.**

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